Proof of Publication

from the

SUMTER COUNTY TIMES

Bushnell, Sumter County, Florida

PUBLISHED WEEKLY

STATE OF FLORIDA

COUNTY OF SUMTER

Before the undersigned authority personally appeared

Kathleen Niehaus

Of the Sumter County Times, a newspaper published weekly at Bushnell, in Sumter County, Florida, that the attached copy of advertisement being a public notice in the matter of the

691-1201 SCT PUBLIC NOTICE NOTICE OF APPLICATION STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DEP File No. 1190041-AC (PSD-FL-358) Sumter Cement Company Sumter County The Department of Environmental Protection announces receipt of an appl

Court, was published in said newspaper in the issues of

December 1st, 2005,

Affiant further says that the Sumter County Times is a Newspaper published at Bushnell in said Sumter County, Florida, and that the said newspaper has heretofore been continuously published in Sumter County, Florida, each week and has been entered as second class mail matter at the post office in Bushnell in said Sumter County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Kathleen Niehaus

The forgoing instrument was acknowledged before me

This 1st day of December, 2005

By: Kathleen Niehaus

who is personally known to me and who did take an oath.

Notary Public

BETSY B. KING
MY COMMISSION # DD 267499
EXPIRES: November 16, 2007
1-800-3-NOTARY FL Notary Discount Assoc. Co.

RECEIVED

DEC 07 2005

BUREAU OF AIR REGULATION

691-1201 SCT
PUBLIC NOTICE

NOTICE OF APPLICATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP File No. 1190041-AC (PSD-FL-358)

Sumter Cement Company
Sumter County

The Department of Environmental Protection announces receipt of an application for an air construction permit pursuant to the Rules for the Prevention of Significant Deterioration (PSD) of Air Quality from Sumter Cement Company. The project is to construct a dry process portland cement plant in the vicinity of Center Hill, Sumter County. This application is being processed and is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following Department offices:

Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32399-2400
Telephone: 850/921-9523
Fax: 850/921-9533

Department of Environmental Protection
Southwest District Office
8407 Laurel Fair Circle
Tampa, Florida 33610
Telephone: 813/744-6100
Fax: 813/744-6458

Key portions of the application and additional information can be accessed at the Department's website at:
www.dep.state.fl.us/Air/permitting/construction/sumter.htm

Published one (1) time in the Sumter County Times, December 1, 2005.

SUMTER
CEMENT
COMPANY
CENTER HILL, FLORIDA, USA

JACKSONVILLE FL 322
28 DEC 2005 PM 1 L

HAPPY HOLIDAYS
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7279 MAILED FROM ZIP CODE 32008

CINDY → PATTY
(Pls update ARMS
+ note date
received)
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AL LINERO
FLORIDA DEP
2600 BLAIR STONE ROAD
MS # 5500
TALLAHASSEE, FL 32399-2400

32399+6542

Proof of Publication

from the

SUMTER COUNTY TIMES

Bushnell, Sumter County, Florida

PUBLISHED WEEKLY

STATE OF FLORIDA

COUNTY OF SUMTER

Before the undersigned authority personally appeared

Kathleen Niehaus

Of the Sumter County Times, a newspaper published weekly at Bushnell, in Sumter County, Florida, that the attached copy of advertisement being a public notice in the matter of the

644-1222 SCT PUBLIC NOTICE PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT DEP File No. 1190041-001-AC (PSD-FL-358) Sumter Cement Company, L.L.C. Center Hill Cement Plant Sumter County The Department of Environmental Protection (Depart- ment

Court, was published in said newspaper in the issues of

December 22nd, 2005.

Affiant further says that the Sumter County Times is a Newspaper published at Bushnell in said Sumter County, Florida, and that the said newspaper has heretofore been continuously published in Sumter County, Florida, each week and has been entered as second class mail matter at the post office in Bushnell in said Sumter County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Kathleen Niehaus

The forgoing instrument was acknowledged before me

This 22nd day of December, 2005

By: Kathleen Niehaus

who is personally known to me and who did take an oath.

Notary Public

BETSY B. KING
MY COMMISSION # DD 267499
EXPIRES: November 16, 2007
1-800-3-NOTARY FL Notary Discount Assoc. Co.

644-1222 SCT
PUBLIC NOTICE

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

DEP File No. 1190041-001-AC (PSD-FL-358)
Sumter Cement Company, L.L.C.
Center Hill Cement Plant
Sumter County

The Department of Environmental Protection (Department) gives notice of its intent to issue an Air Construction Permit to Sumter Cement Company to construct a greenfield portland cement plant in the City of Center Hill in Sumter County. A review under the rules for the Prevention of Significant Deterioration of Air Quality (PSD) and Best Available Control Technology (BACT) determinations were required for nitrogen oxides (NOx), sulfur dioxide (SO2), volatile organic compounds (VOC), carbon monoxide (CO), and particulate matter (PM/PM10). The applicant's name and business address are Sumter Cement Company, L.L.C., Post Office 410, Branford, Florida 32008.

Sumter Cement Company (SCC) proposes to construct a dry process portland cement plant with a nominal capacity of 1,715,500 tons per year (TPY) of clinker. The equipment will include: a primary crusher and conveyance equipment to transport limestone to raw material storage; a raw material storage building for limestone and materials containing silica, alumina, iron, and additives; stackers, reclaimers, and conveyance equipment to raw materials drying and milling; a homogenizing silo; a dry process preheater/calciner (PH/C) kiln with in-line raw mill capable of producing 5,000 tons per day (TPD) of clinker; a clinker cooler; a coal and petroleum coke mill; conveyance equipment to clinker storage; conveyance equipment to the two finish mills; cement silos and a truck loadout area; and a packhouse. Numerous baghouses will be included to contain dust from materials conveyance, transfer and handling. A single large baghouse will serve exhaust from the PH/C kiln, raw mill, and clinker cooler.

The heat necessary to convert the raw materials to clinker will be provided primarily by coal and petroleum coke combustion in the main kiln burner and calcination burner. NOX emissions will be minimized by indirect firing in a Low NOX main kiln burner, staged combustion in the calciner, and a selective non-catalytic reduction (SNCR) ammonia injection system. SO2 emissions will controlled by use of inherently low sulfur raw materials, scrubbing by finely divided lime in the calciner, and hydrated lime injection system. CO and VOC emissions will be controlled by promoting complete combustion in the kiln and calciner and minimizing carbon and oily content of raw materials. PM/PM10 from the PH/C kiln, in-line raw mill, and clinker cooler will be controlled by a single large fabric filter baghouse. Emissions points from handling, conveyance, and transfer will be controlled by baghouses. Emissions from raw materials piles, loading operations, transportation, etc. will be controlled by reasonable precautions including paving, road sweeping, watering, planting grass, etc.

The SCC Plant will be subject to the maximum achievable control technology (MACT) requirements in 40CFR63, Subpart LLL - National Emission Standards for Hazardous Air Pollutants for Portland Cement Manufacturing Industry. In addition, the plant will be subject to the Department's determination of best available control technology (BACT). The BACT determinations for the PH/C kiln, in-line calciner, and clinker cooler are: 1.95 pounds of NOx per ton of clinker (lb/ton); 0.20 lb SO2/ton; 2.9 lb CO/ton, 0.115 lb VOC/ton; and 0.17 lb PM/PM10/ton. The BACT determinations are among the lowest emission limitations among recent determinations in the state and the country.

Mercury (Hg) emissions will be limited to 184 pounds per year. Initially compliance will be conservatively estimated based on the concentration of Hg in the fuels and raw materials entering the process. The Department has determined that by the second year of operation, reliable mercury continuous emission monitors (Hg-CEMS) will be available and requires that a Hg-CEMS be installed to measure actual emissions. This instrument together with another planned in Sumter County represent the first two Hg-CEMS installations required at any facility in the State of Florida. They also represent the first two Hg-CEMS monitors required at cement plants in the United States.

The Department reviewed the applicant's ambient air quality analysis for CO, NOx, SO2, VOC and PM/PM10, pollutants subject to PSD for this project. All pollutants were less than their respective Significant Impact Levels for the Class II area (i.e. all areas except for the Class I Chassahowitzka Wilderness Area), except for PM/PM10 on a 24-hour and annual basis. Therefore, a refined increment modeling analysis, including nearby sources, was required for PM10. The results of this analysis are given in the table below. This refined analysis demonstrated compliance with regulatory requirements which include demonstrating compliance with the ambient air quality standards.

Averaging Time: 24-hour
Maximum Predicted Impact - ug/m3: 29.7
Allowable Increment - ug/m3: 30
Compliance with Increment: Yes
Percent of Increment: 99%

Averaging Time: Annual
Maximum Predicted Impact - ug/m3: 7
Allowable Increment - ug/m3: 17
Compliance with Increment: Yes
Percent of Increment: 41%

All pollutants were less than their respective Significant Impact Levels for the nearest Class I area (the Chassahowitzka Wilderness Area located 61km from project) therefore, a refined multi-source increment modeling analysis was not required. Based on the required analyses, the Department has reasonable assurance that the proposed project will not cause or significantly contribute to a violation of any ambient air quality standard or PSD increment.

The Department will accept written comments concerning the proposed permit issuance action and requests for a public meeting for a period of thirty (30) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

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

A petition that disputes the material facts on which the Department'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 how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action 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 Department'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.

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

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4

Tallahassee, Florida, 32301
Telephone: (850) 488-0114
Fax: (850) 922-6979

Department of Environmental Protection
Southwest District Office
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: (813) 632-7600
Fax: (813) 632-7668

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Program Administrator, South Permitting Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/921-9523, for additional information. Key documents can be viewed at the following web page:
www.dep.state.fl.us/air/permitting/construction/sumter.htm

Published one (1) time in the Sumter County Times, December 22, 2005.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT

In the Matter of an
Application for Permit by:

Mr. Daniel R. Fritrz, CEO/President
Sumter Cement Company, LLC.
P.O. Box 410
Sanford, Florida 32008

DEP File No. 1190041-001-AC, PSD-FL-358
Center Hill Plant
Sumter County

Enclosed is the Final Permit Number 1190041-01-AC (PSD-FL-358) authorizing the construction of a greenfield portland cement plant with a dry process preheater/calciner kiln, in-line raw mill, clinker cooler and associated materials handling, storage, conveyance and shipping facilities. The nominal capacity is 1,715,500 tons per year of clinker. The project will be located in the town of Center Hill, Sumter County. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; 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 of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (*) and copies were sent by U.S. Mail or electronic mail before the close of business on 2/6/06 to the person(s) listed:

Dan Fritz, SCC*
Joe Horton, SCC
Diana Lamb, Clerk for City of Center Hill City Council
Mayor, Center Hill
Chair, Sumter County BCC
Gregg Worley, U.S. EPA Region 4, Atlanta GA
John Bunyak, National Park Service, Denver CO
Mara Nasca, DEP SWD
Porter Rivers III, P.E., B.P. Barber & Associates
Cary Cohrs, NRCF dba ACC
Marvin A. Beier
Louise Racine
Pauline T. Beier
Anton and Anke Brok
Ruth E. Brown
H. Callahan
Ann Cantlin-Elkins
Joyce Christie
Carol Correa
Margaret Dwyer
Martin Farber
Carol and Rudy Grossouw
Everett Hadley
Lorn and Judy Kerr
Douglas R. Kinney
John and Theresa McCormick
Eugenie Mamarchev
Ivan Mamarchev
John Megan
Sue Michalson
Lawrence H. Paser
June B. Paser
Joel Rosenblum
Hans Thiemann

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 2/6/06 (Date)

FINAL DETERMINATION

Sumter Cement Company

Center Hill Plant

DEP File No. 1190041-001-AC (PSD-FL-358)

On December 21, 2005 the Florida Department of Environmental Protection (Department) distributed an "Intent to Issue Air Construction Permit" to construct a greenfield portland cement plant with a dry process preheater/calciner kiln, in-line raw mill, clinker cooler and associated materials handling, storage, conveyance and shipping facilities. The nominal capacity of the plant is 1,715,500 tons per year of clinker. The project will be located in the town of Center Hill, Sumter County.

The package included the Department's Draft Air Construction Permit, the "Intent to Issue Air Construction Permit," the "Technical Evaluation and Preliminary Determination," and the "Public Notice of Intent to Issue Air Construction Permit." The Department sent copies of the package to various persons, agencies, and municipalities. Sumter Cement Company (SCC) published the Public Notice in the *Sumter County Times* on December 22, 2005 and provided to the Department the required proof of publication.

The Department received numerous "form" type letters from the public throughout the comment period including comments regarding the Draft Air Construction Permit. The Department received written comments from SCC on January 23.

Comments received from SCC include their proposed revisions listed below (*italics*) followed by the Department's responses. Comments received from the public are also listed below (*italics)* followed by the Department's responses.

Any additions to permit conditions are double underlined and deletions are indicated by double strike-through notation.

1. *SCC provided the following comment in response to Section 3. D Pyroprocessing, Condition 21. Mercury Compliance Demonstration: b. Mercury Continuous Emissions Monitoring System (Hg-CEM):*

   In discussions with the Department SCC has outlined concerns over the unproven technology of a mercury Continuous Emission Monitor (CEM) in a cement application. Relatively no experience other then short-term testing has been conducted with monitors reporting to meet the new Performance Specification 12A (PS-12A). In testing of three different Hg-CEM's conducted at one cement plant in the US, several operational as well accuracy problems were noted[1]. SCC agrees with the Department that within the coming years advances in the technology should allow for a more reliable and accurate Hg-CEM. SCC would propose the following language modifications to the proposed condition (deletions ~~strikethrough~~ and additions double underlined):

   21. Mercury Compliance Demonstration:

   b. Mercury Continuous Emissions Monitoring System (Hg-CEMS): Within 60 days following the first year of operation, the owner or operator shall install any model of Hg-CEMS that has been demonstrated to meet the requirements in Performance Specification 12A (PS-12A), "Specifications and Test Procedures for Total Vapor phase Mercury Continuous Monitoring Systems in Stationary Sources," or that has passed verification tests conducted under the auspices of the U.S. Environmental Protection Agency's (EPA) Environmental Technology Verification (ETV) Program. During the subsequent 90 days, the owner or operator shall certify the Hg-CEMS. If the owner or operator can not certify the CEM within 90 days and provides to the Department information from the vendor of the CEM on reasons why the CEM can not be certified in the 90 day period, the Department shall grant and extension to

certify the CEM. . ~~and~~ After certification the owner or operator will begin reporting Hg mass emissions data. The owner or operator shall adhere to the calibration drift and quarterly accuracy assessment procedures in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B. The 12-month rolling mass emissions shall be estimated based on the actual data collected no later than 10 days following the end of the month. The CEM is not to be used as the means of compliance unless the owner or operator notifies the Department of the intent to use the CEM in this means ~~Upon certification, the owner or operator may use the Hg-CEMS to demonstrate compliance with the cumulative 12-month rolling mass emission limitation (184 pounds per rolling 12-month period)~~ in lieu of the procedures described in the preceding paragraph. Prior to use of the Hg-CEMS as the method to demonstrate compliance, the owner or operator shall submit written notice to the Department, and receive approval for a missing data substitution plan. For purposes of this requirement, the first year of operation ends 365 calendar days following the first day the kiln produces clinker.

After 365 days of operation of the Hg-CEM the owner or operator can request to the Department for removal of the CEM if it is not to be used as the means of compliance.

[Rules 62-4.070(3) and 62-212.400(2)(g), F.A.C.]

As discussed with the Department, should known problems be identified in either other industrial uses of the CEM or specifically in cement applications prior to the required date of installation, SCC would request the ability to delay the installation requirements until such known deficiencies are corrected.

Reasons by which SCC would deem necessary to request the removal of the CEM from the Department after 365 days of operation of the CEM would include any of the following:

- *The CEM is not able to achieve certification to the PS 12A within the 365 day period with the help of the Vendor and upon providing the Department with information from the Vendor in support of this.*
- *The CEM is not able to achieve an acceptable runtime as specified in the EPA performance specification despite best efforts by SCC and the Vendor. SCC would provide information to the Department to support the request and document why sufficient runtime can not be achieved.*
- *The CEM requires sustainable maintenance to achieve either acceptable accuracy or runtime. SCC would provide information to the Department in support of this request as well as information from the vendor on necessary maintenance or extraordinary circumstances.*
- *The CEM does not accurately reflect Mercury emissions as verified through long term comparisons with mass balances or through Stack Testing via an EPA approved method.*

Response

Mercury monitoring requirements included in the SCC permit provide reasonable assurance to the Department that mercury emissions from the facility remain below permitted levels. To date, mercury emissions from cement plants have typically been estimated using mass balance procedures (as outlined in the SCC permit), or through stack testing methods. The Department is now requiring the installation and operation of a mercury CEMS at the SCC Center Hill Plant. In light of the recent Federal mercury monitoring requirements imposed on the coal-fired power industry, the Department does not feel that this requirement is unreasonable or technically infeasible. The Department has every confidence that by the required time of installation of the mercury CEMS, the technology will be established and proven reliable, not only for coal-fired electric utilities, but for the cement industry as well. There is every expectation that the mercury CEMS will prove a more accurate means of reporting emissions, allowing SCC to eliminate the burdensome process of estimating mercury emissions through fuel and materials sampling.

However, the Department recognizes SCC's concerns regarding the "unproven technology" of continuous mercury monitoring. It is not unreasonable to allow for an extension of time to certify the mercury CEMS given legitimate, well-founded difficulties during certification. Although the Department sees it as unlikely, it is also not unreasonable to recognize the possibility of failure of the mercury CEMS technology to meet expectations as a monitoring requirement and possible method of compliance. Therefore, the Department will allow for a request by the owner or operator, for removal of the mercury CEMS under certain conditions if the CEMS is not to be used as a method of compliance. However, every effort should also be made to secure an alternate vendor with more proven technologies.

The permit does not prohibit SCC from requesting removal of the mercury CEMS. Without making a determination on the issue, the Department acknowledges SCC may make such a request for the reasons listed by SCC above and reiterated below. These conditions will not become a part of the final permit, however this document will become a part of the facility's official file.

- The CEMS is not able to achieve certification to the PS 12A requirements, after every reasonable effort, within the 365 day period with the help of the vendor. Sufficient supporting information should be supplied to the Department by the vendor.
- The CEMS is not able to achieve an acceptable runtime as specified in the EPA performance specification despite best efforts by SCC and the vendor. SCC should provide information to the Department documenting the reasons that sufficient runtime cannot be achieved.
- The CEMS requires excessive and unreasonably costly maintenance to achieve either acceptable accuracy or runtime. SCC should provide information to the Department in support of this request as well as information from the vendor on necessary maintenance or extraordinary circumstances.
- The CEMS cannot produce valid data and/or data does not accurately reflect Mercury emissions as verified through long term comparisons with mass balances or through stack testing via an EPA approved method or an alternate sampling method approved by DEP.

The Department will change Section III. D. Pyroprocessing, Condition 21.b. as follows:

21. Mercury Compliance Demonstration:

b. *Mercury Continuous Emissions Monitoring System (Hg-CEMS)*: Within 60 days following the first year of operation, the owner or operator shall install any model of Hg-CEMS that has been demonstrated to meet the requirements in Performance Specification 12A (PS-12A), "Specifications and Test Procedures for Total Vapor phase Mercury Continuous Monitoring Systems in Stationary Sources," or that has passed verification tests conducted under the auspices of the U.S. Environmental Protection Agency's (EPA) Environmental Technology Verification (ETV) Program. During the subsequent 90 days, the owner or operator shall certify the Hg-CEMS. If the vendor provides to the Department verification of certification difficulties such that the CEMS cannot be certified by the certification deadline, and every reasonable effort has been made to do so, the Department shall grant a reasonable extension of time to certify the CEMS. . ~~and~~ After certification the owner or operator will begin reporting Hg mass emissions data. The owner or operator shall adhere to the calibration drift and quarterly accuracy assessment procedures in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B. The 12-month rolling mass emissions shall be estimated based on the actual data collected no later than 10 days following the end of the month. The CEMS shall be used as the method of compliance only if the owner or operator notifies the Department of the intent to use the CEMS ~~Upon certification, the owner or operator may use the Hg-CEMS to demonstrate compliance with the cumulative 12-month rolling mass emission limitation (184 pounds per rolling 12-month period)~~ in lieu of the procedures described in the preceding paragraph. Prior to use of the Hg-CEMS as the method to demonstrate compliance, the owner or operator shall submit written notice to the Department, and receive approval for a

missing data substitution plan. For purposes of this requirement, the first year of operation ends 365 calendar days following the first day the kiln produces clinker.

If, after 365 days of operation of the Hg-CEMS, the CEMS is not to be used as the method of compliance and the permittee can document that data from the CEMS is inaccurate or excessively invalid, and/or that the CEMS has proven to be unreliable and unreasonably burdensome, the owner or operator may request the removal of the Hg CEMS requirements.

[Rules 62-4.070(3) and 62-212.400(2)(g), F.A.C.]

2. *SCC provides the following comment in response to Section 3. F Finish Mills Cement Processing, Condition 6. Process Rate Specifications:*

The two finish mills were proposed with a maximum annual production rate of 2,531,640 tons of cement in the application. The condition does not clearly identify this as the maximum rate as used in the application and instead implies a maximum annual rate of 170 tons of cement for each mill at the allowed 8760 hours of operation. This equals a maximum annual rate of 2,978,400 tons of cement, which was not reflected in the application.

SCC would request the following addition to the condition (deletions ~~strikethrough~~ and additions double underlined):

6. Process Rate Specification: Each finish mill may process up to 170 tons per hour (TPH) of clinker, gypsum or limestone to produce an equal amount of cement. Total cement production is limited to 2,531,640 tons per year. [Applicant Request]

{Note: The finish mills are capable of processing more clinker than can be produced by the on-site pyroprocessing system. Any projects to utilize the additional capacity would constitute a modification per Section 2, Condition 7.}

Response

The Department is confident that the requirements of the above condition 6 are sufficient. The 170 TPH limit is a peak maximum hourly rate. The Department is aware that the annual potential cement production, based on this number, is greater than the maximum annual rate identified in the application. However, cement production is ultimately limited by clinker production, and the additional limit seems redundant and unnecessarily burdensome. The Department will not change Section III, F. Finish Mills Cement Processing, Condition 6 as requested.

3. *SCC provides the following comment in response to Section 3. F Finish Mills Cement Processing, Condition 9. Testing Requirements:*

The condition is unclear as to which sources shall be stack tested and which sources are subject to visual emission testing requirements. SCC would propose the following language modifications to the proposed condition (deletions ~~strikethrough~~ and additions double underlined):

9. Testing Requirements: ~~Each e~~Emission points DC-02 and DC-04 shall be stack tested to demonstrate initial compliance with the applicable emission standards for PM/PM_{10} and visible emissions. All other emission points shall be tested for visible emissions only. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the particulate limits (PM/PM_{10}) shall be demonstrated within the 12 month period prior to each renewal of the operation permit and compliance with the visible emissions limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

Response

The intent of the above condition is that each emission point shall be tested to demonstrate compliance with the applicable standard, whatever the applicable standard/s may be for each point. It is not intended to require particulate testing for every emission point included in this unit. The above requested changes will be made to Section III. F. Finish Mills Cement Processing, Condition 9 for clarification:

4. *SCC provides the following comment in response to Section 3. G Coal and Petroleum Coke Grinding Systems, Condition 8. Testing Requirements:*

   The condition is unclear as to which sources shall be stacked tested and which sources are subject to visual emission testing requirements. SCC would propose the following language modifications to the proposed condition (deletions ~~strikethrough~~ and additions double underlined):

   8. Testing Requirements: ~~Each e~~Emission points DC-06 and DC-07 shall be stack tested to demonstrate initial compliance with the applicable emission standards for PM/PM_{10} and visible emissions. All other emission points shall be tested for visible emissions only. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the particulate limits (PM/PM_{10}) shall be demonstrated within the 12 month period prior to each renewal of the operation permit and compliance with the visible emissions limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

Response

The intent of the above condition is that each emission point shall be tested to demonstrate compliance with the applicable standard, whatever applicable standard/s may be for each point. It is not intended to require particulate testing for every emission point included in this unit. The above requested changes will be made to Section III. G. Coal and Petroleum Coke Grinding Systems, Condition 8 for clarification.

5. *SCC provides the following comment in response to Section 3.H Coal and Petroleum Coke Conveying, Condition 6. Testing Requirements:*

   The condition is unclear as to which sources shall be stacked tested and which sources are subject to visual emission testing requirements. SCC would propose the following language modifications to the proposed condition (deletions ~~strikethrough~~ and additions double underlined):

   6. Testing Requirements: Each emission point shall be ~~stack~~ tested to demonstrate initial compliance with the visible emissions standards. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emissions limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

Response

The emission points included in this unit are associated with material handling and transfer. The Department will change Section III. H. Coal and Petroleum Coke Conveying, Condition 6 as requested above.

6. All public written comments received during the public comment period for this project were copies of a single form-type letter signed by various people living within Sumter and adjacent counties. The letter also served as written comment regarding the recently issued Intent to Issue Air Construction Permit to the American Cement Company, Sumterville Plant (1190042-001-AC, PSD FL-361). The letter included the following request:

While I am encouraged to see your decision to order CEM (continuous emissions monitoring) for mercury in the two referenced facilities, I believe that ALL parameters monitored by the CEM packages in these two facilities should be required, as a condition of their finalized permits, to be available continuously on-line in a real-time format in a web site to be maintained by the operators of these facilities, said web sites to be available for access at any time by the public to review the data displayed.

Response

In response to this request, the following specific condition will be added to Section III. D. Pyroprocessing System, Condition 29, CEMS Data Requirements, as 29.g:

g. *Public Access:* Emission data will be available in real time on the company website.

7. Also included in the above mentioned form-letter, were the following comments:

I wish to request that as a condition of these permits and prior to start up of ANY of these facilities that the applicants be required to conduct a formal Countywide Mercury Background Study; and that as a condition of their DEP permit(s), that every 3 years of operation this study is to be repeated and results promptly made public. I request this matter be brought to the attention of Dr. Tom Atkeson of DEP, and request you solicit his recommendations as to how best to establish a reasonable and adequate protocol for these studies.

Response

The SCC Center Hill plant will have very stringent mercury monitoring requirements. This facility will be the first cement plant in the United States at which a continuous mercury emissions monitor will be required. These monitoring requirements ensure that the Department and the community maintain an accurate assessment of the mercury emissions from this facility. The facility's potential mercury emissions are too low to trigger the Department's regulatory authority for mercury emissions. Therefore, a background study such as suggested is beyond the purview of the Department at this time.

However, within the DEP, the Division of Resource Assessment and Management (DRAM) has been established to ensure maximum environmental protection through applied research and the effective integration and utilization of agency data. Within the DRAM organization is the South Florida Mercury Science Program (SFMSP). This is a private-public partnership led by Florida DEP which is investigating the problem of unacceptable mercury levels in the Florida Everglades. While the SFMSP is focused on the Everglades and South Florida, virtually all of its work has statewide and national application. The SFMSP website describes SFMSP strategies, plans, activities, and results and can be found at the following web location: http://www.dep.state.fl.us/labs/mercury/index.htm

The Department, in partnership with the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the Army Corps of Engineers, is helping to fund the new Wetlands Ecological Research Aviary in Gainesville. One study at the aviary will help determine how tiny amounts of mercury affect the ability of wading birds to hunt and reproduce. Additional information is available by contacting the University of Florida IFAS/Department of Wildlife Ecology and Conservation at www.wec.ufl.edu/ .

The final decision by the Department is to issue the permit with the changes noted.

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

PERMITTEE:

Sumter Cement Company, LLC
Post Office Box 410
Branford, Florida 32008

Authorized Representative:
Dan Fritz, CEO/President

DEP File No. 1190041-001-AC
Air Permit No. PSD-FL-358
Center Hill Cement Plant
Expiration date: June 30, 2010

PROJECT AND LOCATION

This permit authorizes the construction of a greenfield portland cement plant with a dry process preheater/calciner kiln, in-line raw mill, clinker cooler and associated materials handling, storage, conveyance and shipping facilities. The nominal capacity is 1,715,500 tons per year of clinker. The project will be located in the town of Center Hill, Sumter County.

STATEMENT OF BASIS

The 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 project was processed in accordance with the requirements of Rule 62-212.400, F.A.C., the preconstruction review program for the Prevention of Significant Deterioration (PSD) of Air Quality. The permittee is authorized to perform the proposed work in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

The attached Appendices are made a part of this permit:

Appendix BD	Final BACT Determination and Emissions Standards
Appendix C	Common State Rules
Appendix GC	Construction Permit General Conditions
Appendix LLL	NESHAP Subpart LLL Requirements
Appendix OOO	NSPS Subpart OOO Requirements
Appendix Y	NSPS Subpart Y Requirements

Michael G. Cooke, Director
Division of Air Resources Management

Effective Date: 2/6/04

FACILITY DESCRIPTION

The proposed facility will be a dry process greenfield portland cement plant incorporating a dry process kiln with a preheater and calciner (PH/C). The nominal capacity is 1,715,500 tons per year of clinker. Major equipment associated with the main components of the plant will include the following:

- A raw materials storage building (MSB) and a limestone storage building;
- A primary crusher at the quarry and belt conveyors to MSB;
- Raw material piles stored inside of the storage buildings. The piles will include limestone, alumina sources (e.g. bauxite and coal ash), iron sources (e.g. mill scale, slag, and iron ore), silica sources (e.g. sand, and clay), and additives (e.g. feldspar, and gypsum);
- Materials handling equipment including reclaimers, stackers, belt conveyors, covered conveyors from the MSB and limestone storage building to the raw mill, control system/analyzer, etc.;
- An in-line raw mill that simultaneously dries raw materials using the exhaust gas from the kiln, PH/C, and clinker cooler;
- A preheater with staged combustion calciner and selective non-catalytic reduction (SNCR) system;
- An air heater for use when additional drying capacity is required;
- A nominal 12,000 ton per day blending silo;
- An indirect-firing system with a Low NO_X main kiln burner capable of burning coal, petroleum coke, fuel oil, and natural gas;
- A whole tire feeder and/or tire gasification system.
- A clinker cooler with cooling air fans, and hot air ducting to the kiln, PH/C, and raw mill;
- Clinker storage and grinding including two finish mills with air separators, clinker silos with metering devices, limestone and gypsum bins and associated conveyors;
- Cement transfer and storage silos, truck loadouts and packhouse; and
- A nominal 28.4 TPH coal and/or petroleum coke grinding system with associated mill, storage facility, associated conveyors, and equipped with a fabric filter baghouse.

REGULATORY CLASSIFICATION

Title III: The cement plant will be a major source of hazardous air pollutants (HAP).

Title V: The cement plant will be a Title V major source in accordance with Chapter 62-213, F.A.C. because the potential emissions of at least one regulated pollutant exceed 100 tons per year. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

PSD: The facility is located in an area that is designated as "attainment", "maintenance", or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard. It is classified as a "portland cement plant", which is one of the 28 Prevention of Significant Deterioration (PSD) Major Facility Categories with the lower PSD applicability threshold of 100 tons per year. Potential emissions of at least one regulated pollutant exceed 100 tons per year, therefore the facility is classified as a major source of air pollution with respect to Rule 62-212.400 F.A.C., Prevention of Significant Deterioration of Air Quality.

NSPS: Portions of the cement plant are subject to the following New Source Performance Standards (NSPS) in 40 CFR 60: Subpart A (General Provisions); Subpart Y (Coal Preparation Plants); and Subpart OOO (Non Metallic Mineral Processing). Any affected source subject to the provisions of 40 CFR 63, Subpart LLL

(Portland Cement Manufacturing Industry) is exempt from any otherwise applicable new source performance standard contained in 40CFR 60, Subpart F (Portland Cement Plants).

NESHAP: Portions of the cement plant are subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) in 40 CFR 63: Subpart A (General Provisions); and Subpart LLL (Portland Cement Manufacturing Industry).

State Rules: The cement plant is subject to state Rule 62-296.407, F.A.C. (Portland Cement Plants).

EMISSIONS UNITS

This permit authorizes the construction of a new Portland cement plant. The project includes the following new emissions units:

EU ID	Emissions Unit Description
001	(CH-1) - Primary Crushing, and Associated Conveyors. Includes front end loaders to primary crusher, primary crusher operation, base rock and limestone conveyors to base rock storage pile and limestone storage building.
002	(CH-2) - Raw Material Conveying and transfer to and from storage piles.
003	(CH-3) - Raw Material Processing and Storage. Including raw material transport from raw mill to blend silo, blend silo, fly ash silo, and kiln feed and fly ash transport to kiln.
004	(CH-4) - Pyroprocessing System. Includes preheater/precalciner kiln with in-line raw mill, clinker cooler and air heater.
005	(CH-5) - Clinker Storage and Conveying. Includes clinker transport from kiln; clinker, limestone, and gypsum silos; and clinker, limestone and gypsum conveying to finish mills.
006	(CH-6) - Finish Mills Cement Processing. Includes two finish mills, cement silos, packaging plant and truck loadout.
007	(CH-7) - Coal and Petroleum Coke Grinding System. Includes coal mill and ground coal/petroleum bins.
008	(CH-8) – Coal and Petroleum Coke Conveying. Includes coal/petroleum coke handling and conveying from unloading to storage bins.
010	(CH-10, CH-11) – Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads.

RELEVANT DOCUMENTS

The documents listed are not a part of this permit; however, this information is specifically related to the permitting action and is on file with the Department.

- Application received on June 16, updated September 8, 2005
- Department's Request for Additional Information dated October 9, 2005
- Response to Request for Additional Information Received October 21, 2005
- Public Notice of Application published December 1, 2005
- Department's Technical Evaluation and Preliminary Determination dated December 21, 2005
- Department's Intent to Issue and Public Notice Package dated December 21, 2005
- Department's Final Determination and Best Available Control Technology Determination issued concurrently with this Final Permit

SECTION II. 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. Copies of all such documents shall also be submitted to the Compliance Authority. 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 Resources Section of the Department's Southwest District Office at 13051 N. 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 N. Telecom Parkway, Temple Terrace, FL 33637-0926.

3. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403 of the Florida Statutes (F.S.); Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.); and Title 40, Parts 51, 52, 60, 63, 72, 73, and 75 of the Code of Federal Regulations (CFR) adopted by reference in Rule 62-204.800, F.A.C. The terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]

4. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports, and submit an application for a Title V operation permit to the Department. Approval to construct shall become invalid for any of the following reasons: construction is not commenced within 18 months after issuance of this permit; construction is discontinued for a period of 18 months or more; or construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. In conjunction with an extension of the 18-month period to commence or continue construction (or to construct the project in phases), the Department may require the permittee to demonstrate the adequacy of any previous determination of Best Available Control Technology (BACT) for emissions units regulated by the project. For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, 62-210.300(1), and 62-212.400(6)(b), F.A.C.; 40 CFR 52.21(r)(2); 40 CFR 51.166(j)(4)]

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. Relaxations of Restrictions on Pollutant Emitting Capacity. If a previously permitted facility or modification becomes a facility or modification which would be subject to the preconstruction review requirements of this rule if it were a proposed new facility or modification solely by virtue of a relaxation in any federally enforceable limitation on the capacity of the facility or modification to emit a pollutant (such as a restriction on hours of operation), which limitation was established after August 7,1980, then at the time of such relaxation the preconstruction review requirements of this rule shall apply to the facility or modification as though construction had not yet commenced on it. [Rule 62-212.400(2)(g), F.A.C.]

7. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rule 62-4.030 and Chapters 62-210 and 62-212, F.A.C.]

8. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

A. Primary Crushing

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

EU ID	Emission Unit Description
001	(CH-1) - Primary Crushing, and Associated Conveyors. Includes front end loaders to primary crusher, primary crusher operation, base rock and limestone conveyors to base rock storage pile and limestone storage building

The primary crushing and conveying system contains the following emission points.

Point ID	Emissions Point Description
CH-1-1	Primary Crushing and Conveying – loader to primary crusher, primary crusher, and conveyors
CH-1-2	Base Rock Conveying – belts to radial stacker
CH-1-3	Limestone Conveying - belts

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for, particulate matter (PM/PM_{10}). To satisfy the BACT requirements for this unit the visible emissions limits are surrogate standards for PM.

2. NSPS Requirements: This unit shall comply with all applicable requirements of 40 CFR 60, Subparts A (General Provisions) and OOO (Nonmetallic Mineral Processing Plants) adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NSPS provisions. Some separate reporting and monitoring may be required by the individual subparts.

EQUIPMENT DESCRIPTION

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the raw material quarrying, crushing, and storage operation. Equipment will include a primary crusher at the quarry, and an enclosed limestone storage building (LSB) which will house the limestone storage piles. Enclosed belt conveyors will be constructed between the crusher and the LSB. Open conveyors will transport base rock to the base rock storage pile. [Applicant Request]

PERFORMANCE REQUIREMENTS

4. Hours of Operation: This emissions unit system is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C.]

5. Process Rate Specification: The crusher may process up to 2,143 tons per hour (TPH) of raw materials. No more than 3,798,428 tons of raw materials shall be processed during any consecutive 12 months.

   {Permitting Note: The process rate includes an estimated raw materials moisture content of 17% by weight.}

   [Rules 62-210.200 (PTE) and 62-4.070(3), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

6. Visible Emission Standards: These opacity standards do not apply to truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher.

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

b. Fugitive emissions from any transfer point on belt conveyors or from any other affected facility shall not exceed 10% opacity.

[Rule 62-212.400(BACT), F.A.C.; and 40 CFR 60, Subpart OOO]

7. Visible Emissions Tests: Compliance with the visible emission limits shall be determined by conducting EPA Method 9 tests. Initial tests shall be conducted 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup. Thereafter, the permittee shall demonstrate compliance during each federal fiscal year (October 1st to September 30th) for the primary crusher. Tests shall be conducted in accordance with the applicable requirements in Appendix C of this permit as well as the applicable NSPS provisions.

REPORTING AND RECORD KEEPING

8. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C., and 40 CFR 60, Subpart OOO]

9. Process Rate Information: The permittee shall maintain records of the monthly processing rate. Such reports shall be recorded and available for inspection no later than 10 days following the end of the month.

B. Raw Materials Conveying and Transfer

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

EU ID	Emissions Unit Description
002	(CH-2) - Raw Material Conveying and transfer to and from storage piles.

The raw materials conveying and transfer systems contain all emission points associated with the following areas:

- Limestone Pile Handling
- Wet Coal Ash Hopper Building
- Wet Coal Ash Pile Handling
- Clay/Sand Hopper Building
- Clay/Sand Pile Handling
- Steel Slag Pile Handling
- Bauxite Pile Handling
- Limestone Conveying
- Wet Coal Ash Conveying
- Wet Coal Ash Conveying
- Clay/Sand Conveying
- Bauxite Conveying
- Steel Slag/Iron Ore/Mill Scale Conveying
- Cross belt Analyzer
- Raw Mill Feed Conveying
- Gypsum/Limestone Conveying to Finish Mills

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for, particulate matter (PM/PM_{10}). To satisfy the BACT requirements for this unit the visible emissions limits are surrogate standards for PM.

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the conveyance and handling of the raw materials. Equipment will include reclaimers, conveyors, belts, loaders, hoppers, and a cross belt analyzer. [Applicant]

PERFORMANCE REQUIREMENTS

4. Hours of Operation: This emissions unit system is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

5. Visible Emissions Standards: Fugitive emissions from any emissions point shall not exceed 5% opacity. [Rule 62-212.400(BACT)]

6. Compliance Demonstrations: Each emission point shall be tested to demonstrate initial compliance with the emission standards for visible emissions in accordance with EPA Method 9. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emission limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rules 62-4.070(3), 62-297.310(7)(a), F.A.C. and 40 CFR 63.1349(b)(2)]

7. Periodic Monitoring Requirements: Each affected source subject to an opacity standard shall be periodically monitored using the procedures described in 40 CFR 63.1350(a) (4) (i) through (vii) to ensure compliance with the emissions limits of condition No. 6. [Rule 62-4.070(3), and 40 CFR, 63.1350, Subpart LLL]

8. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NESHAP provisions.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources
22	Visual Determination of Fugitive Emissions From Material Sources

REPORTING AND RECORD KEEPING

9. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

C. Raw Material Processing and Storage

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

ID No.	Emissions Unit Description
003	(CH-3) - Raw Material Processing and Storage. Including raw material transport from raw mill to blend silo, blend silo, fly ash silo, and kiln feed and fly ash transport to kiln.

The following emissions points in the raw materials processing and storage system are controlled by fabric filter baghouses.

Point ID	Emissions Point Description
NDC-01	Raw Material Transport From Raw Mill to Homogenizing Silo
NDC-02	Baghouse Dust Bin
NDC-03	Raw Material Transport to Homogenizing Silo
NDC-04	Homogenizing Silo Inlet
NDC-05	Homogenizing Silo
NDC-06	Homogenizing Silo Outlet
NDC-07	Kiln Feed Transport
NDC-08	Fly Ash Silo
NDC-09	Fly Ash Transport to Calciner

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for, particulate matter (PM/PM_{10}). To satisfy the BACT requirements for this unit the visible emissions limits are surrogate standards for PM.

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the processing and storage of raw materials. Equipment will include one homogenizing silo (nominal throughput from blend silo of 2,553,018 TPY), one coal ash silo (nominal throughput 278,437 TPY), and associated conveyors, belts, and bucket elevators. [Applicant]

4. Baghouse Controls: Each emissions point identified for raw material processing and storage shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. [Rule 62-212.400(BACT), F.A.C.]

C. Raw Material Processing and Storage

PERFORMANCE REQUIREMENTS

5. Hours of Operation: This emissions unit is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C

EMISSIONS AND TESTING REQUIREMENTS

6. Emissions Limits: Visible emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse. [Rule 62 -212.400(BACT), F.A.C.]

   {Note: The baghouses are designed to control PM emissions to 0.01 grains/dry standard cubic foot (gr/dscf) and PM_{10} emissions to 0.0085 gr/dscf. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM_{10} from the above emissions points will be less than 12.1/10.28 TPY. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

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

7. Compliance Demonstrations: Each emission point shall be tested to demonstrate initial compliance with the emission standards for visible emissions in accordance with EPA Method 9. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emission limits for each emission point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rules 62-4.070(3), 62-297.310(7)(a), F.A.C. and 40 CFR 63.1349(b)(2)]

8. Periodic Monitoring Requirements: Each affected source subject to an opacity standard shall be periodically monitored using the procedures described in 40 CFR 63.1350(a) (4) (i) through (vii) to ensure compliance with the emissions limits of condition No. 6. [Rule 62-4.070(3), and 40 CFR, 63.1350, Subpart LLL]

9. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NESHAP provisions.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources
22	Visual Determination of Fugitive Emissions From Material Sources

REPORTING AND RECORD KEEPING

10. Baghouse O&M Plan: For each baghouse the permittee shall prepare an operation and maintenance (O&M) plan to address proper operation, parametric monitoring, and a schedule for conducting periodic inspections and preventive maintenance. Baghouse inspections and maintenance activities shall be recorded in a log. The O&M plan shall be submitted to the Compliance Authority prior to the initial compliance tests for this unit. [Rule 62-4.070(3), and 40 CFR 63.1350, Subpart LLL]

11. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

D. Pyroprocessing System

The following specific conditions apply to the following emissions unit after construction:

ID No.	Emissions Unit Description
004	(CH-4) - Pyroprocessing System. Includes preheater/precalciner kiln with in-line raw mill, clinker cooler and air heater.

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for carbon monoxide (CO), nitrogen oxides (NO_X), sulfur dioxide (SO_2), volatile organic compounds (VOC), and particulate matter (PM/PM_{10}).

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions for particulate matter. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Pyroprocessing System: : The permittee is authorized to construct a pyroprocessing system consisting of a dry process pre-heater/calciner rotary kiln with in-line raw mill that simultaneously dries raw materials using the exhaust gas from the kiln, PH/C, or cooler. The preheater is designed with a staged combustion calciner and a selective non-catalytic reduction (SNCR) system. The kiln will be equipped with a Low NO_X main kiln burner capable of burning coal, petroleum coke, natural gas, used oil, and fuel oil. Other equipment includes an air heater for use when additional drying capacity is required, and a clinker cooler with cooling air fans, and hot air ducting to the kiln, PH/C and/or in-line raw mill. The air heater will be capable of firing fuel oil and natural gas. All emissions from the pyroprocessing system are directed to a single stack. The exhaust stack shall be no more than 16.5 feet in diameter and no less than 427 feet tall. [Applicant Request]

4. Kiln Design: The kiln will be designed to process approximately 353 tons per hour of dry preheater feed material (including baghouse dust recirculation and excluding dry coal ash) with an annual nominal throughput of 2,784,370 tons per year. However, preheater feed rate is ultimately restricted through clinker production limitations. [Applicant Request]

5. NO_X Controls
   a) *Low-NO_X Burners and Indirect Firing:* The main kiln and calciner will be equipped with Low NO_X burners that will create distinct combustion zones within the flame. An indirect firing system will be used to reduce the amount of primary air injected with the fuel used in the main kiln burner.
   b) *Staged Combustion in the Calciner (SCC)*: Introduction of fuel, air and meal to the calciner will be staged or sequenced for the reduction of NO_X emissions.
   c) *SNCR*: A selective non-catalytic reduction (SNCR) system shall be designed, constructed and operated to achieve the permitted levels for NO_X emissions from the pyroprocessing system. The SNCR system will consist of an aqueous ammonia and/or urea tank, pumps, piping, compressed air delivery, injectors, control system, and other ancillary equipment. Aqueous ammonia and/or urea solution will be injected at a location(s) in the preheater/calciner with an appropriate temperature profile to support the SNCR process.

6. Particulate Matter (PM/PM_{10}) Controls: The permittee shall install a baghouse control system to remove particulate matter emissions from the pyroprocessing exhaust gas stream to achieve the PM/PM_{10} emissions standards specified in this permit.
7. Sulfur Dioxide Controls: The use of low-sulfur raw materials will help to keep SO_2 emissions below permitted levels. Additionally, a hydrated lime injection system shall be installed for utilization as needed to reduce SO_2 emissions.

PERFORMANCE REQUIREMENTS

8. Hours of Operation: The hours of operation for this emissions unit are not limited (8760 hours per year). [Rule62-210.200(PTE), F.A.C.]
9. Process Rate Limitations: Kiln preheater feed rate and dry coal ash shall be monitored and recorded for purposes of determining clinker production. The clinker production rate of the kiln shall not exceed 208.3 tons per hour (24-hour rolling average) and 1,715,500 tons during any consecutive 12 month period. The clinker production rate shall be determined using kiln feed and dry coal ash feed, and kiln and dry coal ash feed loss on ignition (LOI) factors. The feed rates and kiln feed LOIs shall be based on a 30 operating-day block average of daily measurements. For purposes of this requirement, an operating day is any day that the kiln produces clinker or burns fuel. [Rules 62-4.070(3), and 62-212.200(PTE), F.A.C.]
10. Authorized Fuels: Only the following authorized fuels shall be fired in the pyroprocessing system (kiln and calciner): coal, petroleum coke, fly ash, gasified tires, whole or chipped tires, natural gas, distillate oil, and/or on-specification used oil fuel. The maximum heat input rate to the pyroprocessing system (kiln and calciner) shall not exceed 15,300 MMBtu per day (nominally 638 MMBtu/hr).
    a) The permittee is authorized to install a tire gasification system with an airlock on the feed mechanism. The maximum heat input rate from gasified tires shall not exceed 40% of the total pyroprocessing heat input rate (kiln and calciner) and shall not exceed 255 MMBtu per hour. The remaining 60% of the total pyroprocessing heat input rate shall come from other authorized fuels. The permittee shall provide details of the gasifier system within 30 days of finalizing the design.
    b) The maximum heat input rate from firing whole or chipped tire derived fuel (TDF) shall not exceed 15% of the total pyroprocessing heat input rate (kiln and calciner) and shall not exceed 96 MMBtu per hour. The remaining 85% of the total pyroprocessing heat input rate shall be from the firing of other authorized fuels. TDF shall be directly fed into the kiln system at the transition section between the base of the calciner and the point where gases exit the kiln. The tire feed mechanism shall be designed with an airlock/gate system. Tires shall be stored, handled and managed in accordance with the provisions of Chapter 62-711, F.A.C.
    c) Dry coal ash may be injected directly into the calciner.
    d) The air heater shall fire only natural gas or distillate fuel oil (No. 2 or No. 4) with a design maximum heat input rate of 80 MMBtu per hour.
    e) The firing of "on-specification" used oil fuel shall not exceed 2000 gallons per hour and 3,000,000 gallons during any consecutive 12 months. On-Specification Used Oil Fuel shall meet the following specifications:
        1. Arsenic shall not exceed 5.0 ppm;
        2. Cadmium shall not exceed 2.0 ppm;
        3. Chromium shall not exceed 10.0 ppm;
        4. Lead shall not exceed 100.0 ppm;
        5. Total halogens shall not exceed 1000 ppm; and

6. Flash point shall not be less than 100° F.

   Used oil fired as a fuel may be generated from on site sources or purchased from a vendor. Used oil shall not contain any PCB's. [40 CFR 279.61; 40 CFR 761.20(e); Rule 62-4.070(3), F.A.C.]

11. Prohibited Fuels and Materials: The owner or operator shall not introduce into any part of the process or emission control equipment any of the following fuels and materials: hazardous wastes; petroleum contaminated soil or materials; used oil, oil fuels, or solid fuels other than those allowed by this permit; or solid wastes other than tires as allowed by this permit. [Rule 62-4.070(3), F.A.C.]

12. Cement Kiln Dust: Cement kiln dust shall be re-circulated in the process and shall not be directly discharged from process or emission control equipment. Cement kiln dust removed from process equipment during maintenance and repair shall be confined and controlled at all times and shall be managed in accordance with the applicable provisions of 40 CFR 261. [Rule 62-4.070(3), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

13. Emissions Standards: Emissions from the pyroprocessing system (including the air heater) shall not exceed the following emissions standards.

Pollutant	Emission Limit	Averaging Time	Compliance Method	Basis
CO	2.9 lb/ton of clinker	30-day rolling	CEMS	BACT
	604.1 lb/hr			
NO_X[a]	1.95 lb/ton of clinker	30-day rolling	CEMS	BACT
	406.19 lb/hr			
PM/PM_{10}[b]	0.153 lb/ton of clinker	Three 1-hr runs	Annual Test	BACT
	31.87 lb/hr			
	10 % opacity	6-minute block	COMS	
SO_2	0.20 lb/ton of clinker	24-hr rolling	CEMS	BACT
	41.66 lb/hr			
VOC[c]	0.115 lb/ton of clinker	30-day block	CEMS	BACT
	23.95 lb/hr			
Dioxin/Furan[d]	0.20 ng/dscm (TEQ) @ 7% O_2	Three 3-hr runs	Temperature Monitoring	NESHAP LLL
	0.40 ng/dscm (TEQ) @ 7% O_2			
THC	50 ppmvd (as propane)@ 7% O_2	30-day block	CEMS	NESHAP LLL
Mercury[e]	184 lb/12-month period	12-month rolling	Fuel/Materials and/or CEMS	Avoid PSD

a. For an "initial startup period" NOx emissions shall not exceed 3.0 lb/ton of clinker (624.9 lb/hour) based on a 30-day rolling average. The "initial startup" period shall begin after initial certification of the NOx CEMS and shall end as soon as any of the following conditions are met:
   1) The Kiln system produces 121,500 tons of clinker or more in any 30-day rolling period.
   2) The Kiln system produces 250,000 tons of clinker.
   3) 365 days calendar days elapse after initial certification of the NOx CEMS.

   After the "initial startup" period ends, NOx emissions shall not exceed 1.95 lb/ton of clinker (406.19 lb/hour) based on a 30-day rolling average. These requirements do not waive or vary any applicable NSPS or NESHAP monitoring or record keeping requirements.

b. All PM emitted from the baghouse exhaust is assumed to be PM10. The BACT standard for PM is equivalent to approximately 0.09 lb per ton of preheater feed material. The emissions limits for particulate matter and visible emissions imposed by Rule 62-212.400(BACT) are as stringent as or

more stringent than the limits imposed by the applicable NESHAP provisions. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements.

c. Compliance shall be demonstrated by THC CEMS. VOC emissions shall be measured as total hydrocarbons (THC) and expressed as "propane" for the mass emissions rate.

d. Dioxin/furans shall not exceed 0.20 ng/dscm (TEQ) @ 7% oxygen when the average of the performance test run temperatures at the inlet to the particulate matter control device is 204° C (400° F) or more and shall not exceed 0.40 ng/dscm (TEQ) @ 7% oxygen when the average of the performance test run average particulate matter control device inlet temperature is 204° C (400° F) or less.

e. Compliance shall be demonstrated using the sampling, analysis, and calculation methods specified in permit Condition No. 21.

{Note: In combination with the annual clinker production limitation of 1,715,500 tons per year, the above emissions standards effectively limit annual potential emissions from this unit to: 2,487.5 tons/year of CO; 1,673 tons/year of NOx (after year one); 131 tons/year of PM/PM10; 172 tons/year of SO2; and 99 tons/year of VOC. Note that first year annual NOx emissions could be as high as 2,573 tons/year.}

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

14. Test Methods: Any required stack tests shall be performed in accordance with the following methods.

EPA Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Methods shall be performed as necessary to support other methods.
5	Determination of Particulate Emissions. The minimum sample volume shall be 30 dry standard cubic feet.
6C	Determination of SO2 Emissions (Instrumental).
7E	Determination of NOx Emissions (Instrumental). NOx emissions testing shall be conducted with the air heater operating at the highest heat input possible during the test.
9	Visual Determination of Opacity
10	Measurement of Carbon Monoxide Emissions (Instrumental). The method shall be based on a continuous sampling train.
23	Measurement of Dioxin/Furan Emissions
25A	Measurement of Gaseous Organic Concentrations (Flame Ionization – Instrumental)

The methods are specified in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. Tests shall be conducted in accordance with the appropriate test method and the applicable requirements specified in Appendix C of this permit, NSPS Subpart A in 40 CFR 60, and NESHAP Subparts A and LLL in 40 CFR 63. [Rules 62-204.800, F.A.C.; 40 CFR 60, Appendix A]

15. Testing Requirements: Initial tests shall be conducted between 90% and 100% of permitted capacity; otherwise, this permit shall be modified to reflect the true maximum capacity as constructed. Subsequent annual tests shall be conducted between 90% and 100% of permitted capacity in accordance with the requirements of Rule 62-297.310(2), F.A.C. Tests shall be conducted for each required pollutant under the fuel scenario representing the highest potential for generating emissions. In general, this fuel scenario is firing coal as the primary fuel and firing TDF, petroleum coke, and coal ash as secondary fuels. If a secondary fuel listed above is not available at the time of testing, tests shall be based on the fuels that are

available. If a secondary fuel is added later, additional tests shall be conducted with that fuel scenario within 60 days of first fire of the new secondary fuel. [Rule 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]

16. Initial Compliance Demonstration: Initial compliance stack tests shall be conducted within 60 days after achieving a daily average clinker production rate of 187 tons per hour, but not later than 180 days after the initial startup. In accordance with the test methods specified in this permit, the kiln system exhaust stack shall be tested to demonstrate compliance with the emission standards for particulate matter, CO, SO_2, NO_X, dioxin/furans, and THC. The initial compliance demonstration with the THC, and dioxin/furans emissions standards shall be carried out in accordance with 63.1349(b). The permittee shall provide the Compliance Authority with any other initial emissions performance tests conducted to satisfy vendor guarantees. [Rule 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]
17. Subsequent Compliance Testing: Annual compliance stack tests for particulate matter CO, NO_X, and SO_2 shall be conducted during each federal fiscal year (October 1st to September 30th). Subsequent dioxins/furans tests shall be conducted in accordance with the provisions of 40 CFR 63.1349. Data collected from the reference method during the required RATA tests for CO, NO_X, and SO_2 may be used to satisfy the annual testing requirement provided the notification requirements and emission testing requirements for performance and compliance tests of this permit are satisfied. [Rules 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]
18. Continuous Compliance: Continuous compliance with the permit standards for opacity and emissions of CO, NOx, SO2, and VOC/THC shall be demonstrated with data collected from the required continuous monitoring systems. [Rules 62-212.400(5)(c) and 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]
19. Supplemental Dioxin/Furan and PM/PM10 Tests: The owner or operator shall notify the Compliance Authority prior to initiating any significant change in the feed or fuel used in the most recent compliant performance test for dioxin/furan or PM/PM10. For purposes of this condition, significant means any of the following: a physical or chemical change in the feed or fuel; the use of a raw material not previously used; a change in the LOI of the coal ash; a change between non-beneficiated coal ash and beneficiated coal ash. Based on the information provided, the Compliance Authority will promptly determine if performance testing pursuant to 40 CFR 63.1349 will be required for the new feed or fuel. A significant change shall not include switching to a feed/fuel mix for which the permittee already tested in compliance with the dioxin/furan and PM/PM10 emission limits. [62-4.070(3), F.A.C.]
20. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]
21. Mercury Compliance Demonstration:
    a. *Material Balance Demonstration:* The owner or operator shall demonstrate compliance with the mercury throughput limitation by material balance and maintaining records of the monthly and rolling 12-month mercury throughput. Samples of the raw mill feed and all fuels shall be collected each day. A single composite daily sample shall be made from all samples collected during a day. A monthly composite sample shall be made from each of the daily composite samples. Each monthly composite sample shall be analyzed to determine the mercury concentration of the materials representative for the month. The analytical methods used to determine mercury concentration shall be EPA or ASTM methods such as EPA Method 7471A (Mercury in Solid or Semisolid Waste). No other methods may be used unless prior written approval is received from the Department. For each raw material and fuel, the monthly mercury throughput rate (pounds per month) shall be the product of the mercury

concentration from the monthly composite sample and the mass of raw material or fuel used during the month. If the mercury concentration is below detection limit or below the limits of quantification, the detection limit will be assumed for the concentration of the raw material or fuel. For each month, the mass of mercury introduced into the pyroprocessing system (pounds per month) shall be the sum of the monthly mercury throughput rate for each raw material and fuel. The consecutive 12-month mercury throughput rate shall be the sum of the individual monthly records for the current month and the preceding eleven months (pounds of mercury per consecutive 12-months). Such records, including calculations and data, shall be completed no later than 25 days following the month of the records.

b. *Mercury Continuous Emissions Monitoring System (Hg-CEMS)*: Within 60 days following the first year of operation, the owner or operator shall install any model of Hg-CEMS that has been demonstrated to meet the requirements in Performance Specification 12A (PS-12A), "Specifications and Test Procedures for Total Vapor phase Mercury Continuous Monitoring Systems in Stationary Sources," or that has passed verification tests conducted under the auspices of the U.S. Environmental Protection Agency's (EPA) Environmental Technology Verification (ETV) Program. During the subsequent 90 days, the owner or operator shall certify the Hg-CEMS. If the vendor provides to the Department verification of certification difficulties such that the CEMS cannot be certified by the certification deadline, and every reasonable effort has been made to do so, the Department shall grant a reasonable extension of time to certify the CEMS. After certification the owner or operator will begin reporting Hg mass emissions data. The owner or operator shall adhere to the calibration drift and quarterly accuracy assessment procedures in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B. The 12-month rolling mass emissions shall be estimated based on the actual data collected no later than 10 days following the end of the month. The CEMS shall only be used as the method of compliance if the owner or operator notifies the Department of the intent to use the CEMS in lieu of the procedures described in the preceding paragraph. Prior to use of the Hg-CEMS as the method to demonstrate compliance, the owner or operator shall submit written notice to the Department, and receive approval for a missing data substitution plan. For purposes of this requirement, the first year of operation ends 365 calendar days following the first day the kiln produces clinker.

   If, after 365 days of operation of the Hg-CEMS, the CEMS is not to be used as the method of compliance and the permittee can document that data from the CEMS is inaccurate or excessively invalid, and/or that the CEMS has proven to be unreliable and unreasonably burdensome, the owner or operator may request the removal of the Hg CEMS requirements.

[Rules 62-4.070(3) and 62-212.400(2)(g), F.A.C.]

EXCESS EMISSIONS

{Note: The following conditions apply only to the SIP-based emissions standards specified in Condition No. 13 of this section. Rule 62-210-700, F.A.C. (Excess Emissions) cannot vary or supersede any federal provision of the NSPS or the NESHAP programs.}

22. Operating Procedures: The Best Available Control Technology (BACT) determinations established by this permit rely on "good operating practices" to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the kiln and calciner, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods for minimizing excess emissions.
    [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

23. Definitions:
    a. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or

ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.

b. *Shutdown* means the cessation of the operation of an emissions unit for any purpose.

c. *Malfunction* means any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

[Rule 62-210.200(159,230, and 245), F.A.C.]

24. 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. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C.]

25. Allowable Data Exclusions: Continuous monitoring data collected during periods of startup, shutdown, and malfunction may be excluded from the compliance demonstrations only in accordance with the following requirements, provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions are minimized. As provided by the authority in Rule 62-210.700(5), F.A.C., the following conditions replace the provisions in Rule 62-210.700(1), F.A.C.

a. *CO Data*: Each 30-day rolling average shall include all periods of operation (including startup, shutdown, and malfunction), but may exclude limited periods due to equipment malfunctions. No more than 30 hours in any calendar month shall be excluded from the compliance determinations due to equipment malfunctions. Malfunctions do not include process upsets that occur as a normal part of cement production.

b. *NOx Data*: Each 30-day rolling average shall include all periods of operation (including startup, shutdown, and malfunction), but may exclude limited periods due to malfunctions of the SNCR system. "Malfunctions of the SNCR system" are defined as any unavoidable mechanical and/or electrical failure that prevents introduction of ammonia-based solutions into the kiln system. No more than 30 hours in any calendar month shall be excluded from the compliance determinations due to malfunctions of the SNCR system.

c. *SO_2 Data.* Each 24-hr rolling average shall include all periods of operation (including startup, shutdown, and malfunction), but may exclude limited periods due to malfunctions of the hydrated lime system, which are defined as any unavoidable mechanical and/or electrical failure that prevents introduction of lime into the kiln system. No more than 30 hours in any calendar month shall be excluded from the compliance determinations due to malfunctions of the hydrated lime system.

d. *Other Data*: All opacity and VOC data shall be included in the compliance determination. If the mercury CEMS is used as the method for demonstrating compliance, all valid data shall be included in the compliance determination.

The permittee shall notify the Compliance Authority within one working day of discovering any emissions in excess of a CEMS standard subject to the specified averaging period. Within one working day of occurrence, the owner or operator shall notify the Compliance Authority of any malfunction resulting in the exclusion of CEMS data. All such reasonably preventable emissions shall be included in any CEMS compliance determinations. All valid emissions data (including data collected during startup, shutdown and malfunction) shall be used to report emissions for the Annual Operating Report

[Rules 62-210.200, 62-212.400(BACT) and 62-210.700, F.A.C.]

CONTINUOUS MONITORING REQUIREMENTS

26. CEM Systems: The permittee shall install, calibrate, operate and maintain continuous emissions monitoring systems (CEMS) to measure and record concentrations of CO, Hg, NOx, SO2, and VOC/THC in the kiln system exhaust stack in a manner sufficient to demonstrate continuous compliance with the emissions standards specified in this section. All continuous monitoring systems other than the Hg CEMS shall be installed and functioning within the required performance specifications by the time of the initial performance tests. The Hg CEMS shall be installed and functioning within the required performance specifications following the first year of operation as specified in condition No. 21.

    a. *CO Monitor.* The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F. The required RATA tests shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately, considering the expected range of emissions and corresponding emission standards.

    b. *NOx Monitor.* The NO_X monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 2. Quality assurance procedures shall conform to the requirements of in 40 CFR 60, Appendix F. The required RATA tests shall be performed using EPA Method 7E in Appendix A of 40 CFR 60. The NO_X monitor span values shall be set appropriately, considering the expected range of emissions and corresponding emission standards.

    c. *SO2 Monitor.* The SO_2 monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 2. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F. The required RATA tests shall be performed using EPA Method 6C in Appendix A of 40 CFR 60. The SO_2 monitor span values shall be set appropriately, considering the expected range of emissions and corresponding emission standards.

    d. *THC Monitor.* A monitor shall be installed to determine THC emissions from the stack and shall meet the requirements of NESHAP Subpart LLL in 40 CFR 63 (40 CFR 63.1349 and 63.1350). The THC monitor shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture).

    e. *Diluent Monitor.* An oxygen monitor shall be installed at the THC monitor location to correct measured THC emissions to the required oxygen concentration.

    f. *Mercury Monitor.* A mercury monitor (Hg-CEMS) shall be installed and operated as described in Condition 21 above.

    CEMS, other than the Hg CEMS, are also subject to the General Provisions specified in Subpart A of 40 CFR 60 (CO, NOx, and SO2) and Subpart A of 40 CFR 63 (THC/VOC).
    [Rules 62-4.070(3), 62-210.800, 62-212.400(BACT) and 62-297.520, F.A.C.]

27. COMS: A continuous opacity monitoring system (COMS) shall be installed, calibrated, operated, and maintained in the kiln system exhaust stack, after the baghouse, in a manner sufficient to demonstrate continuous compliance with the opacity standards specified in this section. Opacity shall be based on a 6-minute block average computed from at least one observation (measurement) every 15 seconds. For the COMS, the 6-minute block averages shall begin at the top of each hour. The COMS shall meet the applicable requirements of 40 CFR 63.1350. [NESHAP Subpart LLL in 40 CFR 63]

28. CEMS/COMS Certification and Initial Startup: Each CEMS/COMS required by this permit shall be installed prior to startup. Within 60 calendar days of achieving an average daily clinker production rate of 187 tons per hour, but no later than 180 calendar days after initial startup, the owner or operator shall certify each

CEMS/COMS. Upon certification of each CEMS/COMS, the owner or operator shall demonstrate compliance with all applicable standards as specified in this permit. The Hg CEMS shall be installed and functioning within the required performance specifications following the first year of operation as specified in condition No. 21. [Rules 62-4.070(3), 62-210.800, 62-212.400(BACT) and 62-297.520, F.A.C.; 40 CFR 60.7(a), 60.13(b) and Appendix B; and 40 CFR 63.7(a)(2)]

29. CEMS Data Requirements: The CEMS shall be installed, calibrated, maintained, and operated in the in-line kiln/raw mill stack to measure and record the emissions of CO, NO_X, SO_2, and THC/VOC in a manner sufficient to demonstrate compliance with the emission limits of this permit. The CEMS shall express the results in units of pounds per ton of clinker produced, and pounds per hour. Emissions of VOC shall be reported in units of the standards (lb/hr, lb/ton of clinker) and ppmvd as propane corrected to 7% oxygen.

    a. *Valid Hourly Averages:* Each CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over the hour at a minimum of one measurement per minute. All valid measurements collected during an hour shall be used to calculate a 1-hour block average that begins at the top of each hour. Each 1-hour block average shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel (or produced clinker) during that quadrant of an hour. Notwithstanding this requirement, a 1-hour average shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). If less than two such data points are available, there is insufficient data and the 1-hour block average is not valid.

        - Hours during which there is no kiln feed and no fuel fired are not valid hours.
        - Hours during which the plant is firing fuel but producing no clinker are valid, but these hours are excluded from the production-normalized emission rate computation (pounds per ton of clinker). These hours are included in any pollutant mass emission rate computation (pounds per hour).

    b. *24-hour Rolling Averages*: Compliance with the emission limit for SO_2 shall be based on a 24-hour rolling average that shall be recomputed after every valid hour as the arithmetic average of that hourly average and the preceding 23 valid hourly averages.

    c. *30-day Rolling Averages*: Compliance with the emission limits for CO and NO_X shall be based on a 30-day rolling average. Each 30-day rolling average shall be the arithmetic average of all valid hourly averages collected during the last 30 operating days. A new 30-day rolling average shall be recomputed after every day of operation for the new day and the preceding 29 operating days. For purposes of computing these emission limits, an operating day is any day that the kiln produces clinker or fires fuel.

    d. *30-day Block Average:* Compliance with the emission limit for VOC shall be based on a 30-day block average. Each 30-day block average shall be the arithmetic average of all valid hourly averages occurring within each 30 operating-day block and shall be consistent with the averaging period specified in 40 CFR 63.1350(h) for THC emissions.

    e. *Data Exclusion*: Except for monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, each CEMS shall monitor and record emissions during all operations including episodes of startups, shutdowns, and malfunctions. Limited amounts of CEMS emissions data recorded during some of these episodes may be excluded from the corresponding compliance demonstration subject to the provisions of Condition No. 25 in this section. The permittee shall minimize the duration of data excluded for such episodes to the extent practicable.

    f. *Availability*. Monitor availability for each CEMS used to demonstrate compliance shall be 95% or greater in any calendar quarter. Monitor availability shall be reported in the quarterly excess emissions report. In the event 95% availability is not achieved, the permittee shall provide the Department with a

report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit, except as otherwise authorized by the Compliance Authority.

g. *Public Access:* Emission data will be available in real time on the company website.

30. Continuous Flow Monitor: A continuous flow monitor shall be installed to determine the stack exhaust flow rate to be used in determining mass emission rates. The flow monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 6.

31. Baghouse Temperature Monitor: A continuous temperature monitor shall be installed, calibrated, operated, and maintained at the inlet to the baghouse for the kiln system exhaust in accordance with the requirements of 40 CFR 63.1350(f). [NESHAP Subpart LLL in 40 CFR 63]

32. Ammonia Injection: A monitoring system to continuously monitor and record the ammonia and/or urea injection rate of the SNCR system (1-hour block averages) shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations.
[Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

REPORTING AND RECORD KEEPING REQUIREMENTS

33. Operational Records: To demonstrate compliance with the limitations specified in this section, the owner or operator shall maintain the following records on site.

a. For each 1-hour block of operation, continuously monitor and record the dry preheater feed rate, clinker production rate, fuel firing rate, heat input rate (the representative heating value of each fuel and the hourly fuel firing rate), and estimates of NH_3/NO_X molar ratio or ammonia injection rate. Records shall also document the dry preheater feed rate and clinker production rates for each 24-hour rolling period and consecutive12 months.

b. For each fuel delivery, maintain records of the quantity of fuel delivered and a representative analysis of the fuel. Records shall include the sulfur content, higher and lower heating value, proximate analysis, and ultimate analyses.

c. Maintain records demonstrating compliance with the mercury throughput limitation as required in Condition No. 21 of this permit.

All records shall be made available to the Department and Compliance Authority upon request.
[Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

34. Stack Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Compliance Authority on the results of each such test. The required test report shall be filed with the Compliance Authority as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Compliance Authority 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 specified in Rule 62-297.310(8), F.A.C. [Rule 62-297.310(8), F.A.C.]

35. Malfunction Notifications: If temporarily unable to comply with any condition of the permit due to breakdown of equipment (malfunction) or destruction by hazard of fire, wind or by other cause, the permittee shall immediately (within one working day) notify the Compliance Authority. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with

Department rules. If requested by the Compliance Authority, the owner or operator shall submit a quarterly written report describing the malfunction. [Rules 62-210.700(6) and 62-4.130, F.A.C.]

36. SIP Quarterly Report: Within 30 days following the end of each calendar quarter, the permittee shall submit a report to the Compliance Authority summarizing: equipment malfunctions resulting in excluded CEMS data and/or excess emissions; mercury throughput rates; and the monitor availability of each CEMS. The report shall contain the information and follow the general format specified in Appendix F of this permit. [Rules 62-4.070(3), 62-4.130, and 62-212.400(BACT), F.A.C.]

37. Used Oil Records: For each shipment of used oil received, the owner or operator shall maintain records from the vendor certifying that the used oil meets the above requirements for "on-specification" used oil fuel. Records shall include the following parameters: arsenic, cadmium, chromium, lead, total halogens, flash point, PCBs, sulfur content, ash, and heating value. Otherwise, the owner or operator shall sample and analyze each shipment of used oil received for the above parameters. If vendor certifications are relied upon, the owner or operator shall analyze at least one sample obtained each calendar year for the above parameters. If analytical results show that the used oil does not meet the above requirements, the owner or operator shall immediately: cease burning of the used oil, and notify the Compliance Authority of the analytical results. The analysis shall be performed via EPA-approved or ASTM methods. The permittee shall obtain, make, and keep the following records: Gallons of on-specification used oil received and burned each month;

    a) Gallons of on-specification used oil received and burned each month;;
    b) Name and address of all vendors delivering used oil to the facility
    c) Copies of the vendor certifications, if obtained, and any supporting information; and
    d) Analytical results.

    The records shall be retained in a form suitable for inspection at the facility by the Department, and shall be retained permanently. [40 CFR 279.61; 40 CFR 761.20(e), and Rule 62-4.070(3), F.A.C.]

38. O&M Plan for Baghouse: The permittee shall prepare an operation and maintenance (O&M) plan to address the schedule for inspection and preventive maintenance of the baghouse control system. The O&M plan shall be submitted to the Compliance Authority prior to expiration of this permit. The permittee shall maintain records of the condition of the control equipment for each inspection and any maintenance activities performed. [Rule 62-4.070(3), F.A.C., and 40 CFR 63.1350, Subpart LLL]

E. Clinker Storage and Conveying

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

ID No.	Emissions Unit Description
005	(CH-5) - Clinker Storage and Conveying. Includes clinker transport from kiln; clinker, limestone, and gypsum silos; and clinker, limestone and gypsum conveying to finish mills.

Clinker storage and conveying includes the following emission points controlled by fabric filter baghouses.

Point ID	Emissions Point Description
NDC-10	Clinker Transport From Kiln
NDC-11	Clinker Silo #1
NDC-12	Clinker Silo #2
NDC-13	Off-Spec Clinker Silo
NDC-14	Finish Mill #1 Clinker Silo Outlet Conveyor
NDC-15	Finish Mill #2 Clinker Silo Outlet Conveyor
NDC-16	Gypsum and Limestone Silos
NDC-17	Conveying to Finish Mills (2 feed belts)

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for, particulate matter (PM/PM_{10}). To satisfy the BACT requirements for this unit the visible emissions limits act as surrogate standards for PM.

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the conveying and storage of clinker, and the limestone and gypsum storage and conveying to the two finish mills. Equipment will include two clinker silos, one off-spec clinker silo, gypsum and limestone silos, and associated conveyors, and control equipment.

4. Baghouse Controls: Each emissions point identified for clinker storage and conveying shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

PERFORMANCE REQUIREMENTS

5. Hours of Operation: This emissions unit is allowed to operate 8,760 hours per year. [Applicant Request, Rule 62-210.200(PTE), F.A.C]

E. Clinker Storage and Conveying

EMISSIONS AND TESTING REQUIREMENTS

6. Emissions Limits: The following standards apply to each emissions point of this unit including all clinker storage and conveying system transfer points:

   a. Emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse.

   b. Emissions are limited to 10% opacity from any emissions point not controlled by a baghouse.

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

   {Note: The baghouses are designed to control PM emissions to 0.01 grains/dry standard cubic foot (gr/dscf) and PM_{10} emissions to 0.0085 gr/dscf. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM_{10} from all emission points listed above will be no more than 24.97/21.23 TPY. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

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

7. Compliance Demonstrations: Each emission point shall be tested to demonstrate initial compliance with the emission standards for visible emissions in accordance with EPA Method 9. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emission limits shall be demonstrated during each federal fiscal year (October 1st to September 30th).
   [Rules 62-4.070(3), 62-297.310(7)(a), F.A.C. and 40 CFR 63.1349(b)(2)]

8. Periodic Monitoring Requirements: Each affected source subject to an opacity standard shall be periodically monitored using the procedures described in 40 CFR 63.1350(a) (4) (i) through (vii) to ensure compliance with the emissions limits of condition No. 6. [Rule 62-4.070(3), and 40 CFR, 63.1350, Subpart LLL]

9. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NESHAP provisions.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources
22	Visual Determination of Fugitive Emissions From Material Sources

REPORTING AND RECORD KEEPING

10. Baghouse O&M Plan: For each baghouse the permittee shall prepare an operation and maintenance (O&M) plan to address proper operation, parametric monitoring, and a schedule for conducting periodic inspections and preventive maintenance. Baghouse inspections and maintenance activities shall be recorded in a written log. The O&M plan shall be submitted to the Compliance Authority prior to the initial compliance tests for this unit. [Rule 62-4.070(3), and 40 CFR 63.1350, Subpart LLL]

11. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

F. Finish Mills Cement Processing

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

ID No.	Emissions Unit Description
006	(CH-6) - Finish Mills Cement Processing. Includes two finish mills, cement silos, packaging plant and truck loadout.

The Finish Mills Cement Processing includes the following emission points controlled by fabric filter baghouses.

Point ID	Emissions Point Description
NDC-18	Finish Mill #1 Clinker Conveying
DC-02	Finish Mill #1 Separator Baghouse
DC-03	Finish Mill #1 Sweep Baghouse
NDC-21	Fringe Cement Bin
NDC-19	Finish Mill #1 Baghouse No. 3
DC-04	Finish Mill #2 Separator Baghouse
DC-05	Finish Mill #2 Sweep Baghouse
NDC-20	Finish Mill #2 Baghouse No. 3
NDC-22	Cement Silos
NDC-23	Cement Silos
NDC-24	Cement Silos
NDC-25	Truck Loadout #1
NDC-26	Truck Loadout #2
NDC-27	Truck Loadout #3
NDC-28	Packaging Plant

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for particulate matter (PM/PM_{10}). To satisfy some of the BACT requirements for this unit the visible emissions limits act as surrogate standards for PM.

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for cement finishing, storage, packaging, and loadout. Equipment will include two finish mills, six cement

silos with two interstices, one fringe cement bin, three truck loadouts, one packaging plant, and associated conveyors, bucket elevators, belts, and control equipment.

4. Baghouse Controls: Each emissions point identified for finish mills cement processing shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

PERFORMANCE REQUIREMENTS

5. Hours of Operation: This emissions unit is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C

6. Process Rate Specification: Each finish mill may process up to 170 tons per hour (TPH) of clinker, gypsum or limestone to produce an equal amount of cement. [Applicant Request]

   {Note: The finish mills are capable of processing more clinker than can be produced by the on-site pyroprocessing system. Any projects to utilize the additional capacity would constitute a modification per Section 2, Condition 7.}

EMISSIONS AND TESTING REQUIREMENTS

7. Particulate Matter Standards: Particulate matter emissions from the finish mill air separators (Points DC-02, and DC-04) shall not exceed 0.0085 grains per dscf of exhaust as determined by EPA method 5. All PM emitted from the baghouse exhaust is assumed to be PM_{10}. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements. [Rules 62-212.400 (BACT), F.A.C.]

8. Visible Emissions Standards: Visible emissions shall not exceed the following limits as determined by EPA Method 9:

   a. Visible emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse.

   b. Visible emissions are limited to 10% opacity from any emissions point not controlled by a baghouse.

   {Note: The baghouses are designed to control PM emissions to 0.01 grains/dry standard cubic foot (gr/dscf) and PM_{10} emissions to 0.0085 gr/dscf. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM_{10} from the above emissions points (excluding the air separators) will be less than 42.03/35.74 TPY. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

   [Rules 62-212.400 (BACT), F.A.C.]

9. Testing Requirements: Emission points DC-02 and DC-04 shall be stack tested to demonstrate initial compliance with the applicable emission standards for PM/PM_{10} and visible emissions. All other emission points shall be tested for visible emissions only. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the particulate limits (PM/PM_{10}) shall be demonstrated within the 12 month period prior to each renewal of the operation permit and compliance with the visible emissions limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

10. Periodic Monitoring Requirements: Each affected source subject to an opacity standard shall be periodically monitored using the procedures described in 40 CFR 63.1350(a) (4) (i) through (vii) to ensure compliance with the emissions limits of condition No. 6. [Rule 62-4.070(3), and 40 CFR, 63.1350, Subpart LLL]

11. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NSPS provisions.

Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Methods shall be performed as necessary to support other methods.
5	Determination Particulate Matter from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
22	Visual Determination of Fugitive Emissions From Material Sources

REPORTING AND RECORD KEEPING

12. Baghouse O&M Plan: For each baghouse the permittee shall prepare an operation and maintenance (O&M) plan to address proper operation, parametric monitoring, and a schedule for conducting periodic inspections and preventive maintenance. Baghouse inspections and maintenance activities shall be recorded in a written log. The O&M plan shall be submitted to the Compliance Authority prior to the initial compliance tests for this unit. [Rule 62-4.070(3)]

13. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

G. Coal and Petroleum Coke Grinding System

The specific conditions of this subsection apply to the following emissions unit.

ID No.	Emissions Unit Description
007	(CH-7) - Coal and Petroleum Coke Grinding System. Includes coal mill and coal bins.

The coal and petroleum coke grinding system includes the following emission points controlled by fabric filter baghouses.

Point ID	Emissions Point Description
DC-06	Coal Mill #1 Baghouse
DC-07	Coal Mill #2 Baghouse
NDC-29	Pulverized Coal Bin
NDC-30	Pulverized Coal Bin

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for particulate matter (PM/PM_{10}). To satisfy some of the BACT requirements for this unit the visible emissions limits act as surrogate standards for PM.

2. NSPS Requirements: This unit is subject to 40 CFR 60, Subpart A (Identification of General Provisions) and 40 CFR 60, Subpart Y (Standards of Performance for Coal Preparation Plants). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NSPS provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for coal and petroleum coke grinding and storage. Equipment will include a coal/petcoke grinding mill (nominal throughput 211,160 TPY and 28.4 TPH), storage bins, and associated conveyor systems. Clinker cooler gas will be used for drying.

4. Baghouse Controls: Each emissions point identified for the coal and petroleum coke grinding system shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

PERFORMANCE REQUIREMENTS

5. Hours of Operation: The hours of operation for this emissions unit are not limited (8760 hours per year). [Rule62-210.200(PTE), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

6. Particulate Matter Standards: Particulate matter emissions from the coal mill (Point ID DC-06 and DC-07) shall not exceed 0.0085 grains per dscf of exhaust as determined by EPA method 5. All PM emitted from the baghouse exhaust is assumed to be PM_{10}. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements.
[Rules 62-212.400 (BACT), F.A.C. and 40 CFR 60.252]

7. Visible Emissions Standards: Visible emissions from each baghouse shall not exceed 5% opacity as determined by EPA Method 9.

   [Rules 62-212.400 (BACT), F.A.C. and CFR 60.252]

8. Testing Requirements: Emission points DC-06 and DC-07 shall be stack tested to demonstrate initial compliance with the applicable emission standards for PM/PM_{10} and visible emissions. All other emission points shall be tested for visible emissions only. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the particulate limits (PM/PM_{10}) shall be demonstrated within the 12 month period prior to each renewal of the operation permit and compliance with the visible emission limits shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

9. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NSPS provisions.

Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Methods shall be performed as necessary to support other methods.
5	Determination Particulate Matter from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

CONTINUOUS MONITORING REQUIREMENTS

10. Thermal Dryer Exit Temperature: A monitoring device for the continuous measurement of the temperature of the gas stream at the exit of the thermal dryer shall be installed, calibrated, maintained, and continuously operated to measure the temperature of the gas stream in accordance with the requirements of 40 CFR, 60.253. [40 CFR 60.253]

REPORTING AND RECORD KEEPING

11. Baghouse O&M Plan: For each baghouse the permittee shall prepare an operation and maintenance (O&M) plan to address proper operation, parametric monitoring, and a schedule for conducting periodic inspections and preventive maintenance. Baghouse inspections and maintenance activities shall be recorded in a written log. The O&M plan shall be submitted to the Compliance Authority prior to the initial compliance tests for this unit. [Rule 62-4.070(3), and 40 CFR 63.1350, Subpart LLL]

12. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

H. Coal and Petroleum Coke Conveying

The specific conditions of this subsection apply to the following emissions unit.

ID No.	Emissions Unit Description
008	(CH-8) – Coal and Petroleum Coke Conveying. Includes coal/petroleum coke handling and conveying from unloading to storage bins.

The coal and petroleum coke conveying system contains the following emission points.

Point ID	Emissions Point Description
CH-8-1	Coal/Petroleum Coke Pile Handling – unloading, FEL reclaim, FEL transfer to hopper
CH-8-2	Coal/Petroleum Coke Conveying – belt transfer to elevator, transfer to scrap metal box, conveyor transfer to piles, truck dump to hopper, hopper transfer to elevator

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for particulate matter (PM/PM_{10}).

2. NSPS Requirements: This unit is subject to 40 CFR 60, Subpart A (Identification of General Provisions) and 40 CFR 60, Subpart Y (Standards of Performance for Coal Preparation Plants). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NSPS provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the conveyance and handling of the coal and petroleum coke. Equipment will include conveyors, belts, loaders, and hoppers. [Applicant Request]

PERFORMANCE REQUIREMENTS

4. Hours of Operation: This emissions unit system is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

5. Visible Emissions Standards: Visible emissions from all coal/petcoke processing and conveying equipment, coal/petcoke storage system, or coal/petcoke transfer and loading system processing coal/petcoke, and not controlled by a baghouse, shall not exceed 5 % opacity. [Rules 62-212.400 (BACT), F.A.C. and CFR 60.252]

6. Testing Requirements: Each emission point shall be tested to demonstrate initial compliance with the visible emissions standards. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emission limits shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

7. Visible Emissions Tests: Compliance with the visible emission limits shall be determined by conducting EPA Method 9 tests. Initial tests shall be conducted 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup. Thereafter, the permittee shall demonstrate compliance during each federal fiscal year (October 1st to September 30th). Tests shall be conducted in accordance with the applicable requirements in Appendix C of this permit as well as the applicable NSPS provisions.

8. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

I. Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads

The following specific conditions apply to the following emissions unit after construction.

ID No.	Emissions Unit Description
010	(CH-10, CH-11) – Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads.

PERFORMANCE REQUIREMENTS

1. Unconfined Emissions of Particulate Matter

   a. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity without taking reasonable precautions to prevent such emissions. Such activities include, but are not limited to: vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling.

   b. Reasonable precautions shall include the following:

      (1) Landscaping and planting of vegetation.

      (2) Application of water to control fugitive dust from activities such as demolition of buildings, grading roads, construction, and land clearing.

      (3) Water supply lines, hoses and sprinklers shall be located near all stockpiles of raw materials, coal, and petroleum coke.

      (4) All plant operators shall be trained in basic environmental compliance and shall perform visual inspections of raw materials, coal and petroleum coke periodically and before handling. If the visual inspections indicate a lack of surface moisture, such materials shall be wetted with sprinklers. Wetting shall continue until the potential for unconfined particulate matter emissions are minimized.

      (5) Water spray shall be used to wet the materials and fuel if inherent moisture and moisture from wetting the storage piles are not sufficient to prevent unconfined particulate matter emissions.

      (6) As necessary, applications of asphalt, water, or dust suppressants to unpaved roads, yards, open stockpiles and similar activities.

      (7) Paving of access roadways, parking areas, manufacture area, and fuel storage yard.

      (8) Removal of dust from buildings, roads, and other paved areas under the control of the owner or operator of the facility to prevent particulate matter from becoming airborne.

      (9) A vacuum sweeper shall be used to remove dust from paved roads, parking, and other work areas.

      (10) Enclosure or covering of conveyor systems where practicably feasible.

      (11) All materials at the plant shall be stored under roof. Materials, other than quarried materials, shall be stored on compacted clay or concrete, or in enclosed vessels.

      (12) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.

      (13) Confining abrasive blasting where possible.

   c. In determining what constitutes reasonable precautions for a particular source, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

   [Rules 62-212.400(BACT) and 62-296.320(4)(c), F.A.C.]

SECTION IV. APPENDICES
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SECTION IV. APPENDIX BD
FINAL BACT DETERMINATION AND EMISSION STANDARDS

PROJECT DESCRIPTION

The proposed facility will be a dry process greenfield portland cement plant incorporating a dry process kiln with a preheater and calciner (PH/C). The nominal capacity is 1,715,500 tons per year of clinker. Major equipment associated with the main components of the plant will include the following:

- A raw materials storage building (MSB) and a limestone storage building;
- A primary crusher at the quarry and belt conveyors to MSB;
- Raw material piles stored inside of the storage buildings. The piles will include limestone, alumina sources (e.g. bauxite and coal ash), iron sources (e.g. mill scale, slag, and iron ore), silica sources (e.g. sand, and clay), and additives (e.g. feldspar, and gypsum);
- Materials handling equipment including reclaimers, stackers, belt conveyors, covered conveyors from the MSB and limestone storage building to the raw mill, control system/analyzer, etc.;
- An in-line raw mill that simultaneously dries raw materials using the exhaust gas from the kiln, PH/C, and clinker cooler;
- A preheater with staged combustion calciner and selective non-catalytic reduction (SNCR) system;
- An air heater for use when additional drying capacity is required;
- A nominal 12,000 ton per day blending silo;
- An indirect-firing system with a Low NO_X main kiln burner capable of burning coal, petroleum coke, fuel oil, and natural gas;
- A whole tire feeder and/or tire gasification system.
- A clinker cooler with cooling air fans, and hot air ducting to the kiln, PH/C, and raw mill;
- Clinker storage and grinding including two finish mills with air separators, clinker silos with metering devices, limestone and gypsum bins and associated conveyors;
- Cement transfer and storage silos, truck loadouts and packhouse; and
- A nominal 28.4 TPH coal and/or petroleum coke grinding system with associated mill, storage facility, associated conveyors, and equipped with a fabric filter baghouse.

The permit authorizes the construction of the following new emissions units:

EU ID	Emissions Unit Description
001	(CH-1) - Primary Crushing, and Associated Conveyors. Includes front end loaders to primary crusher, primary crusher operation, base rock and limestone conveyors to base rock storage pile and limestone storage building.
002	(CH-2) - Raw Material Conveying and transfer to and from storage piles.
003	(CH-3) - Raw Material Processing and Storage. Including raw material transport from raw mill to blend silo, blend silo, fly ash silo, and kiln feed and fly ash transport to kiln.
004	(CH-4) - Pyroprocessing System. Includes preheater/precalciner kiln with in-line raw mill, clinker cooler and air heater.
005	(CH-5) - Clinker Storage and Conveying. Includes clinker transport from kiln; clinker, limestone, and gypsum silos; and clinker, limestone and gypsum conveying to finish mills.
006	(CH-6) - Finish Mills Cement Processing. Includes two finish mills, cement silos, packaging plant and truck loadout.
007	(CH-7) - Coal and Petroleum Coke Grinding System. Includes coal mill and ground coal/petroleum bins.
008	(CH-8) – Coal and Petroleum Coke Conveying. Includes coal/petroleum coke handling and conveying from unloading to storage bins.
010	(CH-10, CH-11) – Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads.

PRIMARY CRUSHING, AND ASSOCIATED CONVEYORS

Visible Emission Standards: These opacity standards do not apply to truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher.

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

b. Fugitive emissions from any transfer point on belt conveyors or from any other affected facility shall not exceed 10% opacity.

Opacity shall be determined in accordance with EPA Method 9.

RAW MATERIALS CONVEYING AND TRANSFER

The following BACT standards apply to each emissions point of this unit including all raw material storage bins and conveying system transfer points:

Emissions are limited to 5% opacity from any emissions point.

Opacity shall be determined in accordance with EPA Method 9.

RAW MATERIALS PROCESSING AND STORAGE

Each emissions point specifically identified for raw materials conveying, storage, and processing shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf.

The following BACT standards apply to each emissions point of this unit including all raw material storage bins and conveying system transfer points:

a. Emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse.

Opacity shall be determined in accordance with EPA Method 9.

PYROPROCESSING SYSTEM

Emissions from the pyroprocessing system are controlled by the following equipment and techniques.

NO_X Controls

Low-NO_X Burners and Indirect Firing: The main kiln and calciner will be equipped with Low NO_X burners that will create distinct combustion zones within the flame. An indirect firing system will be used to reduce the amount of primary air injected with the fuel used in the main kiln burner.

Staged Combustion in the Calciner (SCC): Introduction of fuel, air and meal to the calciner will be staged or sequenced for the reduction of NO_X emissions.

SNCR: A selective non-catalytic reduction (SNCR) system shall be designed, constructed and operated to achieve the permitted levels for NO_X emissions from the pyroprocessing system. The SNCR system will consist of an aqueous ammonia and/or urea tank, pumps, piping, compressed air delivery, injectors, control system, and other ancillary equipment. Aqueous ammonia and/or urea will be injected at a location(s) in the preheater/calciner with an appropriate temperature profile to support the SNCR process.

Particulate Matter (PM/PM_{10}) Controls:

The permittee shall install a baghouse control system to remove particulate matter emissions from the pyroprocessing exhaust gas stream to achieve the PM/PM_{10} emissions standards specified in this permit.

Sulfur Dioxide Controls:

The use of low-sulfur raw materials will help to keep SO_2 emissions below permitted levels. Additionally, a hydrated lime injection system shall be installed for utilization as needed to reduce SO_2 emissions.

Carbon Monoxide/Volatile Organic Compounds Controls:

The owner or operator shall control CO and VOC emissions with a design providing sufficient time/temperature to oxidize these pollutants, good operating practices, and careful attention to the raw material mix.

Emissions from the pyroprocessing system shall not exceed the following BACT standards.

Pollutant	Emission Limit	Averaging Time	Compliance Method	Basis
CO	2.9 lb/ton of clinker	30-day rolling	CEMS	BACT
	604.1 lb/hr			
NO_X[a]	1.95 lb/ton of clinker	30-day rolling	CEMS	BACT
	406.19 lb/hr			
PM/PM_{10}[b]	0.153 lb/ton of clinker	Three 1-hr runs	Annual Test	BACT
	31.87 lb/hr			
	10 % opacity	6-minute block	COMS	
SO_2	0.20 lb/ton of clinker	24-hr rolling	CEMS	BACT
	41.66 lb/hr			
VOC[c]	0.115 lb/ton of clinker	30-day block	CEMS	BACT
	23.95 lb/hr			

a. For an "initial startup period" NOx emissions shall not exceed 3.0 lb/ton of clinker (624.9 lb/hour) based on a 30-day rolling average. The "initial startup" period shall begin after initial certification of the NOx CEMS and shall end as soon as any of the following conditions are met:
   1) The Kiln system produces 121,500 tons of clinker or more in any 30-day rolling period.
   2) The Kiln system produces 250,000 tons of clinker.
   3) 365 days calendar days elapse after initial certification of the NOx CEMS.

   After the "initial startup" period ends, NOx emissions shall not exceed 1.95 lb/ton of clinker (406.19 lb/hour) based on a 30-day rolling average. These requirements do not waive or vary any applicable NSPS or NESHAP monitoring or record keeping requirements.

b. All PM emitted from the baghouse exhaust is assumed to be PM10. The BACT standard for PM is equivalent to approximately 0.09 lb per ton of preheater feed material. The emissions limits for particulate matter and visible emissions imposed by Rule 62-212.400(BACT) are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements.

c. Compliance shall be demonstrated by THC CEMS. VOC emissions shall be measured as total hydrocarbons (THC) and expressed as "propane" for the mass emissions rate.

{Note: In combination with the annual clinker production limitation of 1,715,500 tons per year, the above emissions standards effectively limit annual potential emissions from this unit to: 2,487.5 tons/year of CO; 1,673 tons/year of NOx (after year one); 131 tons/year of PM/PM10; 172 tons/year of SO2; and 99 tons/year of VOC. Note that first year annual NOx emissions could be as high as 2,573 tons/year.}

CLINKER STORAGE AND CONVEYING

The following BACT standards apply to each emissions point of this unit including all raw material storage and conveying system transfer points:

a. Emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse.

b. Emissions are limited to 10% opacity from any emissions point not controlled by a baghouse.

Each emissions point identified for clinker storage and conveying shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM_{10} for all emission points in this emission unit system will be no more than 24.97/21.23 TPY.

Opacity shall be determined in accordance with EPA Method 9.

FINISH MILLS CEMENT PROCESSING

Particulate Matter Standards: Particulate matter emissions from the finish mill air separators (Points DC-02, and DC-04) shall not exceed 0.0085 grains per dscf of exhaust as determined by EPA method 5. All PM emitted from the baghouse exhaust is assumed to be PM_{10}. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements. [Rules 62-212.400 (BACT), F.A.C.]

Visible Emissions Standards: Visible emissions shall not exceed the following limits as determined by EPA Method 9:

- Visible emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse.
- Visible emissions are limited to 10% opacity from any emissions point not controlled by a baghouse.

{Note: The baghouses are designed to control PM emissions to 0.01 grains/dry standard cubic foot (gr/dscf) and PM_{10} emissions to 0.0085 gr/dscf. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM_{10} from the above emissions points (excluding the air separators) will be less than 42.03/35.74 TPY. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

COAL AND PETROLEUM COKE GRINDING SYSTEM

Particulate Matter Standards: Particulate matter emissions from the coal mill (Point ID DC-06 and DC-07) shall not exceed 0.0085 grains per dscf of exhaust as determined by EPA method 5. All PM emitted from the baghouse exhaust is assumed to be PM_{10}. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements.

Visible Emissions Standards: Visible emissions from each baghouse shall not exceed 5% opacity as determined by EPA *Method 9*.

COAL AND PETROLEUM COKE CONVEYING

Visible Emissions Standards: Visible emissions from all coal/petcoke processing and conveying equipment, coal/petcoke storage system, or coal/petcoke transfer and loading system processing coal/petcoke, and not controlled by a baghouse, shall not exceed 5 % opacity.

FUGITIVE DUST FROM STORAGE PILES, PAVED ROADS, AND UNPAVED ROADS

The following work practices were determined as BACT for the control of fugitive emissions:

a. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity without taking reasonable precautions to prevent such emissions. Such activities include, but are not limited to: vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling.

b. Reasonable precautions shall include the following:

   (1) Landscaping and planting of vegetation.

   (2) Application of water to control fugitive dust from activities such as demolition of buildings, grading roads, construction, and land clearing.

   (3) Water supply lines, hoses and sprinklers shall be located near all stockpiles of raw materials, coal, and petroleum coke.

(4) All plant operators shall be trained in basic environmental compliance and shall perform visual inspections of raw materials, coal and petroleum coke periodically and before handling. If the visual inspections indicate a lack of surface moisture, such materials shall be wetted with sprinklers. Wetting shall continue until the potential for unconfined particulate matter emissions are minimized.

(5) Water spray shall be used to wet the materials and fuel if inherent moisture and moisture from wetting the storage piles are not sufficient to prevent unconfined particulate matter emissions.

(6) As necessary, applications of asphalt, water, or dust suppressants to unpaved roads, yards, open stockpiles and similar activities.

(7) Paving of access roadways, parking areas, manufacture area, and fuel storage yard.

(8) Removal of dust from buildings, roads, and other paved areas under the control of the owner or operator of the facility to prevent particulate matter from becoming airborne.

(9) A vacuum sweeper shall be used to remove dust from paved roads, parking, and other work areas.

(10) Enclosure or covering of conveyor systems where practicably feasible.

(11) All materials at the plant shall be stored under roof. Materials, other than quarried materials, shall be stored on compacted clay or concrete, or in enclosed vessels.

(12) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.

(13) Confining abrasive blasting where possible.

c. In determining what constitutes reasonable precautions for a particular source, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

A. A. Linero, P.E., Program Administrator
South Permitting Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended By:

Trina L. Vielhauer, Chief
Bureau of Air Regulation

January 31, 2006
Date

Approved By:

Michael G. Cooke, Director
Division of Air Resources Management

2-6-06
Date

SECTION IV. APPENDIX C
COMMON STATE RULES

Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

EMISSIONS AND CONTROLS

1. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
4. 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.]
5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permitee shall notify the Department or the appropriate Local Program 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.]
6. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. 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) and62-210.200(203), F.A.C.]
8. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20 percent opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. 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.]

GENERAL COMPLIANCE TESTING REQUIREMENTS

The focal point of a compliance test is the stack or duct which vents process and/or combustion gases and air pollutants from an emissions unit into the ambient air. [Rule 62-297.310, F.A.C.]

10. 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.]

11. 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.]

12. 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.]

13. Applicable Test Procedures [Rule 62-297.310(4), F.A.C.]

    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 sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

            (a) 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 equipment shall 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.

14. Determination of Process Variables [Rule 62-297.310(5), F.A.C.]

    a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

    b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

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

    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 conduct a 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 dualrail 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.

16. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required. [Rule 62-297.310(7), F.A.C.]

a. *General Compliance Testing.*

1. The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.

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

(a) Did not operate; or

(b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours,

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

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

(b) b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

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

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
6. For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup.
7. For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to paragraph 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup.
8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.
9. 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.
10. An annual compliance test conducted for visible emissions shall not be required for units exempted from air permitting pursuant to subsection 62-210.300(3), F.A.C.; units determined to be insignificant pursuant to subparagraph 62-213.300(2)(a)1., F.A.C., or paragraph 62-213.430(6)(b), F.A.C.; or units permitted under the General Permit provisions in paragraph 62-210.300(4)(a) or Rule 62-213.300, F.A.C., unless the general permit specifically requires such testing.

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

c. *Waiver of Compliance Test Requirements.* If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of paragraph 62-297.310(7)(b), F.A.C., shall apply.

RECORDS AND REPORTS

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

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.

RECORDS AND REPORTS

18. 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 five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2, F.A.C.]
19. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

SECTION IV. APPENDIX GC
CONSTRUCTION PERMIT GENERAL CONDITIONS

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

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

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

   a. Have access to and copy and records that must be kept under the conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

   a. A description of and cause of non-compliance; and

   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

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

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

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology;
    b. Determination of Prevention of Significant Deterioration; and
    c. Compliance with New Source Performance 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 stipulated by the Department.

    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        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; and
        f. The results of such analyses.

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

NESHAP SUBPART LLL PROVISIONS – PORTLAND CEMENT MANUFACTURING INDUSTRY

The provisions of this subsection apply to the following emissions units.

EU ID	Emissions Unit Description
002	(CH-2) - Raw Material Conveying and transfer to and from storage piles.
003	(CH-3) - Raw Material Processing and Storage. Including raw material transport from raw mill to blend silo, blend silo, fly ash silo, and kiln feed and fly ash transport to kiln.
004	(CH-4) - Pyroprocessing System. Includes preheater/precalciner kiln with in-line raw mill, clinker cooler and air heater.
005	(CH-5) - Clinker Storage and Conveying. Includes clinker transport from kiln; clinker, limestone, and gypsum silos; and clinker, limestone and gypsum conveying to finish mills.
006	(CH-6) - Finish Mills Cement Processing. Includes two finish mills, cement silos, packaging plant and truck loadout.
010	(CH-10, CH-11) – Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads.

1. NESHAP Subpart A: The affected emissions units are subject to the applicable General Provisions in NESHAP Subpart A of 40 CFR 63, as adopted by Rule 62-204.800(11), F.A.C. At the end of Appendix LLL, Table LLL-1 summarizes the portions of the NESHAP General Provisions that are applicable to the affected NESHAP Subpart LLL units. [40 CFR 63, Subpart A]
2. NESHAP Subpart LLL: The affected emissions units are subject to the applicable requirements for the Portland Cement Manufacturing Industry specified in NESHAP Subpart LLL of 40 CFR 63, as adopted by Rule 62-204.800(11), F.A.C. [40 CFR 63, Subpart LLL]

§ 63.1340 Applicability and Designation of Affected Sources.

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

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

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

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

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

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

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

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

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

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

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

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

§ 63.1341 Definitions.

All terms used in this subpart that are not defined below have the meaning given to them in the CAA and in subpart A of this part.

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

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

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

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

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

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

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

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

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

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

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

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

Hazardous waste is defined in §261.3 of this chapter.

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

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

Kiln exhaust gas bypass means alkali bypass.

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

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

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

Portland cement plant means any facility manufacturing portland cement.

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

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

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

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

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

§ 63.1342 Standards - General.

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

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

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

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

Affected Source	Pollutant / Opacity	Emission and Operating Limit
New greenfield raw material dryers at major sources	THC	50 ppmvd, as propane, corrected to 7 percent oxygen
All raw material dryers and material handling points at major sources	Opacity	10 percent

§ 63.1343 Standards for Kilns and In-line Kiln/Raw Mills.

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

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

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

(2) Exhibit opacity greater than 20 percent.

(3) Contain D/F in excess of:

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

(ii) 0.40 ng per dscm (1.7×10^{-10} gr per dscf)(TEQ) corrected to seven percent oxygen, when the average of the performance test run average temperatures at the inlet to the particulate matter control device is 204° C (400° F) or less.

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

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

(2) Exhibit opacity greater than 20 percent.

(3) Contain D/F in excess of:

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

(ii) 0.40 ng per dscm (1.7×10^{-10} gr per dscf)(TEQ) corrected to seven percent oxygen, when the average of the performance test run average temperatures at the inlet to the particulate matter control device is 204° C (400° F) or less.

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

(d) *Reserved*

(e) *Rseserved*

§ 63.1344 Operating Limits for Kilns and In-line Kiln/Raw Mills.

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

(1) When the raw mill of the in-line kiln/raw mill is operating, the applicable temperature limit for the main in-line

kiln/raw mill exhaust, specified in paragraph (b) of this section and established during the performance test when the raw mill was operating is not exceeded.

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

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

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

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

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

(2) The owner or operator shall either:

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

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

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

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

§ 63.1345 Standards for Clinker Coolers.

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

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

(2) Exhibit opacity greater than ten percent.

(b) [Reserved]

§ 63.1346 Standards for New and Reconstructed Raw Material Dryers.

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

(b) *Reserved*

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

which:

(1) Contain THC in excess of 50 ppmvd, reported as propane, corrected to seven percent oxygen.

(2) Exhibit opacity greater than ten percent.

§ 63.1347 Standards for Raw and Finish Mills.

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

§ 63.1348 Standards for Affected Sources Other than Kilns; In-line Kiln/Raw Mills; Clinker coolers; New and Reconstructed Raw Material Dryers; and Raw and Finish Mills.

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

§ 63.1349 Performance Testing Requirements.

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

(1) A brief description of the process and the air pollution control system;

(2) Sampling location description(s);

(3) A description of sampling and analytical procedures and any modifications to standard procedures;

(4) Test results;

(5) Quality assurance procedures and results;

(6) Records of operating conditions during the test, preparation of standards, and calibration procedures;

(7) Raw data sheets for field sampling and field and laboratory analyses;

(8) Documentation of calculations;

(9) All data recorded and used to establish parameters for compliance monitoring; and

(10) Any other information required by the test method.

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

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

(i) Method 5 of appendix A to part 60 of this chapter shall be used to determine PM emissions. Each performance test shall consist of three separate runs under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with Sec. 63.7(e). Each run shall be conducted for at least 1 hour, and the minimum sample volume shall be 0.85 dscm (30 dscf). The average of

the three runs shall be used to determine compliance. A determination of the PM collected in the impingers ("back half") of the Method 5 particulate sampling train is not required to demonstrate initial compliance with the PM standards of this subpart. However, this shall not preclude the permitting authority from requiring a determination of the "back half" for other purposes.

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

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

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

Where:

E = emission rate of particulate matter, kg/Mg of kiln feed.

c_s = concentration of PM, kg/dscm.

Q_{sd} = volumetric flow rate of effluent gas, dscm/hr.

P = total kiln feed (dry basis), Mg/hr.

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

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

Where:

E_c = the combined emission rate of particulate matter from the kiln or in-line kiln/raw mill and bypass stack, kg/Mg of kiln feed.

c_{sk} = concentration of particulate matter in the kiln or in-line kiln/raw mill effluent, kg/dscm.

Q_{sdk} = volumetric flow rate of kiln or in-line kiln/raw mill effluent, dscm/hr.

c_{sb} = concentration of particulate matter in the alkali bypass gas, kg/dscm.

Q_{sdb} = volumetric flow rate of alkali bypass gas, dscm/hr.

P = total kiln feed (dry basis), Mg/hr.

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

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

(2) The owner or operator of any affected source subject to limitations on opacity under this subpart that is not subject to paragraph (b)(1) of this section shall demonstrate initial compliance with the affected source opacity limit by conducting a test in accordance with Method 9 of appendix A to part 60 of this chapter. The performance test shall be conducted under the conditions that exist when the affected source is operating at the representative

performance conditions in accordance with Sec. 63.7(e). The maximum 6-minute average opacity exhibited during the test period shall be used to determine whether the affected source is in initial compliance with the standard. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) through (ii) of this section apply:

(i) There are no individual readings greater than 10 percent opacity;

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

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

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

(ii) The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD, and where applicable, the temperature at the inlet to the alkali bypass PMCD, must be continuously recorded during the period of the Method 23 test, and the continuous temperature record(s) must be included in the performance test report.

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

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

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

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

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

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

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

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

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

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

(i) The source must provide the Administrator written notice at least 60 days prior to undertaking an operational change that may adversely affect compliance with an applicable standard under this subpart, or as soon as practicable where 60 days advance notice is not feasible. Notice provided under this paragraph shall include a description of the planned change, the emissions standards that may be affected by the change, and a schedule for completion of the performance test required under paragraph (e)(1) of this section, including when the planned operational change period would begin.

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

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

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

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

TABLE 1 TO § 63.1349. SUMMARY OF PERFORMANCE TEST REQUIREMENTS

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

[a] Required initially and every 5 years thereafter.

[b] Includes main exhaust and alkali bypass.

[c] In-line kiln/raw mill to be tested with and without raw mill in operation.

[d] Must meet COM performance specification criteria. If the fabric filter or electrostatic precipitator has multiple

stacks, daily EPA Method 9 visual opacity readings may be taken instead of using a COM.

[e] Opacity limit is 20 percent.

[f] Alkali bypass is tested with the raw mill operating or not operating.

[g] Temperature and (if applicable) activated carbon injection parameters determined separately with and without the raw mill operating.

[h] Required initially and every 30 months thereafter.

[i] EPA Performance Specification (PS)-8A of appendix B to part 60 of this chapter.

[j] Opacity limit is 10 percent.

§ 63.1350 Monitoring Requirements.

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

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

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

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

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

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

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

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

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

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

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

(vii) If visible emissions from a building are monitored, the requirements of paragraphs (a)(4)(i) through (iv) of this section apply to the monitoring of the building, and you must also test visible emissions from each side, roof

and vent of the building for at least 1 minute. The test must be conducted under normal operating conditions.

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

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

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

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

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

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

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

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

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

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

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

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

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

(e) The owner or operator of a raw mill or finish mill shall monitor opacity by conducting daily visual emissions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

considering previous recordings.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(m) The requirements under paragraph (e) of this section to conduct daily Method 22 testing shall not apply to any specific raw mill or finish mill equipped with a continuous opacity monitor COM or bag leak detection system (BLDS). If the owner or operator chooses to install a COM in lieu of conducting the daily visual emissions testing required under paragraph (e) of this section, then the COM must be installed at the outlet of the PM control device of the raw mill or finish mill, and the COM must be installed, maintained, calibrated, and operated as required by the general provisions in subpart A of this part and according to PS-1 of appendix B to part 60 of this chapter. To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 10 percent. If the average opacity for any 6-minute block period exceeds 10 percent, this shall constitute a violation of the standard. If the owner or operator chooses to install a BLDS in lieu of conducting the daily visual emissions testing required under paragraph (e) of this section, the requirements in paragraphs (m)(1) through (9) of this section apply to each BLDS:

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

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

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

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

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

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

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

(i) Adjust the range and the averaging period of the device; and

(ii) Establish the alarm set points and the alarm delay time.

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

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

(n) A summary of the monitoring requirements of this subpart is given in Table 1 to this section.

Table 1 to §63.1350. Monitoring Requirements.

Affected Source/Pollutant or Opacity	Monitor Type/ Operation/Process	Monitoring Requirements
All affected sources	Operations and maintenance plan	Prepare written plan for all affected sources and control devices
All kilns and in-line kiln raw mills at major sources (including alkali bypass)/opacity	Continuous opacity monitor, if applicable	Install, calibrate, maintain and operate in accordance with general provisions and with PS-1
	Method 9 opacity test, if applicable	Daily test of at least 30-minutes, while kiln is at highest load or capacity level
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/particulate matter	Particulate matter continuous emission monitoring system	Deferred
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/ D/F	Combustion system inspection	Conduct annual inspection of components of combustion system
	Continuous temperature monitoring at PMCD inlet	Install, operate, calibrate and maintain continuous temperature monitoring and recording system; calculate three-hour rolling averages; verify temperature sensor calibration at least quarterly
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/ D/F (continued)	Activated carbon injection rate monitor, if applicable	Install, operate, calibrate and maintain continuous activated carbon injection rate monitor; calculate three-hour rolling averages; verify calibration at least quarterly; install, operate, calibrate and maintain carrier gas flow rate monitor or carrier gas pressure drop monitor; calculate three-hour rolling averages; document carbon specifications
New greenfield kilns and in-line kiln raw mills at major sources/THC	Total hydrocarbon continuous emission monitor	Install, operate, and maintain THC CEM in accordance with PS-8A; calculate 30-day block average THC concentration
Clinker coolers at major sources/opacity	Continuous opacity monitor, if applicable	Install, calibrate, maintain and operate in accordance with general provisions and with PS-1

Affected Source/Pollutant or Opacity	Monitor Type/ Operation/Process	Monitoring Requirements
	Method 9 opacity test, if applicable	Daily test of at least 30-minutes, while kiln is at highest load or capacity level.
Raw mills and finish mills at major sources/opacity	Method 22 visible emissions test (This requirement does not apply to a raw mill or finish mill equipped with a continuous opacity monitor or bag leak detection system)	Conduct daily 6-minute Method 22 visible emissions test while mill is operating at highest load or capacity level; if visible emissions are observed, initiate corrective action within one hour and conduct 30-minute Method 9 test within 24 hours
	Continuous opacity monitoring, if appilicable	Install, operate, and maintain in accordance with general provisions and with PS-1. A six-minute average greater than 10% opacity is a violation
	Bag leak detection system, if applicable	Install, operate and maintain in accordance with Sec. 63.1350(m). Operate and maintain such that alarm is not activated and alarm condition does not exist for more than 4% of the total operating time in a 6-month period. If alarm sounds, initiate corrective action.
New greenfield raw material dryers at major sources/THC	Total hydrocarbon continuous emission monitor	Install, operate, and maintain THC CEM in accordance with PS-8A; calculate 30-day block average THC concentration
Raw material dryers; raw material, clinker, finished product storage bins; conveying system transfer points; bagging systems; and bulk loading and unloading systems at major sources/opacity	Method 22 visible emissions test	As specified in operation and maintenance plan

§ 63.1351 Compliance Dates.

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

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

§ 63.1352 Additional Test Methods.

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

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

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

§ 63.1353 Notification Requirements.

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

Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

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

(1) Initial notifications as required by §63.9(b) through (d). For the purposes of this subpart, a Title V or 40 CFR part 70 permit application may be used in lieu of the initial notification required under §63.9(b), provided the same information is contained in the permit application as required by §63.9(b), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA. Permit applications shall be submitted by the same due dates as those specified for the initial notification.

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

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

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

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

§ 63.1354 Reporting Requirements.

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

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

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

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

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

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

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

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

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

under §63.8(e).

(8) As required by §63.10(e)(3), the owner or operator of an affected source equipped with a continuous emission monitor shall submit an excess emissions and continuous monitoring system performance report for any event when the continuous monitoring system data indicate the source is not in compliance with the applicable emission limitation or operating parameter limit.

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

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

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

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

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

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

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

§ 63.1355 Recordkeeping Requirements.

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

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

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

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

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

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

§ 63.1356 Exemption from New Source Performance Standards.

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

(1) Reserved

(2) Reserved

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

§ 63.1357 Temporary, Conditioned Exemption from Particulate Matter and Opacity Standards.

(a) Subject to the limitations of paragraphs (b) through (f) of this section, an owner or operator conducting PM CEMS

correlation tests (that is, correlation with manual stack methods) is exempt from:

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

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

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

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

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

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

(4) The anticipated normal particulate matter emission level.

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

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

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

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

§ 63.1358 Implementation and Enforcement.

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

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

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

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

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

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

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

§ 63.1359 [Reserved]

Table LLL-1. Applicability of NESHAP Subpart A Provisions to Affected NESHAP Subpart LLL Units

Citation	Requirement	Applies?	Explanation
63.1(a)(1)–(4)	Applicability	Yes	
63.1(a)(5)		No	[Reserved]
63.1(a)(6)–(8)	Applicability	Yes	
63.1(a)(9)		No	[Reserved]
63.1(a)(10)–(14)	Applicability	Yes	
63.1(b)(1)	Initial Applicability Determination	No	§ 63.1340 specifies applicability.
63.1(b)(2)–(3)	Initial Applicability Determination	Yes	
63.1(c)(1)	Applicability After Standard Established	Yes	
63.1(c)(2)	Permit Requirements	Yes	Area sources must obtain Title V permits.
63.1(c)(3)		No	[Reserved]
63.1(c)(4)–(5)	Extensions, Notifications	Ye	
63.1(d)		No	[Reserved]
63.1(e)	Applicability of Permit Program	Yes	
63.2	Definitions	Yes	Additional definitions in § 63.1341.
63.3(a)–(c)	Units and Abbreviations	Yes	
63.4(a)(1)–(3)	Prohibited Activities	Yes	
63.4(a)(4)		No	[Reserved]
63.4(a)(5)	Compliance date	Yes	
63.4(b)–(c)	Circumvention, Severability	Yes	
63.5(a)(1)–(2)	Construction/Reconstruction	Yes	
63.5(b)(1)	Compliance Dates	Yes	
63.5(b)(2)		No	[Reserved]
63.5(b)(3)–(6)	Construction Approval, Applicability	Yes	
63.5(c)		No	[Reserved]
63.5(d)(1)–(4)	Approval of Construction/Reconstruction	Yes	
63.5(e)	Approval of Construction/Reconstruction	Yes	
63.5(f)(1)–(2)	Approval of Construction/Reconstruction	Yes	
63.6(a)	Compliance for Standards and Maintenance	Yes	
63.6(b)(1)–(5)	Compliance Dates	Yes	
63.6(b)(6)		No	[Reserved]
63.6(b)(7)	Compliance Dates	Yes	
63.6(c)(1)–(2)	Compliance Dates	Yes	
63.6(c)(3)–(4)		No	[Reserved]
63.6(c)(5)	Compliance Dates	Yes	
63.6(d)		No	[Reserved]
63.6(e)(1)–(2)	Operation & Maintenance	Yes	
63.6(e)(3)	Startup, Shutdown Malfunction Plan	Yes	
63.6(f)(1)–(3)	Compliance with Emission Standards	Yes	
63.6(g)(1)–(3)	Alternative Standard	Yes	
63.6(h)(1)–(2)	Opacity/VE Standards	Yes	
63.6(h)(3)	Opacity/VE Standards	No	[Reserved]
63.6(h)(4)–(h)(5)(i)	Opacity/VE Standards	Yes	
63.6(h)(5)(ii)–(iv)	Opacity/VE Standards	No	Test duration specified in subpart LLL.
63.6(h)(6)	Opacity/VE Standards	Yes	
63.6(h)(7)	Opacity/VE Standards	Yes	
63.6(i)(1)–(14)	Extension of Compliance	Yes	
63.6(i)(15)		No	[Reserved]
63.6(i)(16)	Extension of Compliance		Yes
63.6(j)	Exemption from Compliance	Yes	
63.7(a)(1)–(3)	Performance Testing Requirements	Yes	§ 63.1349 has specific requirements.
63.7(b)	Notification	Yes	

Citation	Requirement	Applies?	Explanation
63.7(c)	Quality Assurance/Test Plan	Yes	
63.7(d)	Testing Facilities	Yes	
63.7(e)(1)–(4)	Conduct of Tests	Yes	
63.7(f)	Alternative Test Method	Yes	
63.7(g)	Data Analysis	Yes	
63.7(h)	Waiver of Tests	Yes	
63.8(a)(1)	Monitoring Requirements	Yes	
63.8(a)(2)	Monitoring	No	§ 63.1350 includes CEMS requirements.
63.8(a)(3)	Monitoring	No	[Reserved]
63.8(a)(4)	Monitoring	No	Flares not applicable.
63.8(b)(1)–(3)	Conduct of Monitoring	Yes	
63.8(c)(1)–(8)	CMS Operation/Maintenance	Yes	PS supersedes requirements for THC CEMS. Temperature and activated carbon injection monitoring data reduction requirements given in Subpart LLL.
63.8(d)	Quality Control	Yes	
63.8(e)	Performance Evaluation for CMS	Yes	PS supersedes requirements for THC CEMS.
63.8(f)(1)–(5)	Alternative Monitoring Method	Yes	Additional requirements in § 63.1350(l).
63.8(f)(6)	Alternative to RATA Test	Yes	
63.8(g)	Data Reduction	Yes	
63.9(a)	Notification Requirements	Yes	
63.9(b)(1)–(5)	Initial Notifications	Yes	
63.9(c)	Request for Compliance Extension	Yes	
63.9(d)	New Source Notification for Special Compliance Req.	Yes	
63.9(e)	Notification of Performance Test	Yes	
63.9(f)	Notification of VE/Opacity Test	Yes	Notification not required under § 63.1350(e) and (j).
63.9(g)	Additional CMS Notifications	Yes	
63.9(h)(1)–(3)	Notification of Compliance Status	Yes	
63.9(h)(4)		No	[Reserved]
63.9(h)(5)–(6)	Notification of Compliance Status	Yes	
63.9(i)	Adjustment of Deadlines	Yes	
63.9(j)	Change in Previous Information	Yes	
63.10(a)	Recordkeeping/Reporting	Yes	
63.10(b)	General Requirements	Yes	
63.10(c)(1)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(2)–(4)		No	[Reserved]
63.10(c)(5)–(8)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(9)		No	[Reserved]
63.10(c)(10)–(15)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(d)(1)	General Reporting Requirements	Yes	
63.10(d)(2)	Performance Test Results	Yes	
63.10(d)(3)	Opacity or VE Observations	Yes	
63.10(d)(4)	Progress Reports	Yes	
63.10(d)(5)	Startup, Shutdown, Malfunction Reports	Yes	
63.10(e)(1)–(2)	Additional CMS Reports	Yes	
63.10(e)(3)	Excess Emissions and CMS Performance Reports	Yes	Exceedances are defined in subpart LLL.
63.10(f)	Waiver for Recordkeeping/Reporting	Yes	
63.11(a)–(b)	Control Device Requirements	No	Flares not applicable.
63.12(a)–(c)	State Authority and Delegations	Yes	
63.13(a)–(c)	State/Regional Addresses	Yes	
63.14(a)–(b)	Incorporation by Reference	Yes	
63.15(a)–(b)	Availability of Information	Yes	

SECTION IV. APPENDIX OOO
NSPS SUBPART OOO – NONMETALLIC MINERAL PROCESSING PLANTS

The provisions of this subsection apply to the following emissions unit.

ID	Emission Unit Description
001	(CH-1) - Primary Crushing, and Associated Conveyors. Includes front end loaders to primary crusher, primary crusher operation, base rock and limestone conveyors to base rock storage pile and limestone storage building.

1. NSPS Subpart A: The affected emissions units are subject to the applicable General Provisions in NSPS Subpart A of 40 CFR 60, as adopted by Rule 62-204.800(8), F.A.C. [40 CFR 60, Subpart A]
2. NSPS Subpart OOO: The affected emissions units are subject to the applicable requirements for Nonmetallic Mineral Processing Plants specified in NSPS Subpart OOO of 40 CFR 60, as adopted by Rule 62-204.800(8), F.A.C. [40 CFR 60, Subpart OOO]

{Permitting Note: Numbering of the original NSPS rules in the following conditions has been preserved for ease of reference with the rules. Paragraphs that are not applicable have been omitted for clarity and brevity. When used in 40 CFR 60, the term "Administrator" shall mean the Secretary or the Secretary's designee.}

§ 60.670 Applicability and Designation of Affected Facility.

(a) (1) The provisions of 40 CFR 60 Subpart OOO are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each belt conveyor or crusher.

§ 60.671 Definitions.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Crusher means a machine used to crush any nonmetallic materials, and includes, but is not limited to, the following types: jaw, gyratory, cone roll, rod mill, hammermill, and impactor.

§ 60.672 Standard for Particulate Matter.

(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.11, no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in paragraph (c) and (d) of this section.

(c) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.11, no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

§ 60.675 Test Methods and Procedures.

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

(c) (1) In determining compliance with the particulate matter standards in 40 CFR 60.672 (b) and (c), the owner or operator shall use Method 9 and the procedures in 40 CFR 60.11, with the following additions:

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

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

(iii) For affected emissions units using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and

is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(3) When determining compliance with the fugitive emissions standard for any affected facility described under Section 60.672(b) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 10 percent opacity; and

(ii) There are no more than 3 readings of 10 percent for the 1-hour period.

(4) When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under Section 60.672(c) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6- minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 15 percent opacity; and

(ii) There are no more than 3 readings of 15 percent for the 1-hour period.

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of 40 CFR 60.675(c), if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(g) If, after 30 days notice for an initially scheduled performance test, there is a delay (due to operation problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least 7 days prior to any rescheduled performance test.

§ 60.676 Reporting and Recordkeeping.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in 40 CFR 60.672, including reports of opacity observations made using Method 9 to demonstrate compliance with 40 CFR 60.672(b) and (c).

(h) The Subpart A requirement under 40 CFR 60.7(a)(2) for notification of the anticipated date of initial startup of an affected facility shall be waived for owners or operators of affected facilities regulated under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

SECTION IV. APPENDIX Y
NSPS SUBPART Y – COAL PREPARATION PLANTS

The specific conditions of this subsection apply to the following emissions unit.

ID No.	Emissions Unit Description
007	(CH-7) - Coal and Petroleum Coke Grinding System. Includes coal mill and ground coal/petroleum bins.
008	(CH-8) – Coal and Petroleum Coke Conveying. Includes coal/petroleum coke handling and conveying from unloading to storage bins.

1. NSPS Subpart A: The affected emissions units are also subject to the applicable General Provisions in Subpart A of 40 CFR 60, as adopted by Rule 62-204.800(8), F.A.C. [40 CFR 60, Subpart A]
2. NSPS Subpart Y: The affected emissions units are also subject to the applicable requirements for Coal Preparation Plants specified in NSPS Subpart Y of 40 CFR 60, as adopted by Rule 62-204.800(8), F.A.C. [40 CFR 60, Subpart Y]

{Permitting Note: Numbering of the original NSPS rules in the following conditions has been preserved for ease of reference with the rules. Paragraphs that are not applicable have been omitted for clarity and brevity. When used in 40 CFR 60, the term "Administrator" shall mean the Secretary or the Secretary's designee.}

§ 60.250 Applicability and Designation of Affected Facility.

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

§ 60.251 Definitions.

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

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

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

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

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

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

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

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

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

§ 60.252 Standards for Particulate Matter.

(a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, an owner or operator shall not cause to be discharged into the atmosphere from any thermal dryer gases which:

(1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf).

(2) Exhibit 20 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, an owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment or coal storage system, gases which exhibit 20 percent opacity or greater. [40 CFR 60.252(a) and (c)]

§ 60.253 Monitoring of Operations.

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

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

(b) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under 40 CFR 60.13(b). [40 CFR 60.253(a) and (b)]

§ 60.254 Test Methods and Procedures.

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

(b) The owner or operator shall determine compliance with the particular matter standards in 40 CFR 60.252 as follows:

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

(2) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Daniel R. Fritz, CEO/President
Sumter Cement Company, LLC
Post Office Box 410
Branford, Florida 32008

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X P. Foster ☐ Agent ☐ Addressee

B. Received by (Printed Name) P. Foster
C. Date of Delivery 5-7-06

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7000 1670 0013 3109 9991

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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Mr. Daniel R. Fritz, CEO/President
Sumter Cement Company, LLC
Post Office Box 410
Branford, Florida 32008

PS Form 3800, May 2000 See Reverse for Instructions

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SUMTER COUNTY CEMENT
CENTER HILL, FLORIDA, USA

RECEIVED
JAN 23 2006
BUREAU OF AIR REGULATION

January 19, 2006

Ms. Trina Vielhauer
Division of Air Resources
Department of Environmental Protection
2600 Blair Stone Road, MS # 5500
Tallahassee, Florida 32399-2400

SUBJECT: **Comments to Draft Air Permit No. PSD-FL-358**
Sumter Cement Company – Center Hill Plant
DEP File No. 1190041-001-AC
Proposed New Kiln, Center Hill, Sumter County, FL

Dear Ms. Vielhauer:

Sumter Cement Company (SCC) submits the following comments in response to the Florida Department of Environmental Protection's (Department) Draft Air Permit No. PSD –FL-358. Where needed SCC has included text from the Department's Draft Permit in *italic* for clarity with SAC comments following sections of the Draft Permit.

If the Department has any questions regarding the comments supplied or would wish to discuss in further detail please feel free to contact me at (386) 935-5039 or by e-mail at jbhorton@suwanneecement.com.

Sincerely,

Joe Horton
Sumter Cement Company

CC: Dan Fritz - SCC
Edvaldo Rabelo – SCC
Celso Martini - SCC
Al Linero – DEP

1. SCC provides the following comment in response to Section 3. D Pyroprocessing, Condition 21. Mercury Compliance Demonstration: b. Mercury Continuous Emissions Monitoring System (Hg-CEM):

In discussions with the Department SCC has outlined concerns over the unproven technology of a mercury Continuous Emission Monitor (CEM) in a cement application. Relatively no experience other then short-term testing has been conducted with monitors reporting to meet the new Performance Specification 12A (PS-12A). In testing of three different Hg-CEM's conducted at one cement plant in the US, several operational as well accuracy problems were noted[1]. SCC agrees with the Department that within the coming years advances in the technology should allow for a more reliable and accurate Hg-CEM.

SCC would propose the following language modifications to the proposed condition (deletions ~~strikethrough~~ and additions double underlined):

21. Mercury Compliance Demonstration:

b. Mercury Continuous Emissions Monitoring System (Hg-CEMS): Within 60 days following the first year of operation, the owner or operator shall install any model of Hg-CEMS that has been demonstrated to meet the requirements in Performance Specification 12A (PS-12A), "Specifications and Test Procedures for Total Vapor phase Mercury Continuous Monitoring Systems in Stationary Sources," or that has passed verification tests conducted under the auspices of the U.S. Environmental Protection Agency's (EPA) Environmental Technology Verification (ETV) Program. During the subsequent 90 days, the owner or operator shall certify the Hg-CEMS. If the owner or operator can not certify the CEM within 90 days and provides to the Department information from the vendor of the CEM on reasons why the CEM can not be certified in the 90 day period, the Department shall grant and extension to certify the CEM. ~~and~~ After certification the owner or operator will begin reporting Hg mass emissions data. The owner or operator shall adhere to the calibration drift and quarterly accuracy assessment procedures in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B. The 12-month rolling mass emissions shall be estimated based on the actual data collected no later than 10 days following the end of the month. The CEM is not to be used as the means of compliance unless the owner or operator notifies the Department of the intent to use the CEM in this means ~~Upon certification, the owner or operator may use the Hg-CEMS to demonstrate compliance with the cumulative 12-month rolling mass emission limitation (184 pounds per rolling 12-month period)~~ in lieu of the procedures described in the preceding paragraph. Prior to use of the Hg-CEMS as the method to demonstrate compliance, the owner or operator shall submit written notice to the Department, and receive approval for a missing data substitution plan. For purposes of this requirement, the first year of operation ends 365 calendar days following the first day the kiln produces clinker.

After 365 days of operation of the Hg-CEM the owner or operator can request to the Department for removal of the CEM if it is not to be used as the means of compliance.

[Rules 62-4.070(3) and 62-212.400(2)(g), F.A.C.]

As discussed with the Department, should known problems be identified in either other industrial uses of the CEM or specifically in cement applications prior to the required date of installation, SCC would request the ability to delay the installation requirements until such known deficiencies are corrected.

Reason by which SCC would deem necessary to request the removal of the CEM from the Department after 365 days of operation of the CEM would include any of the following:

- The CEM is not be able to achieve certification to the PS 12A within the 365 day period with the help of the Vendor and upon providing the Department with information from the Vendor in support of this.

- The CEM is not able to achieve an acceptable runtime as specified in the EPA performance specification despite best efforts by SCC and the Vendor. SCC would provide information to the Department to support the request and document why sufficient runtime can not be achieved.
- The CEM requires sustainable maintenance to achieve either acceptable accuracy or runtime. SCC would provide information to the Department in support of this request as well as information from the vendor on necessary maintenance or extraordinary circumstances.
- The CEM does not accurately reflect Mercury emissions as verified through long term comparisons with mass balances or through Stack Testing via an EPA approved method.

2. SCC provides the following comment in response to Section 3. F Finish Mills Cement Processing, Condition 6. Process Rate Specifications:

The two finish mills were proposed with a maximum annual production rate of 2,531,640 tons of cement in the application. The condition does not clearly identify this as the maximum rate as used in the application and instead implies a maximum annual rate of 170 tons of cement for each mill at the allowed 8760 hours of operation. This equals a maximum annual rate of 2,978,400 tons of cement, which was not reflected in the application.

SCC would request the following addition to the condition (deletions ~~strikethrough~~ and additions double underlined):

6. Process Rate Specification: Each finish mill may process up to 170 tons per hour (TPH) of clinker, gypsum or limestone to produce an equal amount of cement. Total cement production is limited to 2,531,640 tons per year. [Applicant Request]

{Note: The finish mills are capable of processing more clinker than can be produced by the on-site pyroprocessing system. Any projects to utilize the additional capacity would constitute a modification per Section 2, Condition 7.}

3. SCC provides the following comment in response to Section 3. F Finish Mills Cement Processing, Condition 9. Testing Requirements:

The condition is unclear as to which sources shall be stacked tested and which sources are subject to visual emission testing requirements.

SCC would propose the following language modifications to the proposed condition (deletions ~~strikethrough~~ and additions double underlined):

9. Testing Requirements: ~~Each e~~Emission points DC-02 and DC-04 shall be stack tested to demonstrate initial compliance with the applicable emission standards for PM/PM_{10} and visible emissions. All other emission points shall be tested for visible emissions only. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the particulate limits (PM/PM_{10}) shall be demonstrated within the 12 month period prior to each renewal of the operation permit and compliance with the visible emissions limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

4. SCC provides the following comment in response to Section 3. G Coal and Petroleum Coke Grinding Systems, Condition 8. Testing Requirements:

The condition is unclear as to which sources shall be stacked tested and which sources are subject to visual emission testing requirements.

SCC would propose the following language modifications to the proposed condition (deletions ~~strikethrough~~ and additions double underlined):

8. Testing Requirements: ~~Each e~~Emission points DC-06 and DC-07 shall be stack tested to demonstrate initial compliance with the applicable emission standards for PM/PM_{10} and visible emissions. All other emission points shall be tested for visible emissions only. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the particulate limits (PM/PM_{10}) shall be demonstrated within the 12 month period prior to each renewal of the operation permit and compliance with the visible emissions limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

5. SCC provides the following comment in response to Section 3. H Coal and Petroleum Coke Conveying, Condition 6. Testing Requirements:

The condition is unclear as to which sources shall be stacked tested and which sources are subject to visual emission testing requirements.

SCC would propose the following language modifications to the proposed condition (deletions ~~strikethrough~~ and additions double underlined):

6. Testing Requirements: Each emission point shall be ~~stack~~ tested to demonstrate initial compliance with the visible emissions standards. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emissions limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

REFERENCES

1. Constans D, Jameson R., and Raynor G., "Observations and Comments on EPA/DOE Mercury CEMs Demonstration at Holnam's Holly Hill, SC Facility" AWMA International Specialty Conference on Waste Combustion in Boilers and Industrial Furnaces, April 1997.

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

December 21, 2005

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. Daniel R. Fritz, CEO/President
Sumter Cement Company, LLC
Post Office Box 410
Branford, Florida 32008

Re: Center Hill Cement Plant
DEP File No. 1190041-001-AC (PSD-FL-358)

Dear Mr. Fritz:

Enclosed is one copy of the Draft Air Construction Permit to construct a 1,715,500 tons per year (clinker) portland cement plant in the town of Center Hill in Sumter County. The Department's Intent to Issue Air Construction Permit, the Technical Evaluation and Preliminary Determination, and the "Public Notice of Intent to Issue Air Construction Permit" are also included.

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

Please submit any written comments you wish to have considered concerning the Department's proposed action to A.A. Linero, Program Administrator, at the letterhead address. If you have any questions regarding this matter, please contact Cindy Mulkey at (850)921-8968, Debbie Nelson at (850)921-9537, or Mr. Linero at (850)921-9523.

Sincerely,

for Trina Vielhauer, Chief
Bureau of Air Regulation

TLV/aal

Enclosures

In the Matter of an
Application for Permit by:

Mr. Daniel R. Fritz, CEO/President
Sumter Cement Company, LLC
Post Office Box 410
5117 U.S. Highway 27
Branford, Florida 32008

DEP File No. 1190041-001-AC
Draft Permit No. PSD-FL-358
Center Hill Cement Plant
Sumter County

/

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy of draft permit enclosed) to Sumter Cement Company, LLC (SCC) for the proposed project as detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination for the reasons stated below.

The applicant, SCC, applied on June 15, 2005 to the Department for an air construction permit to construct a nominal 1,715,500 tons of clinker per year greenfield portland cement plant in the City of Center Hill in Sumter County.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit pursuant to the rules for the Prevention of Significant Deterioration of Air Quality (PSD) is required.

The Department intends to issue this air construction permit based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit. The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting 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 Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for public meetings concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of the enclosed Public Notice. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

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

A petition that disputes the material facts on which the Department'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 how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action 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 Department'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.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is

permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

for Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Construction Permit (including the Public Notice, Technical Evaluation and Preliminary Determination, and the DRAFT Permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 6/21/05 to the persons listed:

Dan Fritz, SCC*
Joe Horton, SCC
Diana Lamb, Clerk for City of Center Hill City Council
Mayor, Center Hill
Chair, Sumter County BCC
Gregg Worley, U.S. EPA Region 4, Atlanta GA
John Bunyak, National Park Service, Denver CO
Mara Nasca, DEP SWD
Porter Rivers III, P.E., B.P. Barber & Associates
Cary Cohrs, NRCF dba ACC
Marvin A. Beier*
Louise Racine*
Pauline T. Beier*
Anton and Anke Brok*
Ruth E. Brown*
H. Callahan*
Ann Cantlin-Elkins*
Joyce Christie*
Carol Correa*
Margaret Dwyer*
Martin Farber*
Carol and Rudy Grossouw*
Everett Hadley*
Lorn and Judy Kerr*
Douglas R. Kinney*
John and Theresa McCormick*
Eugenie Mamarchev*
Ivan Mamarchev*
John Megan*.
Sue Michalson*
Lawrence H. Paser*
June B. Paser*
Joel Rosenblum*
Hans Thiemann

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Barbara J. Friday 6/21/05
(Clerk) (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

DEP File No. 1190041-001-AC (PSD-FL-358)
Sumter Cement Company, L.L.C.
Center Hill Cement Plant
Sumter County

The Department of Environmental Protection (Department) gives notice of its intent to issue an Air Construction Permit to Sumter Cement Company to construct a greenfield portland cement plant in the City of Center Hill in Sumter County. A review under the rules for the Prevention of Significant Deterioration of Air Quality (PSD) and Best Available Control Technology (BACT) determinations were required for nitrogen oxides (NO_X), sulfur dioxide (SO_2), volatile organic compounds (VOC), carbon monoxide (CO), and particulate matter (PM/PM_{10}). The applicant's name and business address are Sumter Cement Company, L.L.C., Post Office 410, Branford, Florida 32008.

Sumter Cement Company (SCC) proposes to construct a dry process portland cement plant with a nominal capacity of 1,715,500 tons per year (TPY) of clinker. The equipment will include: a primary crusher and conveyance equipment to transport limestone to raw material storage; a raw material storage building for limestone and materials containing silica, alumina, iron, and additives; stackers, reclaimers, and conveyance equipment to raw materials drying and milling; a homogenizing silo; a dry process preheater/calciner (PH/C) kiln with in-line raw mill capable of producing 5,000 tons per day (TPD) of clinker; a clinker cooler; a coal and petroleum coke mill; conveyance equipment to clinker storage; conveyance equipment to the two finish mills; cement silos and a truck loadout area; and a packhouse. Numerous baghouses will be included to contain dust from materials conveyance, transfer and handling. A single large baghouse will serve exhaust from the PH/C kiln, raw mill, and clinker cooler.

The heat necessary to convert the raw materials to clinker will be provided primarily by coal and petroleum coke combustion in the main kiln burner and calcination burner. NO_X emissions will be minimized by indirect firing in a Low NO_X main kiln burner, staged combustion in the calciner, and a selective non-catalytic reduction (SNCR) ammonia injection system. SO_2 emissions will controlled by use of inherently low sulfur raw materials, scrubbing by finely divided lime in the calciner, and hydrated lime injection system. CO and VOC emissions will be controlled by promoting complete combustion in the kiln and calciner and minimizing carbon and oily content of raw materials. PM/PM_{10} from the PH/C kiln, in-line raw mill, and clinker cooler will be controlled by a single large fabric filter baghouse. Emissions points from handling, conveyance, and transfer will be controlled by baghouses. Emissions from raw materials piles, loading operations, transportation, etc. will be controlled by reasonable precautions including paving, road sweeping, watering, planting grass, etc.

The SCC Plant will be subject to the maximum achievable control technology (MACT) requirements in 40CFR63, Subpart LLL - National Emission Standards for Hazardous Air Pollutants for Portland Cement Manufacturing Industry. In addition, the plant will be subject to the Department's determination of best available control technology (BACT). The BACT determinations for the PH/C kiln, in-line calciner, and clinker cooler are: 1.95 pounds of NO_X per ton of clinker (lb/ton); 0.20 lb SO_2/ton, 2.9 lb CO/ton, 0.115 lb VOC/ton; and 0.17 lb PM/PM_{10}/ton. The BACT determinations are among the lowest emission limitations among recent determinations in the state and the country.

Mercury (Hg) emissions will be limited to 184 pounds per year. Initially compliance will be conservatively estimated based on the concentration of Hg in the fuels and raw materials entering the process. The Department has determined that by the second year of operation, reliable mercury continuous emission monitors (Hg-CEMS) will be available and requires that a Hg-CEMS be installed to measure actual emissions. This instrument together with another planned in Sumter County represent the first two Hg-CEMS installations required at any facility in the State of Florida. They also represent the first two Hg-CEMS monitors required at cement plants in the United States.

The Department reviewed the applicant's ambient air quality analysis for CO, NOx, SO_2, VOC and PM/PM_{10} pollutants subject to PSD for this project. All pollutants were less than their respective Significant Impact Levels for the Class II area (i.e. all areas except for the Class I Chassahowitzka Wilderness Area) except for PM/PM_{10} on a 24-hour and annual basis. Therefore, a refined increment modeling analysis, including nearby sources, was required for PM_{10} The results of this analysis are given in the table below. This refined analysis demonstrated compliance with regulatory requirements which include demonstrating compliance with the ambient air quality standards.

Averaging Time	Maximum Predicted Impact ug/m^3	Allowable Increment ug/m^3	Compliance with Increment	Percent of Increment
24-hour	29.7	30	Yes	99%
Annual	7	17	Yes	41%

All pollutants were less than their respective Significant Impact Levels for the nearest Class I area (the Chassahowitzka Wilderness Area located 61km from project) therefore, a refined multi-source increment modeling analysis was not required. Based on the required analyses, the Department has reasonable assurance that the proposed project will not cause or significantly contribute to a violation of any ambient air quality standard or PSD increment.

(Public Notice to be Published in the Newspaper)

The Department will accept written comments concerning the proposed permit issuance action and requests for a public meeting for a period of thirty (30) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

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

A petition that disputes the material facts on which the Department'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 how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action 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 Department'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.

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

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida, 32301
Telephone: (850) 488-0114
Fax: (850) 921-9533

Department of Environmental Protection
Southwest District Office
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: (813) 632-7600
Fax: (813) 632-7668

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Program Administrator, South Permitting Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/921-9523, for additional information. Key documents can be viewed at www.dep.state.fl.us/air/permitting/construction/sumter.htm

(Public Notice to be Published in the Newspaper)

TECHNICAL EVALUATION

PRELIMINARY DETERMINATION

DRAFT BACT DETERMINATIONS

SUMTER CEMENT COMPANY
SUMTER COUNTY, FLORIDA

New Portland Cement Plant

DEP File No. 1190041-001-AC (PSD-FL-358)

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

December 21, 2005

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

I. APPLICANT NAME AND ADDRESS

Mr. Dan R. Fritz, CEO/President
Sumter Cement Company
Post Office Box 410
Branford, Florida 32008

II. FACILITY INFORMATION

A. FACILITY LOCATION

Sumter Cement Company (SCC) proposes to build a greenfield portland cement plant in Center Hill, Sumter County.

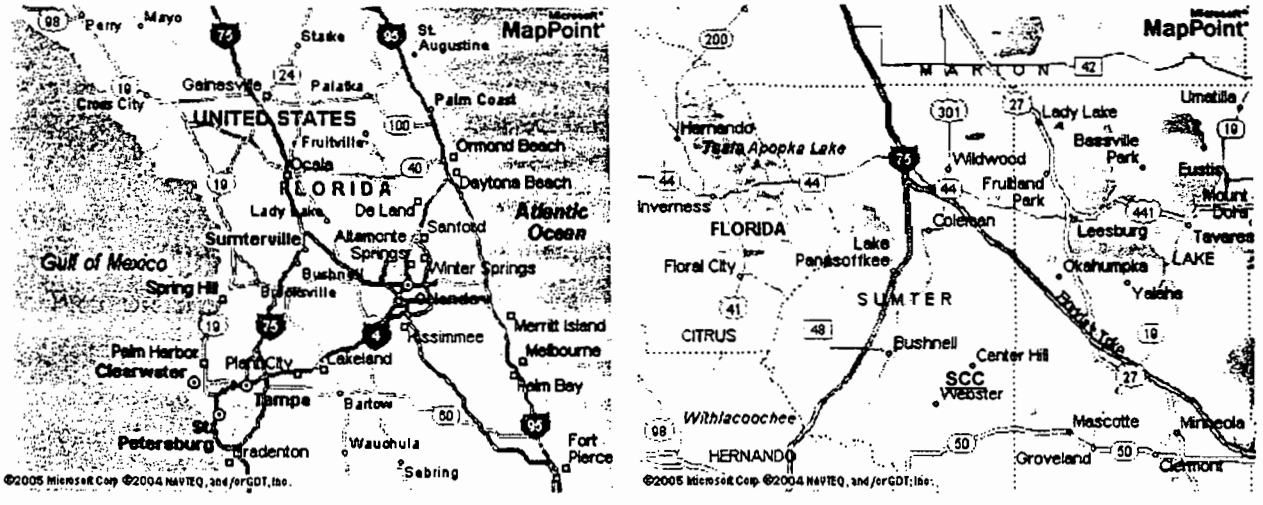

Figure 1. Proposed Location of the SCC Portland Cement Plant in Sumter County

The proposed site is approximately 62 kilometers from the Chassahowitzka National Wildlife Refuge, a Prevention of Significant Deterioration (PSD) Class I Area.

B. FACILITY CLASSIFICATION CODE (SIC)

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

C. FACILITY CATEGORY

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

This industry is listed in Table 212.400-1, "Major Facilities Categories", Rule 62-212.400, F.A.C., PSD. Stack and fugitive emissions of over 100 TPY of carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO_2), nitrogen oxides (NO_X), or particulate matter (PM/PM_{10}) characterize the existing installation as a Major Facility per the definitions in Rule 62-210.200, F.A.C.

Given that the project is a Major Facility as described above, then, Per Table 212.400-2, "Regulated Air Pollutants – Significant Emission Rates" (SER's), emissions greater than 40 TPY of NO_X or SO_2, 7 TPY of sulfuric acid mist (SAM), 25/15 TPY of PM/PM_{10}, 3 TPY of fluorides, 1200 pounds per year (lb/yr) of lead or 200 lb/yr of mercury also require review pursuant to the PSD rules. Pollutants triggering the mentioned SER's at a Major Facility require a determination of Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.

III. PROPOSED PROJECT

SCC proposes to construct a 1,715,500 tons per year (TPY) dry process portland cement plant incorporating a kiln with a preheater and calciner (PH/C). Major equipment will include:

- A raw materials storage building (MSB) and a limestone storage building;
- A primary crusher at the quarry and belt conveyors to MSB;
- Raw material piles stored inside of the storage buildings. The piles will include limestone, alumina sources (e.g. bauxite and coal ash), iron sources (e.g. mill scale, slag, and iron ore), silica sources (e.g. sand, and clay), and additives (e.g. feldspar, and gypsum);
- Materials handling equipment including reclaimers, stackers, belt conveyors, covered conveyors from the MSB and limestone storage building to the raw mill, control system/analyzer, etc.;
- An in-line raw mill that simultaneously dries raw materials using the exhaust gas from the kiln, PH/C, and clinker cooler;
- A preheater with staged combustion calciner and selective non-catalytic reduction (SNCR) system;
- An air heater for use when additional drying capacity is required;
- A nominal 12,000 ton per day blending silo;
- An indirect-firing system with a Low NO_X main kiln burner capable of burning coal, petroleum coke, fuel oil, and natural gas;
- A whole tire feeder and/or tire gasification system.
- A clinker cooler with cooling air fans, and hot air ducting to the kiln, PH/C, and raw mill;
- Clinker storage and grinding including two finish mills with air separators, clinker silos with metering devices, limestone and gypsum bins and associated conveyors;
- Cement transfer and storage silos, truck loadouts and packhouse; and
- A nominal 28.4 TPH coal and/or petroleum coke grinding system with associated mill, storage facility, associated conveyors, and equipped with a fabric filter baghouse.

IV. CEMENT MANUFACTURING PROCESS DESCRIPTION

Some of the following description is from the Portland Cement Association and the Cement Association of Canada. The rest was developed by the Department or provided by the applicant.

A. CONCRETE AND CEMENT

Concrete is the familiar material used in construction. It is a mixture of portland cement, water and aggregates such as crushed stone, sand, and gravel. The cement and water comprise a paste that that coats the surfaces of the aggregates and then hardens by chemical reaction know as hydration to form the familiar rock-like material known as concrete. The following figure depicts the proportions of the various components of concrete. Portland cement, the key ingredient, constitutes only 11 percent (%) or so of the concrete mix.

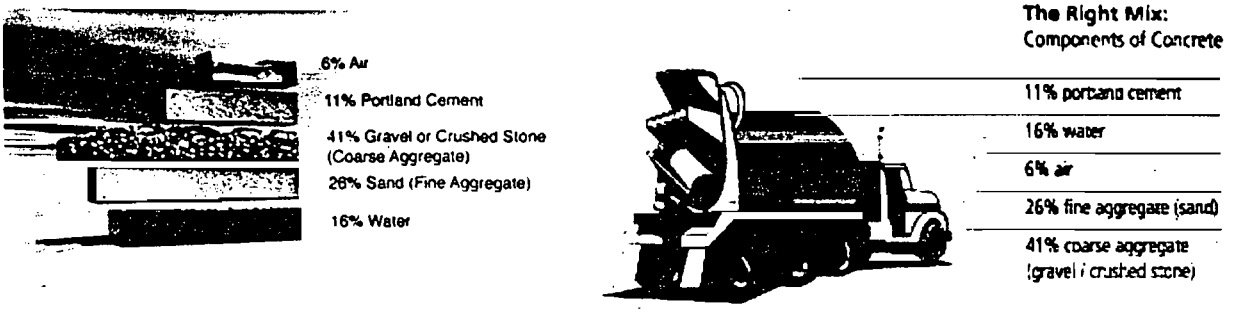

Figure 2. Components of Concrete Mix (Portland Cement Association, Cement Association of Canada)

Cement is a chemical combination of calcium, silicon, aluminum, iron and small amounts of other ingredients to which gypsum is added in the final grinding process. Lime and silica make up about 85% of the mass. Occasionally, due to fortuitous circumstances, cement can be made from a single raw material (so-called cement rock). However the most common combination of raw materials consists of limestone, clay and sand. Other possible raw materials include shells, chalk, marl, bauxite, clay, slate, blast furnace slag, iron ore, mill scale, or power plant ash.

B. HOW CEMENT IS MADE

Simply stated, the raw materials used to manufacture are cement are ground, mixed, dried, heated and then sintered in a in a rotating furnace called a kiln where temperatures reach 1500 °C (2,732 °F). The intense heat causes chemical reactions that convert the partially molten raw materials into pellets called clinker. After adding some gypsum and other key materials, the mixture is ground to the extremely fine grey powder called portland cement.

C. RAW MATERIAL QUARRYING, CRUSHING, AND RAW MATERIAL STORAGE

Limestone rock is mined at a quarry as shown below. In Florida, the top layers (overburden) are removed and the limestone is usually mined under the water line. The rock is crushed in one or two stages to the size of gravel. It is transported by conveyor to the cement plant material storage building (MSB) where it is stored with other raw materials to await further processing. Sometimes the secondary crusher, if needed, is located at the cement plant rather than at the quarry. Depending on local characteristics, the overburden is often used to provide some of the sand and clay needed in the process.

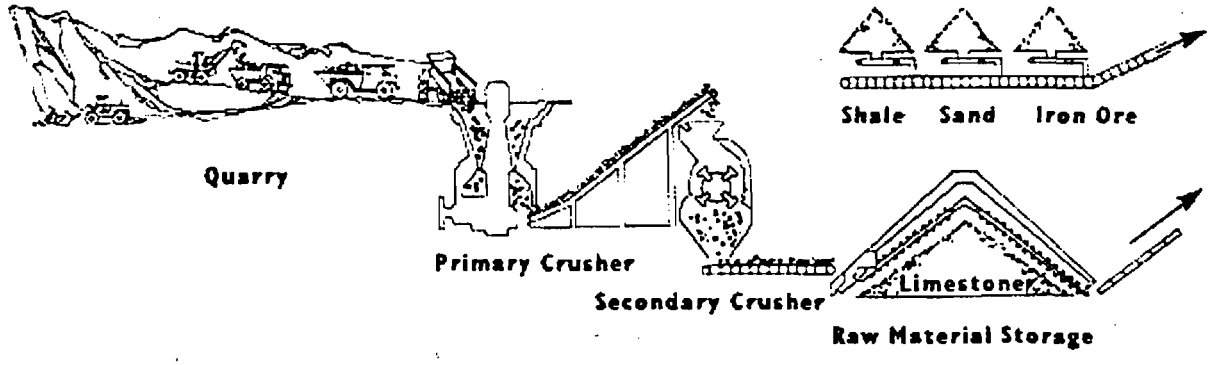

Figure 3. Diagram of Rock Quarrying, Crushing, and Storage

Raw materials will be stored in the MSB. There will be large piles each containing approximately 10,000 tons of limestone. There will be an overburden pile, an ash pile, and an iron ore/mill scale pile. The power plant ash and iron ore/mill scale will be delivered by truck.

D. Components and Key Operations of a Cement Plant

The following diagram represents the key components of a typical cement plant and steps involved in making Portland cement. Quarrying and solid fuel grinding are not shown in the figure.

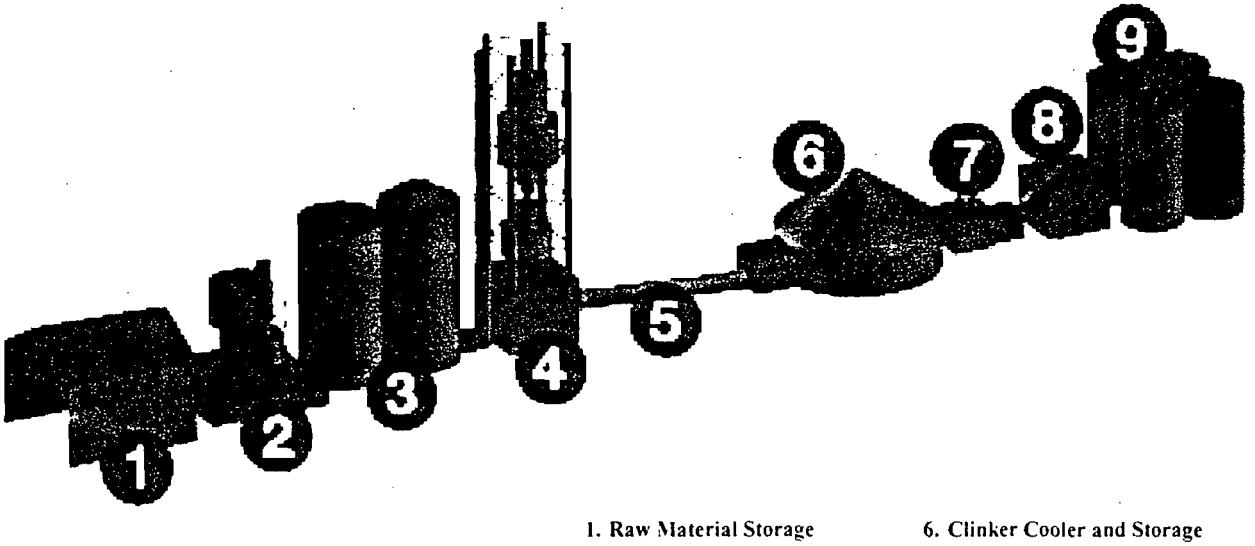

Figure 4. Components, Key Operations of a Cement Plant

An excellent virtual tour of a cement plant is available at the Portland Cement Association website: www.cement.org/basics/images/flashtour.html

The following figure includes the artist rendition (by Haskell) and a photograph of the Florida Rock Industries (FRI) Thompson S. Baker Cement Plant in Newberry Florida. The MSB is the gallery on the lower left hand side. The raw mill, preheater/calciner kiln and cooler are in the rear, left of center, of the layout. Clinker storage and finish grinding are in the middle of the layout. Bulk storage and loading are in the rear, right of center.

The photograph starts with the conveyor (left) that takes mixed raw materials to the raw mill. Referring to the previous figure, it also includes Components 3, 4, and 5 and the conveyor (right) that takes the cooled clinker to Component 6 (Clinker Storage).

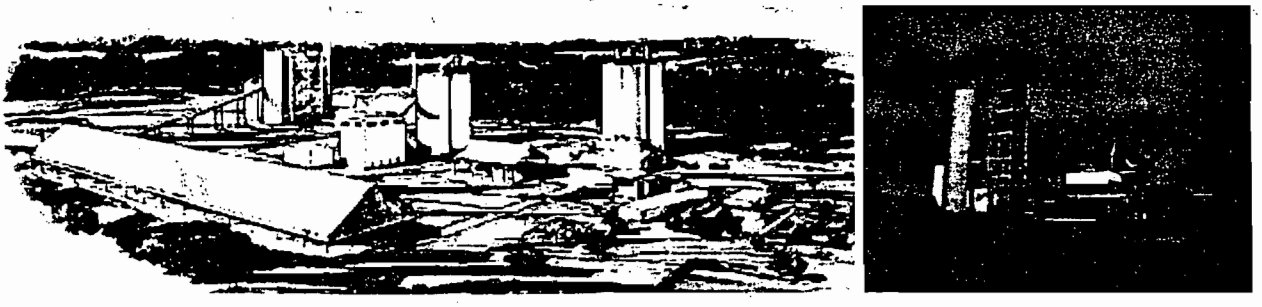

Figure 5. Rendition (Haskell) and Photograph (Linero) of the FRI Cement Plant in Newberry.

E. Proportioning, Grinding, Blending

Stockpiled limestone, overburden, iron ore/mill scale, feldspar, and ash will be reclaimed inside the MSB by continuous pile reclaimers and loaders and then transferred to the limestone and aggregate feed bins. Based on automated chemical analyses, raw materials are proportioned and transferred together by conveyor to the grinding operation which occurs in the in-line raw mill.

Raw materials from the limestone and mineral aggregates feed bins enter the raw mill, where the material is ground to size and the moisture content is reduced. Heat for drying within the raw mill is supplied from the preheater/calciner/kiln exhaust gas and from hot air supplied from the clinker cooler. From the raw mill, the material is blown to a series of mechanical cyclones that recover most of the material. The exhaust from the cyclones passes through the main particulate matter control device (PMCD) located prior to the main stack.

The properly ground and sized raw material is pneumatically conveyed to the homogenizing silo. Baghouse dust such as from the main PMCD is added to the homogenizing silo. The material from the homogenizing silo, known as raw meal, is then conveyed to and introduced near the top of the preheater tower.

The following figure is a simplified process flow diagram of a preheater/calciner kiln that is useful for discussing the details of the proposed SCC Center Hill Plant. The figure was borrowed from an excellent study (Greer 2005 for PCA) assessing how pollution control strategies for a given pollutants influence (increase or decrease) emissions of other pollutants. The mentioned study is available at: www.cement.org/pdf_files/SN2728.pdf

F. Pyroprocessing System

The pyroprocessing system includes the preheater, calciner, rotary kiln and clinker cooler, all of which are shown in the following diagram. An alkali bypass is shown but is not a feature of pyroprocessing at cement plants in Florida.

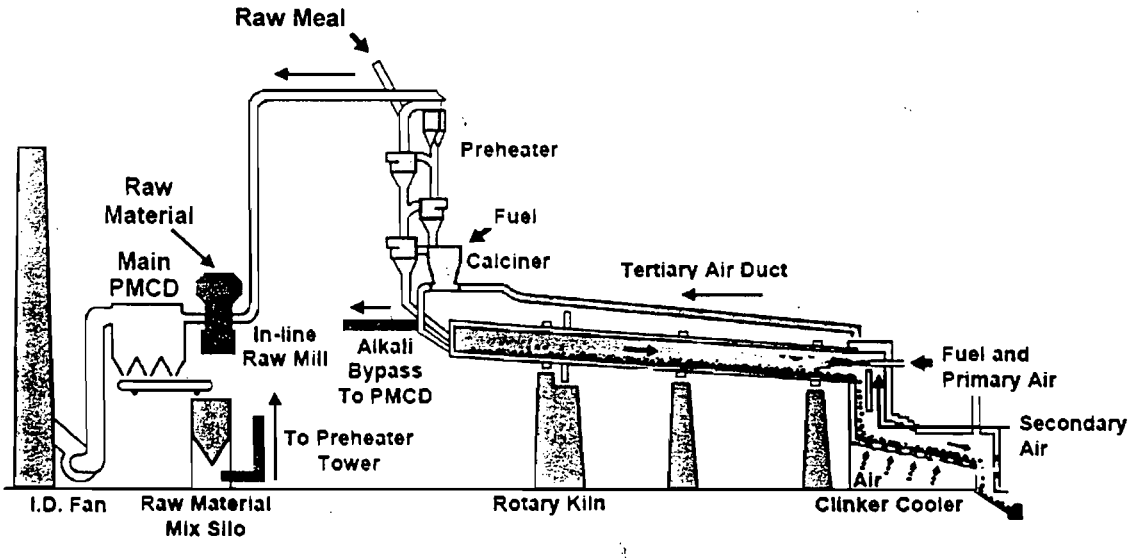

Figure 6. Process Diagram of Dry Process Preheater/Calciner Pyroprocessing System

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

The raw meal passes through the preheater/calciner/kiln system. Initially, fixed moisture is released from the raw meal by heat exchange with calciner/kiln exhaust gases. Then the raw meal is calcined (conversion of limestone fraction to lime) at approximately 870 °C (1,600 °F).

The calcined raw meal is fed at the gaseous exhaust side of the rotary kiln. The kiln is mounted on two or three piers with its axis inclined slightly downward towards the hot material discharge side. The material is heated to a temperature of approximately 1,500 °C (2,732 degrees F) in the large cylindrical steel rotary kilns. The kiln is lined with special firebrick. The gas temperature at the main kiln burner is necessarily even hotter (up to 1,870 °C or 3,400 °F) in order to impart the heat necessary to achieve the very high material temperature.

As the material moves through the kiln, certain elements are driven off in the form of gases. The remaining elements unite to form a new substance with new physical and chemical characteristics. The new substance, called clinker, is formed in pieces about the size of marbles.

Clinker is discharged red-hot from the lower end of the kiln and generally is brought down to handling temperature in a reciprocating clinker cooler. The heated air from the cooler is returned to the kiln and raw mill.

The gases from the pyroprocessing system are drawn through the induced draft fan and discharged to the main stack after passing through the main PMCD.

G. Clinker Handling, Storage, Additives Addition

The cooled clinker is transferred to one of two clinker storage silos. Each clinker silo is equipped with its own baghouse for the control of PM emissions. Additional baghouses are used for the clinker conveyance and transfer operations to and from the silos. Clinker from the silos along with some gypsum and limestone are conveyed to the finish mill.

H. Finish Mill

Clinker, with gypsum and/or limestone, enters the finish mill area where the material is interground in a large ball mill. The ground product (now cement) from the ball mills is transferred to cement separators for sizing of the product, using a high efficiency air separator and cyclones, then conveyed to storage.

Baghouses are used to control PM emissions from the finish mill and air separator.

I. Cement Storage, Loadout and Packing

The cement is directed via pneumatic conveyor to one of several cement storage silos. From the storage silos, the cement is transferred to the truck loadout or to the bagging machine. PM emissions from the cement storage silos, bagging equipment, and truck loadout areas are all controlled by baghouses.

J. Coal/Petcoke Grinding

Two solid fuels, coal and petroleum coke (petcoke) will be utilized in the new cement plant. These fuels will be delivered by truck and stored under cover in separate piles. The fuels will be reclaimed by front-end loader and sent via conveyer and bucket elevator to the coal and petcoke bins. The fuels will be conveyed and combined prior to introduction into the vertical coal/petcoke mill. The fuels are then interground and dried using hot exhaust gas from the preheater taken at the downcomer duct.

The ground coal/petcoke blend is then blown to a baghouse which acts as a product separator and exhaust. The fuel is then stored in the pulverized coal/petcoke bin from where it is fed to the main burner and the calciner burner.

V. EMISSIONS FROM CEMENT MANUFACTURING

The main pollutants emitted from cement manufacturing include nitrogen oxides (NO_X), sulfur dioxide (SO_2), carbon monoxide (CO), volatile organic compounds (VOC), and particulate matter (PM/PM_{10}). In summary (and greatly simplified), the major mechanisms for pollutant formation are summarized in Table 1.[1]

A. CONTROL OF POLLUTANTS

At first glance, it appears that the obvious way to control pollutants is by process and combustion controls coupled with a judicious selection of fuel and raw materials. Together with this approach there are measures that minimize fuel consumption, and incorporate "smart process control systems" to optimize production, quality, and pollution control. In summary (and again greatly simplified) the most obvious control measures are listed in Table 2.

Table 1. Primary Mechanisms and Sources of Pollutant Formation.

Pollutant	Mechanism	Source
NO_X	Thermal Formation	Kiln Burner
	Fuel Nitrogen Oxidation	Kiln, Calciner
SO_2	Oxidation of Raw Material Pyrites	Upper Preheater Stages
	Fuel Sulfur Oxidation	Kiln, Calciner, Coal/Petcoke
CO & VOC	Incomplete Combustion	Calciner
	Thermal Evolution	Raw Materials
PM/PM_{10}	Crushing, Grinding, Conveyance	Crusher, Raw Mill, Coal Mill, Belts, Silos
	Pyroprocessing	Kiln, Cooler

Table 2. Primary Pollutant Control Techniques.

Pollutant	Mechanism	Control
NO_X	Thermal	Kiln Burner Design, Indirect Firing
	Thermal and Fuel	Optimum Process and Raw Mix Control
		Fuel Choice, Staged Combustion in Calciner
SO_2	Oxidation of Pyrites	Raw Materials, Moist Limestone in Raw Mill
	Fuel	Finely Divided Lime in Calciner, Alkalis in Kiln
CO, VOC	Incomplete Combustion	Hot Excess Air, Mixing, Residence Time
	Thermal Evolution	Raw Material Selection
PM/PM_{10}	Crushing/Grinding, Convey	Wet Quarrying, Process Cyclones
	Pyroprocessing	Process Cyclones

Note that the control strategies given above are greatly constrained by raw material and fuel characteristics, and availability. Such situations give rise to various add-on control equipment technologies. Again, in greatly simplified form, these are as follows:

Table 3. Add-on Pollutant Control Techniques.

Pollutant	Control
NO_X	Selective Non-Catalytic Reduction, Selective Catalytic Reduction
SO_2	Hydrated Lime, Lime Slurry, Wet or Dry Scrubbers
CO and VOC	Regenerative Thermal Oxidation (both), Carbon Absorption (for VOC)
PM/PM_{10}	Electrostatic Precipitators (ESP), Baghouse Designs

These technologies are available and each is in use in one or more cement plants in the United States or Europe. They are options to achieve further emission reductions when the constraints mentioned above cannot be resolved.

There are further constraints such as clinker specifications. This frequently results in the need to include a sulfur or alkali bypass system. The purpose is to avoid accumulation of undesired chemical species in the clinker or formation of scales and rings on internal equipment surfaces. The species thus removed cannot be returned to the process or the product and must be wasted. All of this is contradictory to the attempts at minimizing fuel and raw material use.

B. Nitrogen Oxides (NO_X) Control

Control at Main Kiln Burner. The obvious starting point to control NO_X is to avoid its' formation at the main kiln burner. The main strategy is by indirect firing. The basic principle is to minimize primary air (that carries the coal to and through the burner) and to utilize more secondary air (from the kiln hood clinker cooler) as combustion air. This practice minimizes fuel consumption and thus NO_X. All manufacturers rely largely on these principles and this is now the "baseline control".

Several burners have been described that claim additional NO_X reduction by promoting high momentum of the primary air to form an envelope "which generates localized reducing conditions and helps reduce NO_X".[2] Given the extreme temperature requirements and oxidizing condition needed to make clinker, there will always be significant NO_X formation even with indirect firing and special burners. A reasonable estimate would be 3 pounds NO_X per ton of clinker (lb/ton) formed in the kiln and another 1 lb NO_X/ton of clinker formed in the calciner for a "baseline" of 4 lb NO_X/ton prior to further control.

Staged Combustion in Calciner. Burning much of the fuel in the calciner burner instead of the main kiln burner spreads the thermal load in the pyroprocessing system. It allows a significant amount of combustion to occur at lower temperature characteristic of the calciner thus reducing the potential for thermal NO_X formation. Significant fuel NO_X formation is still possible.

Exhaust gas leaving the kiln and entering the calciner is characterized by relatively low excess air and high temperature that is less than required to sinter cement but greater than required to calcine raw meal. The presence of the calciner provides the opportunity to sequence the manner by which fuel, air and raw meal are introduced. This, in turn, provides the opportunity for destruction of thermal NO_X from the kiln and limitation of fuel NO_X formation in the calciner.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The following discussion explains the mechanism for reduction of NO_X by Staged Combustion in the Calciner (SCC).[3]

Equation 1. Calcination of limestone occurs at approximately 900 degrees Celsius (°C) and liberates carbon dioxide to produce lime according to the following endothermic reaction:

$$CaCO_3 \rightarrow CaO + CO_2$$

This reaction tends to rapidly cool the kiln exhaust gas. The additional heat supplied by the calciner burner and hot tertiary air from the kiln hood and clinker cooler sustains the reaction. Calcination tends to limit the temperature of exhaust gases in and leaving the calciner to temperatures less than 900 °C. Combustion in the calciner proceeds as follows. **Equation 2.** Fuel, such as a volatile coal, is heated and pyrolyzed releasing hydrocarbon radicals. These, in turn, catalytically react with NO to form hydrogen cyanide according to:[4]

$$CHi^* + NO \rightarrow HCN + ...$$

Where:

$i = 1, 2, 3$

Equation 3. Ammonia-like radicals are also released during pyrolysis. Under reducing conditions and in the presence of raw meal they catalytically destroy NO according to:[5]

$$NHi^* + NO \rightarrow N_2 + ...$$

This mechanism suppresses formation of NO by the pyrolyzed fuel nitrogen and employs that nitrogen to further reduce NO_X in reactions that at first glance look much like SNCR or SCR.

Other reactions involving carbon monoxide (CO) or hydrogen (H_2) are also catalytically driven and destroy NO_X in this reducing atmosphere. In the subsequent burning of soot and char, the NO_X reducing reactions proceed much more slowly and some of the remaining fuel nitrogen can still form significant amounts of additional NO_X. Following is a photograph and diagram of F.L. Smidth's SCC NO_X control strategy at a kiln in Florida.

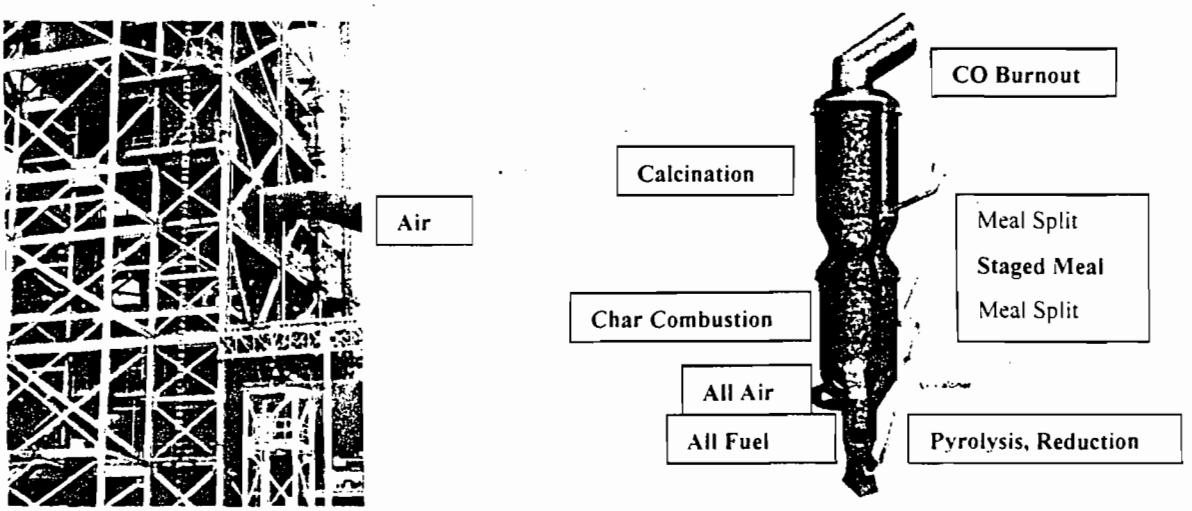

Figure 7. Titan Florida Pennsuco Cement Plant Calciner, Diagram of SCC Strategy

Combustion is supported by the oxygen in the kiln exhaust and by additional oxygen from hot "tertiary air" delivered from the clinker cooler. The degree of CO "burnout" depends upon the length and turbulence in the upper duct leaving the calciner.

The described version of SCC was demonstrated in the U.S. by 1997.[6] A value of approximately 2 pounds NO_X per ton of clinker (lb/ton) is achieved at the Titan Florida Pennsuco Cement Plant. According to one German expert, "NO_X abatement rates of up to 50 percent can generally be achieved with staged combustion. However the processes are critical with high circulating sulfur and alkali systems in conjunction with the reducing mode of operation and the operation can be seriously affected by the formation of coating".[7] There are a number of competing SCC designs with different degrees of success and outright failure.

Selective Non-Catalytic Reduction. In addition to or in lieu of SCC, Selective Non-Catalytic Reduction (SNCR) and Selective Catalytic Reduction (SCR) are available for consideration.

SNCR technology involves injection of ammonia (NH_3) at a point in the process characterized by a temperature window between 850 and 1050 °C. Residence time, turbulence, oxygen content, and a number of other factors specific to the given gas stream are also important. SNCR destroys NO_X by a two-step process as follows:

Equation 4. Ammonia reacts with available hydroxyl radicals to form amine radicals and water per the following theoretical equation:

$$NH_3 + OH^* \rightarrow NH_2^* + H_2O$$

Equation 5. Amine radicals combine with nitrogen oxides to form nitrogen and water.

$$NH_2^* + NO \rightarrow N_2 + H_2O$$

Equation 6. The two steps are typically expressed as a single "global reaction".

$$4NO + 4NH_3 + O_2 \rightarrow 4N_2 + 6H_2O$$

The simplified equation does not convey the kinetics. But it suggests that, theoretically, SNCR will function best in an oxidizing atmosphere.

Equation 7. In a reducing atmosphere, CO competes with ammonia for available OH radicals

$$CO + OH^* \rightarrow CO_2 + H^*$$

Per Figure 8, the necessary temperature window exists at least between the kiln inlet and the bottom cyclone of the preheater that receives the exhaust from a calciner that employs air staging. The physical extent of the window for oxidizing conditions depends on the damper positions for the tertiary air branches for the shown calciner design. In selecting a level (or levels) for ammonia injection there must be some optimization of temperature and oxygen.

Based on the foregoing, ammonia should be injected after introduction of tertiary air and preferably after completion of CO burnout. There may also be favorable injection points closer to the kiln inlet if oxidizing conditions exist in the calciner. Some of the equipment used during an SNCR demonstration at Suwannee American Cement (SAC) is shown in the Figure 9.

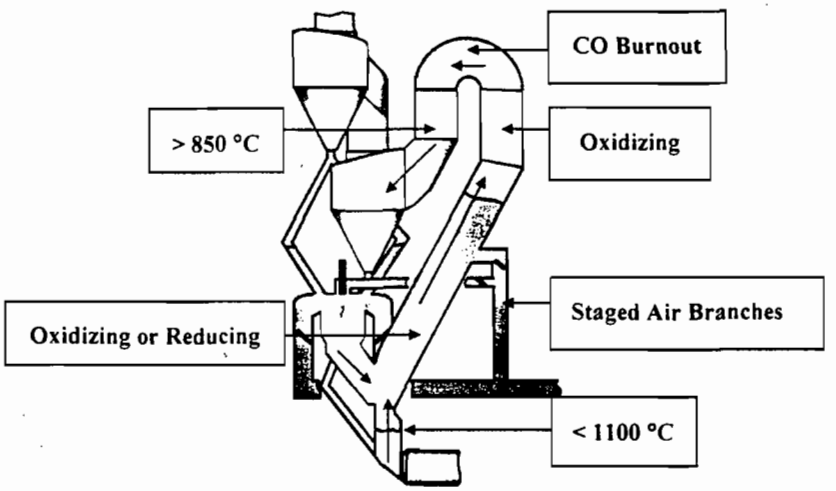

Figure 8. Temperature and Oxidizing Windows for SNCR in Staged Combustion Calciner.

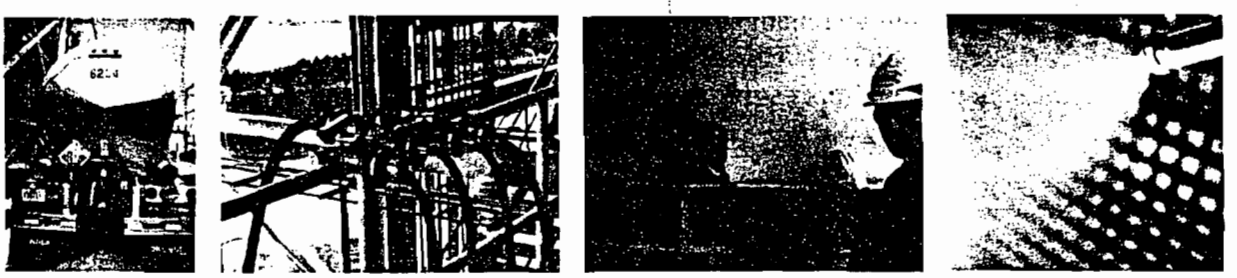

Figure 9. Aqueous Ammonia Supply Truck, Compressed Air, One of Four Ports, Injector

Not shown is the metering system or the additional continuous emission monitoring equipment. Four ports were installed after the bend in the duct work following the top air injection branch for tertiary air. This setup is relatively simple. It is noteworthy that it suffices for treatment of all of the exhaust gas from the calciner and not just a slip stream. In fact at times a single injector sufficed for adequate NO_X control.

Following experiments carried out at SAC and Florida Rock Industries (FRI), a permanent SNCR unit was installed at the existing SAC plant. The limit is 2.4 lb/ton. For reference, the tests conducted showed that it was possible to achieve emissions as low as 1 lb/ton whether or not SNCR was combined with SCC.[8]

As of 2000, there were at least 18 kilns in Europe that had installed SNCR.[9] By 2004, there were approximately 32 SNCR installations in Germany alone.[10] Most of these SNCR installations were designed and operated for NO_X reduction rates of 10 – 50 percent with NH_3 /NO_2 molar ratios of 0.5-0.9 and emissions of 500-800 mg NO_X/m^3 (~2.3 to 3.6 lb/ton). The Slite Plant in Sweden achieves 200 mg/m^3 with SNCR.[11] This equates to approximately 0.9 lb NO_X/ton and is believed to be the lowest limit in the world.

One of the arguments against SNCR is the possibility of increased opacity due to the formation of ammoniated sulfate and sulfite species in detached plumes.[12] Unreacted ammonia from the SNCR process or from raw materials reacts with SO_2 and SO_3 at temperatures prevalent in the upper preheater, pollution control equipment, and outside the stack.

Equation 8. Ammonium bisulfate is formed in accordance with the following reaction.
$NH_3 + SO_3 + H_2O \rightarrow NH_4HSO_4$

Equation 9. Ammonium sulfate is formed per the following reaction.

$2NH_3 + SO_3 + H_2O \rightarrow (NH_4)_2SO_4$

Equation 10. Finally, ammonium bisulfite is formed as follows.

$NH_3 + SO_2 + H_2O \rightarrow NH_4HSO_3$

When a PH/C kiln is operated with the raw mill on line, these compounds condense. They go back into the feed system and to the preheater, where they vaporize again. They subsequently condense again in the raw mill. When the raw mill is taken off line, the volatile salts are no longer captured in the raw mill, and go to the dust collector. Since the dust collector cannot efficiently capture these species, the plume becomes highly visible. When the raw mill is put back into operation, the plume ceases again. This cycle continues indefinitely, unless something is done to break it. [13]

If a plant has a persistent detached plume that is attributable to $(NH_4)_2SO_4$ it is necessary to get rid of one of the two reactants that ultimately form $(NH_4)_2SO_4$ - either the NH_3 or the SO_2. [14] The obvious method of avoiding the plumes when using SNCR is by minimizing ammonia use when SO_2 emissions are likely.

This phenomenon did not present itself during the Florida tests because the raw materials are low in sulfur as explained in following sections. The potential for such detached plumes was avoided at Slite in Sweden because of the presence of a large wet SO_2 scrubber capable of absorbing the ammoniated compounds.

Selective Catalytic Reduction. SCR relies on the same principle as SNCR. The reactions occur at lower temperatures and require a catalyst, typically containing vanadium, titanium, or zeolite. Based on the design of the catalyst and operating conditions, the temperature window is between 200 and 600 °C. The high portion of the SCR temperature window exists in the upper stages of the preheater, while the lower portion prevails at the preheater exit, then through the downcomer, through the gas conditioning tower and to the induced draft fan prior to the raw mill.

The only known commercial installation of SCR began operation at the Solnhofer Portland Zementwerke with financial assistance from the sponsorship of the German Federal Environmental Office. Figure 10 includes pictures from the ground up and a bird's eye view of the installation.

Early on during the commercial demonstration, the German official advised the Department, "with SCR you can meet NO_X standards of 200 mg/m^3". [15] More recently he advised the author, "the SCR in Solnhofen works in an excellent manner". [16] This conclusion is supported in a paper prepared by the German official, the equipment supplier and plant personnel. [17]

During 2003, the plant emitted less than 500 mg NO_X/m^3 on 95.6 percent of operating days. [18] More recently, however, the actual performance has been closer to 500 mg/m^3 (~ 2.3 lb/ton) which is the limit applicable to the plant. In 2004 the emissions were less than the mentioned values during 72.3% of the operating days. [19]

Despite the successful demonstration of SCR, there have been no known further installations. The most obvious reason appears to be the large footprint and capital cost in comparison with the much simpler SNCR systems. The best performance of SCR was matched by SNCR during the tests conducted in Florida and at the Slite Plant in Sweden when used in conjunction with a wet scrubber that controls SO_2.

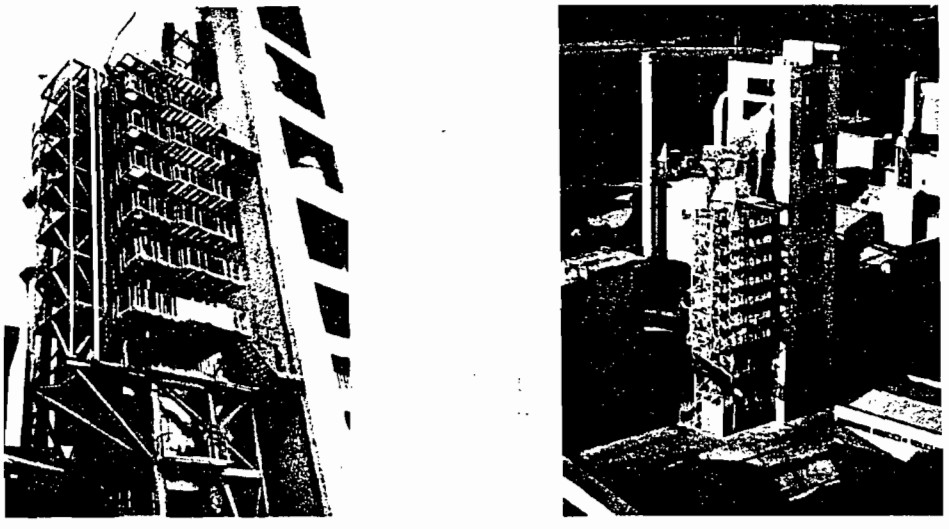

Figure 10. SCR System Adjacent to Preheater Tower, Bird's Eye View of Solnhofer Plant.

SCR is definitely favored when substantial raw material sulfur is present but no wet scrubber will be installed. In such situations, the SCR catalyst can promote the NO_X and ammonia reactions, minimize ammonia emissions (slip) and avoid a visible plume despite the presence of sulfur compounds. These conditions are not present in Florida and the Department believes either SCR or SNCR can represent Best Available Control Technology (BACT) depending on local conditions.

C. Sulfur Dioxide Control

Inherent Scrubbing of Fuel Sulfur Dioxide. Sulfur dioxide (SO_2) formed by burning fuel in the main kiln burner can be efficiently scrubbed out by reactions with alkali species (Na and K) in the kiln to form stable sulfate compounds that are incorporated into the clinker.

Equation 11. Kiln SO_2 reaching the calciner and all SO_2 from burning fuel in the calciner are completely scrubbed out at the temperatures prevailing in the calciner as follows: [20]

$$CaO + SO_2 \leftrightarrow CaSO_3 \text{ or } CaO + SO_2 + 0.5O_2 \leftrightarrow CaSO_4$$

At 1,045°C, the formation and decomposition reactions for $CaSO_4$ are at equilibrium at normal excess oxygen levels. As materials move through the high temperature regime in the kiln, the $CaSO_4$ can break down per the above reaction releasing the SO_2 or it can fuse/react with the alkali sulfates and other species to form stable compounds that depart with the clinker.

In summary, the control of fuel SO_2 is not an issue in modern kilns. Limiting fuel sulfur makes little or no difference in emissions. Generally severe operational problems such as coating formation and blockages will occur due to use of high sulfur fuels before significant SO_2 emissions occur. [21]

Control of Raw Material SO_2. Sulfide or elemental sulfur contained in raw materials may be "roasted" or oxidized to SO_2 in areas of the pyroprocessing system where sufficient oxygen is present and the material temperature is in the range of 300-600°C.[22,23] SO_2 emissions are very low at the Florida PH/C kilns because there are only minute amounts of sulfur in most of the available limestone, with the exception of random pockets in northernmost Florida.

Uncontrolled SO_2 emissions can be very significant when pyritic sulfur is present in the raw materials and much greater than the very minimal emissions caused by fuel sulfur.

Operating the raw mill promotes SO_2 removal by limestone scrubbing under humid conditions, due in part to freshly generated limestone surface produced by grinding. Some of the SO_2 generated in the top preheater stages is also scrubbed out by small amounts of free CaO that are carried back from hotter zones by combustion flue gases.

Another SO_2 removal technique is to extend the inherent self-scrubbing (by CaO) that occurs in the calciner to the upper sections of the preheater where pyrite-derived SO_2 is evolved. This involves conveyance of lime from the calciner (by differential pressure) to the upper stages of the preheater. The system consists of a cyclone and some ductwork and involves no moving parts.[24]

A very fine suspension of slaked lime can be introduced into the gas-conditioning tower to remove SO_2, particularly when the raw mill does not operate. The droplets react, dry, and are captured by the particulate control equipment where excess lime (from the dried droplets) continues to remove remaining SO_2.[25]

If the control measures mentioned above are insufficient to achieve permitted SO_2 requirements, then conventional wet or dry scrubbers can be considered. The TXI Midlothian scrubber system was estimated to cost $13,000,000. Emissions of SO_2 from the new kiln were still permitted at over 1,300 tons per year and 1.33 lb/ton of clinker.[26]

The inherently low SO_2 emissions from cement kilns in Florida do not warrant serious consideration of add-on control equipment or any of the described procedures. The exception is in the northernmost part of the state where some limestone deposits contain pyrites and SO_2 emissions are minimized by selective mining and intermittent hydrated lime injection.

D. Carbon Monoxide (CO) and Volatile Organic Compounds (VOC) Control

CO and VOC are pollutants formed by the incomplete combustion of the fuels fired during pyroprocessing or by evolution of carbonaceous or hydrocarbon fractions in raw materials (such as fly ash and mill scale) in the preheater. Emissions of CO and VOC are controlled by:

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

Referring back to Figure 7, it is easy to appreciate that CO and VOC evolved by carbonaceous and oily material entering the top of the preheater will not be exposed to sufficiently high temperatures to completely oxidize these pollutants. It is also easy to appreciate that fuel in the kiln and calciner can be completely combusted given the prevailing temperature regime, turbulence, and excess air.

Both of the SCC designs in Figures 8 and 9 provide for very hot excess air from the kiln hood and clinker cooler and it is only a matter of holding the relatively high temperature over during adequate residence time to minimize CO and VOC from fuel combustion as described in Table 2.

VOC and CO from raw materials can be controlled by judicious selection of the raw materials. This is not a simple task if the origin is native limestone, clay, and sand. If the source is additives such as mill scale or coal ash (such as with high LOI), there are some options. These include accessing different mill scale sources[27] (or coal ash) or grinding and metering directly into the kiln.[28]

Extremely high levels of CO and VOC emanating from native raw materials can be controlled by a regenerative thermal oxidation system (RTO). Such a system was installed at the Holcim Dundee Michigan Plant to combat odor problems. A $17,500,000 RTO system was installed at the TXI Midlothian Plant to deal with inherently and unusually high carbonaceous matter in the limestone and to avoid PSD for both CO and VOC. The system consists of 11 RTO modules and covers an area equal to a "football field". Natural gas is used to heat the system.

One also expensive to RTO is a carbon/coke filter such as included in the Polvitec system installed at one of the Holcim Ubersiggenthal Cement Plant.[29, 30] The unit was installed in conjunction with a program to burn pelletized sewage sludge from the City of Zurich.

The native limestone in Florida does not contain high levels of carbonaceous material of oily substances such as kerogen. Therefore the control strategies consist of judicious selection of the raw materials and proper combustion in the calciner and sufficient burnout. There is no serious consideration for add-on CO and VOC control equipment.

E. PARTICULATE MATTER (PM AND PM_{10})

Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. PM_{10} represents particles with an aerodynamic diameter of less than 10 microns (μm) which represent the cut-off size for particles can enter into the pulmonary system. $PM_{2.5}$ represents particles less than 2.5 μm in aerodynamic diameter and considered to be "fine" particles. Because of their small size, fine particles can lodge deeply into the lungs. PM consists of all generated particulate matter and includes PM_{10} as well as $PM_{2.5}$.

PM can be directly emitted directly by fuel combustion and processes that lead to material abrasion. PM, especially the $PM_{2.5}$ fraction, can also be formed to in the cement industry can be generated by atmospheric reaction of precursors such as SO_2, NO_X, VOC and ammonia emitted from traffic, industry, fuel combustion and even agriculture. For reference, all of the precursors can be emitted from cement plants which is the reason that a complete program of PM control includes minimization of PM and its precursors.

PM is emitted from all of the operations at cement plants including quarrying, crushing, material transfer and storage, grinding and blending, pyroprocessing, finish grinding, and packaging and loading. Quarrying and crushing are not potentially large generators of dust at the proposed project site because the basic limestone is mined under the water table without the need for blasting, etc. Even after some dewatering and drying the material generally contains a large fraction of fixed moisture.

Operations between the quarry and raw material transport are less of a concern because the PM tends to be large and falls out locally. Also it is typically much like naturally occurring dust.

During pyroprocessing, the character changes such that emissions include the PM2.5 precursors and the intermediate and final products such as clinker, cement, baghouse dust are alkaline and can be corrosive to human tissue.

At this facility, all dust generated in the pyroprocessing operation constitutes raw material and will be returned to the process. At the most modern plants, material and emissions from the raw mill, clinker cooler, and kiln are controlled by a single very large fabric filter baghouse typically known as the main particulate matter control device (PMCD). The arrangement at the Titan Florida Pennsuco Cement Plant is shown in the first figure on the following page. The raw mill, cyclones and duct work to the Main PMCD are on the far right of the figure.

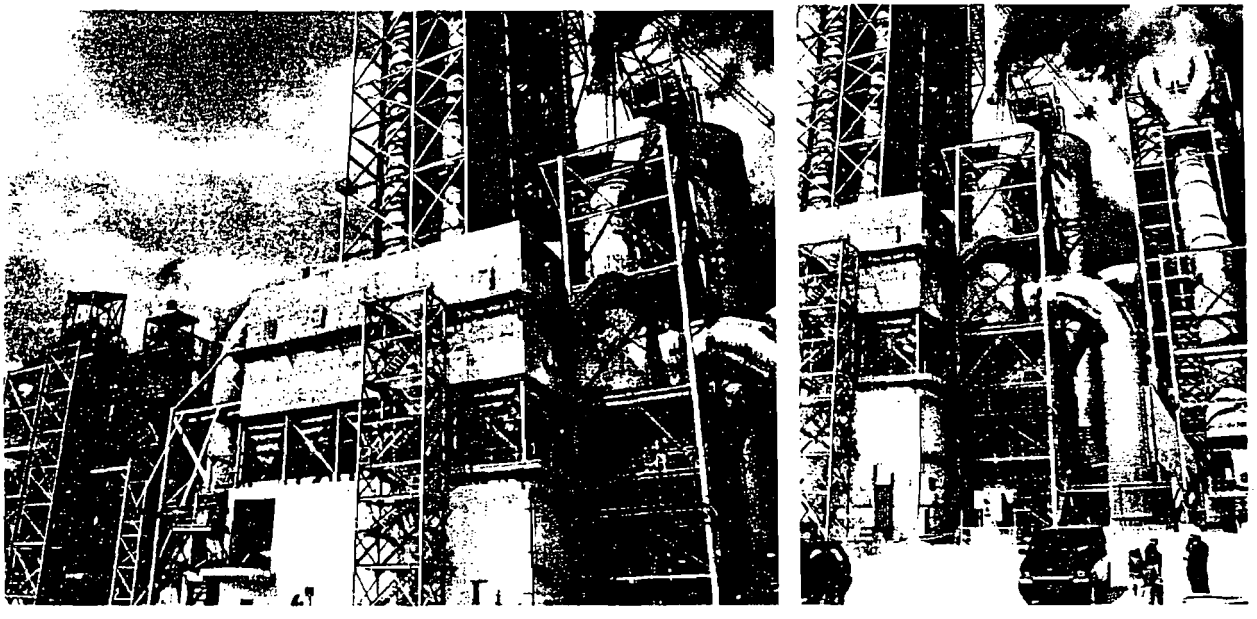

Figure 11. Titan's Main PMCD, Lower Preheater Raw Mill Cyclones to Main PMCD

Electrostatic precipitators (ESPs) are an alternative and have been used in some of the earlier projects, especially under two-stack scenarios (kiln and cooler stacks) such as in previous Figure 6. Both control strategies achieve PM control on the order of 99% or better and each has its benefits. One main benefit of a baghouse is that it is less affected by power trips. For example, ESPs are depowered whenever CO concentrations rise above a certain level and present an explosive threat.

The other key strategy towards control of PM emissions (especially $PM_{2.5}$) from pyroprocessing is the minimization of SO_2, NO_X, VOC, and ammonia (NH_3) such as from the SNCR system.

Emission control from operations after pyroprocessing is also very important because of the caustic nature of the product. However, there is every incentive to prevent these emissions as they would otherwise represent loss of valuable product. Such material transfer, grinding, storage, packing, and shipping operations are controlled by baghouses in conjunction with inertial separators, internal storage in silos, operation under negative pressure, etc.

Common controls to limit particulate emissions from fugitive sources (such as roadways, stockpiles, and material processing and conveying equipment) include application of water for dust suppression, removal of dust, application of water and other dust suppressants, paving of roads and covering of stockpiles to reduce wind erosion.

A well controlled plant usually has a "clean look" that comes from application of BACT controls from key emission units and reasonable precautions to minimize fugitive emissions. Following are some photographs from a relatively new plant.

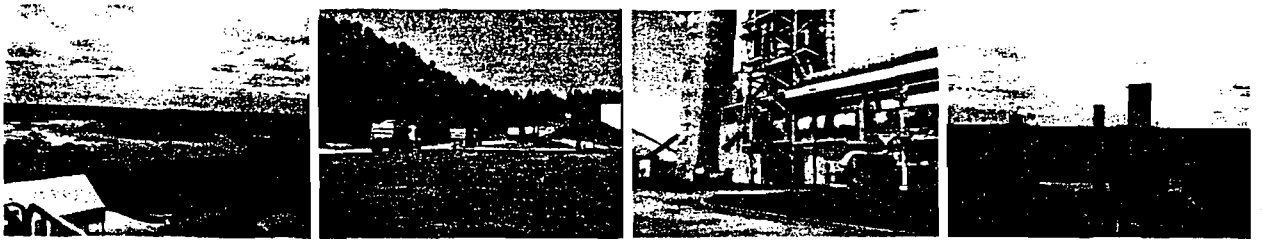

Figure 12. Mining, Materials Delivery, Pyroprocessing Area, Product Storage/Shipping

VI. RULE APPLICABILITY

A. State Regulations

This project shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein) and, specifically, the following Chapters and Rules:

Table 4. State Regulations Applicable to Portland Cement Plants.

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

Rule 62-297.520	EPA Continuous Monitor Performance Specifications
Rule 62-297.701	Portland Cement Plants

B. Federal Regulations

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

Table 5. Federal Regulations Applicable to Portland Cement Plants.

40 CFR 50	National Primary and Secondary Ambient Air Quality Standards
40 CFR 60, Subpart A	General Provisions
40 CFR 60, Subpart Y	Standards of Performance for Coal Preparation Plants
40 CFR 60, Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants
40 CFR 63, Subpart A	General Provisions
40 CFR 63 Subpart LLL	National Emissions Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry – Major Sources

C. PSD Applicability and Preconstruction Review

The Department regulates "major" air pollution facilities in accordance with Florida's Prevention of Significant Deterioration (PSD) program, as defined in Rule 62-212.400, F.A.C. PSD preconstruction review is required in areas that are in attainment with the state and federal Ambient Air Quality Standards (AAQS) for each regulated pollutant, or areas designated as "unclassifiable" for these pollutants. A facility is considered "major" with respect to PSD if it emits or has the potential to emit 250 or more tons per year of any regulated pollutant, or emits 100 or more tons per year of any regulated pollutant and belongs to one of 28 "PSD major facility categories", or emits 5 or more tons per year of lead.

Once a new facility is considered "major", each regulated pollutant is reviewed for PSD applicability based on the Significant Emission Rates specified in Table 62-212.400-2, F.A.C. Any pollutant emissions expected to be above the listed Significant Emission Rates are considered to be "significant" and are subject to PSD preconstruction review which includes a Best Available Control Technology (BACT) determination and ambient air quality impact analysis. A facility can be "major" for only one regulated pollutant, and still be subject to preconstruction review for several PSD-significant pollutants.

This project is located in Sumter County, which is an area presently in attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C, therefore a PSD preconstruction review is required. Because SCC is a portland cement plant belonging to one of the 28 "PSD major facility categories" and has the potential to emit 100 tons per year of at least one of the regulated pollutants, the facility is considered "major" with respect to PSD. The following table summarizes the applicant's PSD applicability analysis based on a comparison of potential emissions of the project to the Significant Emission Rates of Table 62-212.400-2, F.A.C.

Table 6. Summary of PSD Applicability

Pollutant	PSD SER's (TPY)	Project Emissions (TPY)	Subject to PSD?
Carbon Monoxide (CO)	100	3,088	Yes
Nitrogen Oxides (NO_X)	40	1,675	Yes
Particulate Matter (PM/PM_{10})	25/15	438/323	Yes
Sulfur Dioxide (SO_2)	40	232	Yes
Sulfuric Acid Mist (SAM)	7		No
Volatile Organic Compounds (VOC)	40	98.7	Yes
Fluorides (F)	3	.772	No
Lead (Pb)	0.6	.064	No
Mercury (Hg)	0.1 (200 lb)	0.092 (184 lb)	No

As shown in the table, the project is subject to PSD preconstruction review for emissions of carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC). Therefore, the applicant must provide a supporting air quality analysis and the Department must determine the (BACT) for each PSD-significant pollutant.

D. NESHAP Requirements

This facility is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR 63, Subpart LLL applicable to portland cement plants. Subpart LLL contains Maximum Achievable Control Technology (MACT) requirements for Hazardous Air Pollutants (HAPs). These include limits on PM/PM_{10}, dioxin/furan, and total hydrocarbon (THC). Recently, EPA published a Notice with a proposal to make certain changes in Subpart LLL.[31] The main change potentially applicable to kilns at greenfield plants is inclusion of a hydrogen chloride (HCl) emission limit.

E. BACT Determination procedure

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

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

(b) If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of an emissions unit or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set

forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation.

(c) Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.

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

(a) BACT Determination. Following receipt of a complete application for a permit to construct an emissions unit or facility which requires a determination of Best Available Control Technology (BACT), the Department shall make a determination of Best Available Control Technology during the permitting process. In making the BACT determination, the Department shall give consideration to:

1. Any Environmental Protection Agency determination of BACT pursuant to Section 169 of the Clean Air Act, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

2. All scientific, engineering, and technical material and other information available to the Department.

3. The emission limiting standards or BACT determination of any other state.

4. The social and economic impact of the application of such technology.

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

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

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

A BACT determination cannot result in a selection of a control technology which would not meet any applicable emission limitation under 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants). This project is subject to such standards as described above.

F. Department's BACT review

It is important to note that no NSPS or NESHAP limits were set by EPA for NO_X, SO_2, CO, or VOC. These two rules set limits on PM. The NESHAP also sets limits on total hydrocarbons (THC – similar to VOC) and on dioxin/furan.

Nitrogen Oxides. SCC proposes an emission limit of 1.95 pounds per ton of clinker (lb/ton). The "top" technology is 0.9 lb/ton and is achieved at the Heidelberger Cement Slite Plant in Sweden by use of SNCR. The plant has a large sulfur dioxide scrubber because of the high sulfur content in the raw material. The scrubber controls SO_2 and in the process absorbs excess ammonia from the SNCR system that results when such low NO_X emissions are achieved by this process.

The plant is a better reference for projects in non-attainment areas where the regulatory requirement is the Lowest Achievable Emission Rate (LAER).

Earlier in 2005, the Department issued five NO_X determinations of note. The first was a permit modification for a production increase at the existing SAC Kiln No. 1. The SAC plant relies on staged combustion in the calciner (SCC) in a reducing atmosphere and SNCR to achieve 2.4 lb NO_X/ton of clinker. This was the first project in the United States with a permanent and presently operating SNCR system designed to actually achieve low emissions.

In December 2005, the Department issued a permit to increase production from the existing Titan Florida Pennsuco Cement Plant. The limit is 2.17 lb NO_X/ton using the version of SCC with raw meal catalysis in a high temperature reducing atmosphere (see Figure 7).

The Department issued permits with BACT determinations for additional kilns at three cement plants. These include SAC, Florida Rock, and Rinker/Florida Crushed Stone. BACT was determined to be 1.95 lb NO_X/ton by a combination of Low NO_X Kiln Burner, Indirect Firing, SCC and SNCR. The different features allow each applicant to emphasize the mix that is most compatible with the details of the kiln design, raw materials, fuel, and products requirements.

The alternative of SCR was considered. However, the only example world-wide is installed at a facility where the emission limit is 2.3 lb/ton. While lower emissions are possible, it is obvious that the footprint and capital cost will be much greater than for an SNCR system. It is easier to install and derive immediate results from an SNCR system. When considering an SCR system it necessary to collect significant data through pilot plant testing after startup and prior to actual installation of the technology.

The Department has determined that 1.95 lb NO_X/ton of clinker is BACT for the SCC project and has reasonable assurance that this value can be met by a combination of SCC, SNCR, indirect firing and a Low NO_X main kiln burner. The value is the lowest issued to-date in the United States.

By comparison, a permit was issued in 2004 to Holcim for the largest cement kiln in the United States (Lee Island, Missouri). A limit of 2.4 lb NO_X/ton is required using SNCR as "Innovative Control Technology" and a number of years are provided to achieve the limit.[32]

Sulfur Dioxide. SCC proposes an emission limit of 0.27 lb SO_2/ton. This is a much lower emissions rate than achieved at most cement plants throughout the country where raw material sulfur is a large contributor to emissions. The Department considers the "top technology" to be the self scrubbing of fuel sulfur in the kiln and calciner coupled with use of raw materials that are very low in sulfur. This obviates any need to consider further add-on controls.

The commonly held perception is that wet scrubbers achieve the lowest emissions is contradicted by the fact that emission limits are usually much greater because they are only used when uncontrolled emissions are extremely high. They are typically used to achieve moderate levels of emissions. As mentioned in a previous section, even with a $13,000,000 scrubber, emissions of SO_2 from the TXI Midlothian new kiln were still permitted at over 1,300 tons per year and 1.33 lb/ton of clinker.[33]

Earlier in 2005, the Department issued three BACT SO_2 determinations. These were for the previously mentioned SAC, FRI, and Rinker projects. The determinations range from 0.20 to 0.28 lb SO_2/ton. At very low emission rates, further add-on control is not cost-effective. The Department has determined that 0.20 lb SO_2/ton is BACT for the SCC project and has reasonable assurance that this value can be met by a use of low sulfur raw materials, self scrubbing of fuel SO_2 by finely divided lime in the calciner, and incorporation into the clinker within the kiln.

Although the limit will be 0.20 lb/ton, the Department expects day-in/day-out emissions on the order of 0.01 to 0.05 lb/ton. The reader is referred to the SAC website for typical CEMS based reading at: www.suwanneecement.com Click on "Environment".

Carbon Monoxide and Volatile Organic Compounds. SCC proposes emission limits of 3.6 lb CO/ton and 0.115 lb VOC/ton. The CO proposal is relatively low, while the VOC proposal is very low and equates to about 1/3 of the applicable MACT standard for greenfield cement kilns.

The Department considers a regenerative thermal oxidizer to be the "top technology". As previously mentioned, an RTO was installed at TXI that cost $17,500,000. It was installed to avoid PSD during a plant expansion and was not a BACT determination. TXI recently applied to the Texas Environmental Quality Board to turn off the RTO system outside of the ozone season. A settlement was reached with petitioners opposed to the TXI request and requires that the RTO system be used year-round. The revised CO and THC/VOC limits at TXI are as follows:

Table 7. Agreement Regarding RTO and CO, VOC/THC Limits at TXI Midlothian Plant

ELEMENTS OF AGREEMENT			
	Existing permit	**TXI's Request**	**Agreed-upon permit**
Total Hydrocarbons	44 TPY	603 TPY	< 84 TPY
Carbon Monoxide	370 TPY	7.743 TPY	2,190 TPY
SOURCE: Mediated agreement with TXI, Blue Skies Alliance, Downwinders At Risk and 22 Midlothian residents			

According to the agreement, the effective CO limits at the TXI project will be equivalent to 1.56 lb CO/ton clinker as an annual tonnage factor (2,190 TPY) rather than a technological limit. The VOC limit (as total hydrocarbons – THC) is equivalent to 0.06 lb VOC/ton.

In contrast to the native raw materials available in parts of Michigan and Texas, the raw materials in Florida do not cause high CO or VOC formation. For example, without the RTO, emissions from the TXI plant would be over 15,000 TPY of CO and more than 1000 TPY of VOC. By contrast SCC estimates emissions of 1,752 and 66 TPY of CO and VOC respectively from the planned Sumterville project.

An RTO system at the SCC Center Hill project would be far too costly on the basis of total capital costs and cost per ton of CO removed. It is less expensive to implement controls on fuels, selection of raw material additives such as mill scale and power plant ash as well as combustion controls.

Recently, the Department issued permits for new kilns to be constructed at SAC, FRI, and Rinker/Florida Crushed Stone and for production increases at the existing kilns at SAC, FRI, and Titan Florida. The determinations have ranged from 2 to 3.6 lb CO/ton and 0.11 to 0.12 lb VOC/ton. By comparison, the recently issued permit for the largest cement kiln in the United States (Holcim Lee Island, Missouri) included BACT CO and VOC emission limits of 6.0 and 0.33 lb/ton respectively.

It has been observed that employment of SNCR for NO_X control tends to increase CO emissions. Similarly, firing petroleum coke tends to increase CO emissions in comparison to exclusive use of coal. These factors need to be considered when setting a CO emission limit. Most recently, the Department began requiring CO continuous emission monitoring systems (CEMS) whereas previously compliance was demonstrated by a single annual stack test that might be conducted during conditions least likely to cause high CO emissions. The Department has required CEMS for VOC since 2000.

One other possibility of high CO emissions is related to introduction of high carbon fly ash at the preheater feed. It will also be necessary for SCC to regularly analyze the coal ash through routine loss on ignition (LOI) testing and to minimize the oily substance content of additives such as mill scale, especially with compliance CEMS requirement for both CO and VOC.

The Department's BACT determinations for CO and VOC are 2.9 and 0.115 lb/ton, respectively and has reasonable assurance of compliance based on kiln/calciner design, characteristics of primary raw materials, and judicious selection and procurement of additives.

Particulate Matter (PM/PM_{10}). SCC proposes PM and PM_{10} emission limits of 0.13 and 0.11 lb/ton of dry kiln feed from the pyroprocessing system (kiln/in-line raw mill/cooler). SCC proposes an opacity limitation of 10% and measured by a continuous opacity monitor (COM).

The NSPS and NESHAP limits are expressed in terms of lb/ton of kiln feed. The BACT limit will be set in terms of lb/ton of clinker. therefore it is important to convert the proposed values to the clinker basis. It takes approximately 1.67 tons of feed to make a ton of clinker. Therefore the proposed PM/PM_{10} emissions limits are approximately 0.18 and 0.21 lb/ton of clinker respectively. The Department's BACT determination for PM and PM_{10} is 0.153 lb/ton of clinker (approximately 0.09 lb/ton of feed).

For reference the applicable NSPS and NESHAP MACT emissions limits is 0.3 lb PM/ton of feed from the kiln and 0.1 lb/ton of feed from the clinker cooler for a total of 0.4 lb PM/ton of feed. Therefore the BACT values are equivalent to approximately $1/4^{th}$ of the NSPS/NESHAP limits. Similarly, there are separate NSPS/NESHAP opacity limits for the kiln and clinker cooler of 10 and 20% respectively. By complying with the more stringent 10% limit, SCC's proposal is more stringent than the NSPS/NESHAP opacity limits.

SCC proposes to meet the BACT proposal by use of a single main PMCD consisting of a large fabric filter baghouse and stack serving the kiln, in-line raw mill and clinker cooler. This configuration is similar to that shown in Figure 11 rather than the two ESP/two stack configuration shown in Figure 5. The baghouse will be designed with particulate removal efficiency on the order of 99.9%. This is sufficient to limit hourly emissions to 31.87 lb/hour of PM/PM_{10}. All PM emitted from the baghouse exhaust will be assumed to be PM_{10} emissions.

BACT for other enclosed emission sources will be an opacity limitation of 5%. This will be achieved by baghouses designed to meet respective PM and PM_{10} emissions characteristics of 0.01 and 0.0085 grains per dry standard cubic foot (gr/dscf).

Table 8. Baghouse Characteristics and PM_{10} Emissions for Enclosed Emissions Sources.

Point	Point Description	acfm	°F	Opacity	dscfm	grains/dscfm	TPY
Emissions Unit 003 - Raw Materials Processing and Storage							
NDC-01	Raw Material Transport	3,000	200	5%	2,352	0.0085	0.75
NDC-02	Baghouse Dust Bin	4,500	450	5%	2,559	0.0085	0.82
NDC-03	Raw Material Transport	3,000	200	5%	2,352	0.0085	.75
NDC-04	Blend Silo Inlet	8,500	200	5%	6,664	0.0085	2.13
NDC-05	Blend Silo	5,000	200	5%	3,920	0.0085	1.25
NDC-06	Blend Silo Outlet.	3,000	200	5%	2,352	0.0085	0.75
NDC-07	Kiln Feed Transport	5,500	200	5%	4,312	0.0085	1.38
NDC-08	Coal Ash Silo	6,000	110	5%	5,447	0.0085	1.74
NDC-09	Coal Ash Transport	2,500	110	5%	2,269	0.0085	0.72

Point	Point Description	acfm	°F	Opacity	dscfm	grains/dscfm	TPY
Emissions Unit 005 - Clinker Storage and Conveying							
NDC-10	Clinker Transport From Kiln	4,000	300	5%	2,723	0.0085	0.87
NDC-11	Clinker Silo #1	16,000	300	5%	10,893	0.0085	3.48
NDC-12	Clinker Silo #2	15,000	300	5%	10,213	0.0085	3.26
NDC-13	Off-Spec Clinker Silo	11,000	300	5%	7,489	0.0085	2.39
NDC-14	FM #1 Clinker Silo Outlet Conveyor	10,000	250	5%	7,288	0.0085	2.33
NDC-15	FM #2 Clinker Silo Outlet Conveyor	10,000	250	5%	7,288	0.0085	2.33
NDC-16	Gypsum & Limestone Silos	6,000	70	5%	5,858	0.0085	1.87
NDC-17	Conveying to Finish Mills (2 feed belts)	24,000	250	5%	17,491	0.0085	5.58
Emissions Unit 006 – Finish Mills Cement Processing							
NDC-18	Finish Mill #1 Clinker Conveying	6,000	250	5%	4,373	0.0085	1.40
DC-02*	Finish Mill #1 Separator BH	128,000	175	5%	103,239	0.0085	32.94
DC-03	Finish Mill #1 Sweep BH	35,000	230	5%	25,551	0.0085	8.15
NDC-21	Fringe Cement Bin	5,000	230	5%	3,750	0.0085	1.20
NDC-19	Finish Mill #1 Baghouse #3	8,500	230	5%	6,374	0.0085	2.03
DC-04	Finish Mill #2 Separator BH	128,000	175	5%	103,239	0.0085	32.94
DC-05	Finish Mill #2 Sweep BH	35,000	230	5%	25,551	0.0085	8.15

Point	Point Description	acfm	°F	Opacity	dscfm	grains/dscfm	TPY
NDC-20	Finish Mill #2 Baghouse #3	8,500	230	5%	6,374	0.0085	2.03
NDC-22	Cement Silos	6,000	160	5%	5,007	0.0085	1.60
NDC-23	Cement Silos	5,000	160	5%	4,173	0.0085	1.33
NDC-24	Cement Silos	7,500	160	5%	6,259	0.0085	2.00
NDC-25	Truck Loadout #1	4,000	130	5%	3,508	0.0085	1.12
NDC-26	Truck Loadout #2	4,000	130	5%	3,508	0.0085	1.12
NDC-27	Truck Loadout #3	4,000	130	5%	3,508	0.0085	1.12
NDC-28	Packaging Plant	16,000	130	5%	14,032	0.0085	4.48
Emissions Unit 007 Coal and Petroleum Coke Grinding System							
DC-06	Coal Mill #1 Baghouse	32,000	150	5%	25,898	0.0085	8.26
DC-07	Coal Mill #2 Baghouse	31,937	150	5%	25,847	0.0085	8.25
NDC-29	Pulverized Coal Bin	2,000	150	5%	1,697	0.0085	054
NDC-30	Pulverized Coal Bin	2,000	150	5%	1,697	0.0085	0.54

BACT for unenclosed sources is generally control of particulate matter emissions by inherent or applied moisture. Unpaved roads will be sprayed with water or dust suppressants to prevent unconfined particulate matter emissions. Material and fuel storage piles will be stored under roof or in enclosed vessels. Storage piles shall be shaped, compacted and oriented to minimize wind erosion. Storage piles shall be wetted with devices located near such piles when visual inspection determines wetting is needed. Water spray bars shall be located at each unenclosed conveyor and used for wetting of materials and fuel if inherent or previously-applied moisture is insufficient to prevent unconfined PM emissions. Paving of the manufacturing area and access roadways is required.

The primary crusher (Emission Unit 001) and associated conveyors will process wet raw materials mined below the water table. This emissions unit is subject to the following applicable requirements: NSPS Subpart A (General Provisions) and NSPS Subpart OOO (Nonmetallic Mineral Processing Plants) in 40 CFR 60.

Visible emissions from any crusher, at which a capture system is not used, shall not exceed 15% opacity. Visible emissions from any transfer point on belt conveyors or from any other affected facility shall not exceed 10% opacity.

These opacity standards do not apply to truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher. This is consistent with NSPS Subpart OOO requirements.

BACT Summary and $PM_{2.5}$ Considerations. As previously discussed, one key strategy towards control of fine PM emissions, i.e. $PM_{2.5}$ is minimization of SO_2, NO_X, VOC, and ammonia (NH_3) such as from the SNCR system. The following table is a summary of some recent permit limits for pyroprocessing from various projects in Florida and other states. In can be seen that the aggregate of $PM_{2.5}$ precursors (NO_X+SO_2+VOC+) plus PM_{10} from the SCC project is the lowest among the listed projects. The figures include combined emissions for the PH/C and the cooler.

Table 9. Emission Limits in Recent Cement Plant Permits in lb/ton of Clinker.

Plant	NO_X (lb/ton)	SO_2 (lb/ton)	CO (lb/ton)	VOC (lb/ton)	PM_{10} (lb/ton)
Sumter Cement, Center Hill	**1.95**	**0.20**	**2.9**	**.115**	**0.15**
American Cement, Sumterville	1.95	0.20	2.9	0.12	0.15
Florida Rock, Newberry Kiln 2	1.95	0.28	3.6	0.12	0.28
Rinker/FCS, Brooksville Kiln 2	1.95	0.23	3.6	0.12	0.20
Suwannee American, Branford Kiln 2	1.95	0.20	2.9	0.12	0.17
Florida Rock Kiln 1 (1995)	2.8	0.28	3.6	0.12	0.47
Suwannee American Kiln 1 (1999)	2.9	0.27	3.6	0.12	0.28
Drake Cement LLC, AZ (under review)	2.3/1.1	0.06	3.6	0.12	0.21
Holcim Lee, MO (2004)	2.4	1.26	6.0	0.33	0.35
Titan Florida Medley (1999, rev. 2005)	2.17	0.50	2.0	0.14	0.10*
Holcim Holly Hill, SC (2001)	4.33	3.26	6.8	0.27	0.67*
TXI Midlothian, TX (1997, rev. 2005)	2.8	1.33	1.56	0.06	0.12*

The last three entries in the above table include some values that were pursuant to BACT and others accepted to avoid PSD and a BACT determination. The ones relating to non-BACT PM_{10} are specifically noted (*).

The proposal for Drake Cement in Arizona was included because it represents by far the most stringent emission limit for NO_X seriously proposed. The value of 2.3 lb NO_X/ton is proposed as BACT for the Drake project is not especially stringent. The additional limit of 1.14 lb NO_X/ton to be achieved by SNCR (with high NH_3 use) is proposed because of modeling constraints in the Grand Canyon National Park where visibility degradation is the overriding concern.

The Department's NO_X limit represents a compromise between low NO_X emissions and low NH_3 slip. Based on the SNCR testing conducted at SAC and FRI, it is believed that NH_3 emissions will be minimal. This will minimize the formation of ammonium nitrates in the environment. Similarly, the very low SO_2 emissions and low slip will minimize ammonium sulfate/sulfite particulate formation.

Mercury (Hg). A BACT determination was not required for Hg because emissions will be less than 200 lb/year. EPA has the authority to set Hg limits through the MACT process under Section 112 of the Clean Air Act. In its most recent rulemaking that was noticed in the Federal Register on December 2, 2005, EPA addressed the present status of Hg control at cement plants as follows:

"As directed in the court remand, we have reconsidered the issue of MACT floor standards for mercury. We still find that, for existing and new kilns, the MACT floor for mercury is no additional emissions reductions."

The applicant has proposed a limit on Hg emissions of 184 lb/yr. This is less than the de minimus value of 200 lb/yr that would otherwise require a BACT determination. The Department has required compliance demonstration with the annual limits by fuel and raw material sampling and testing. One interesting observation is that, according to operators who rely on this method of compliance, the limestone is the primary source of Hg inputs to the system and comprises about 2/3 of the total.

Following is a graphic representation of the manner by which samples of the inputs will be collected by the operator of the Center hill plant.[34]

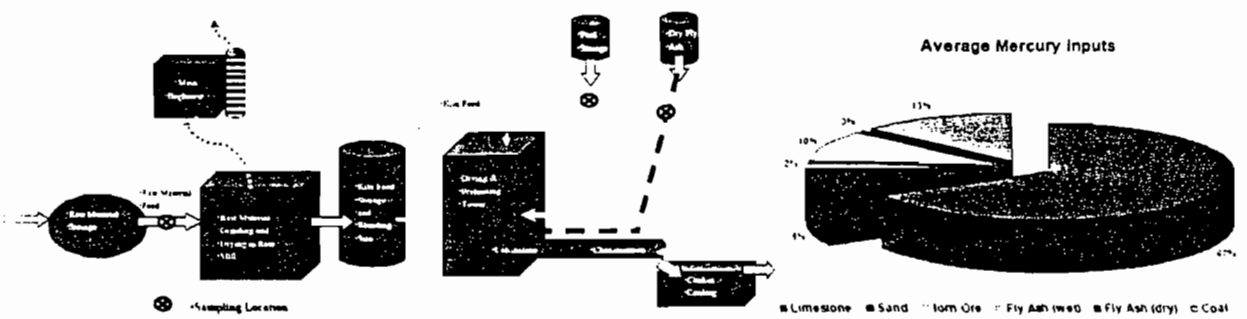

Figure 13. Hg Monitoring Sampling Locations. Sources of Hg into Cement Process.

Several samples are collected on a daily basis from all of the material inputs to the process and then made into a daily composite. The daily composites are made into monthly composites. These monthly composites are then analyzed for the mercury concentrations.

If a monthly sample is below the detection limit, the operator assumes the detection limit which overestimates the amount of Hg input. By assuming that all inputted mercury exits via the stack and no mercury exits via the clinker, conservative estimates of emissions are made that insure annual emissions will be less than the permitted Hg limit. This also insures that emissions will be less than the significant emission rate (SER) of 200 lb/yr that would otherwise require the Department to conduct a BACT determination for this pollutant.

The sum of any 12 month period of the total inputted mercury in the described manner will be less then the permitted Hg limit of 184 lb/yr. Data from existing cement plants that follow the same or similar procedures suggest that emissions will be significantly less than the limit requested. Annual compliance stack tests are the usual alternative to the testing of raw materials. However they do not reflect the full range of Hg emissions under all raw material use scenarios and all operational conditions (such as when the raw mill is on or off).

The annual Hg input proposal will be included in the permit as a limit. The fuel and raw material test method will also be included to initially demonstrate compliance in a conservative manner. Because of concerns about Hg emissions to the environment, the Department believes it is important to measure emissions accurately rather than just conservatively.

The Department is presently writing regulations pursuant to EPA's Clean Air Interstate Rule (CAIR) and the Clean Air Mercury Rule (CAMR). CAMR requires installation of recently developed or improved (3rd Generation) continuous emission monitoring system (CEMS) for Hg at power plants for the purpose of accurately measuring and trading Hg allowances in such a manner that total statewide Hg emissions will be reduced.

Until recently, accurate monitors were not available. In fact several systems were tested by EPA in 1996-97 at the Holcim Holly Hill Cement Plant in South Carolina.[35] According to EPA, the harshness of the cement kiln's exhaust gas stream was concluded as a major cause of the test program's lack of success. The cement kiln chosen was not equipped with acid gas controls and had relatively high PM loading, resulting in severe interferences and operational difficulties for the CEMs.[36]

The latest Hg CEMS undergoing evaluation by EPA are more accurate and precise and less susceptible to some of the interferences. Additionally, SO_2 emissions (one of the specific interfering species for certain Hg-CEMS) from cement plants in Florida are very low compared with emissions from plants in South Carolina. For example the Holly Hill Plant has a limit of 3.6 lb SO_2/ton (even greater when the tests were performed), whereas Florida plants emit less than 0.3 lb SO_2/ton and often as low as 0.01 lb SO_2/ton. The environment of cement plants in Florida is not as harsh as the Holly Hill Plant that employed a wet process and burned hazardous waste. Acid gases from the Florida cement plants are greatly limited by BACT, hazardous waste is not allowed and the PM emissions are low.

The Department concludes that the 3rd generation CEMS will be available and reasonably accurate by the time the Center Hill Cement Plant starts operation. Therefore the Department will require SCC to install a mercury CEMS during the second year of operation and about the same time that the power plants in Florida will install similar equipment. The Department notes that several citizens sent letters to the Department requesting installation of a "prototype" Hg-CEMS.[37] The Department believes that a proven model of CEMS will actually be available.

VII. AIR QUALITY ANALYSIS REVIEW

A. INTRODUCTION

The proposed project will increase emissions of five pollutants at levels in excess of PSD significant amounts: PM/PM_{10}, CO, NO_X, SO_2 and VOC. PM_{10}, SO_2 and NO_X are criteria pollutants and have national and state ambient air quality standards (AAQS), PSD increments, significant impact levels and de minimis monitoring levels defined for them. CO is a criteria pollutant and has only AAQS, significant impact levels and de minimis monitoring levels defined for it. There are no applicable PSD increments, AAQS, significant impact or de minimis monitoring levels for VOC. However, VOC is a precursor to a criteria pollutant, ozone; and any net increase of 100 tons per year of VOC requires an ambient impact analysis including the gathering of preconstruction ambient air quality data.

The air quality impact analyses required by the PSD regulations for these pollutants include:

- An analysis of existing air quality for PM_{10}, SO_2, NO_X, CO and VOC;
- A significant impact analysis for PM_{10}, SO_2, NO_X and CO;
- A PSD increment analysis for PM_{10};
- An Ambient Air Quality Standards (AAQS) analysis for PM_{10}; and
- An analysis of impacts on soils, vegetation, visibility and growth-related air quality impacts.

The analysis of existing air quality generally relies on preconstruction monitoring data collected with EPA-approved methods. The significant impact, PSD increment, and AAQS analyses depend on air quality dispersion modeling carried out in accordance with EPA guidelines. Based on the required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the conditions of approval proposed herein, will not cause or significantly contribute to a violation of any AAQS or PSD increment. A discussion of the required analyses follows.

B. ANALYSIS OF EXISTING AIR QUALITY IN THE VICINITY OF THE PROJECT

Sources of Air Pollution in Sumter and Contiguous Counties

Sumter County is basically a rural county without much industry. However there is significant industry in the surrounding contiguous counties and all are characterized by significant commercial and population growth.

The following table was prepared to shed light on some of the present contributors to the pollutant loading in the general area (other than traffic). One key facility was selected from each of the contiguous counties to provide a sense of proportion to the additional emissions from the proposed project. Most of the values are taken from the permitted emission limits. However some power plant NO_X and SO_2 values (*) represent actual emissions per the "4Q2004 Reports" on the EPA Air Markets Website at: www.epa.gov/airmarkets/emissions/prelimarp/index.html

Table 10. Annual Emissions (TPY) from Some Key Sources in Contiguous Counties.

Plant	NO_X	SO_2	CO	VOC	PM
Center Hill Cement Plant, Sumter	**1,675**	**232**	**3,088**	**99**	**438**
Crystal River Power Plant, Citrus	35,000*	94,000*			13,000
Lakeland McIntosh Power Plant, Polk	4,900*	6,900*			2,300
Rinker/Central Power & Lime, Hernando	5,277	3,420			398
Lake County RRF	870	189	141		56
Anclote Power Plant, Pasco	10,700*	33,000*			4,300
Merrilat Industries, Marion				411	

It is obvious from the above table that power plant emissions are the most important emissions in the contiguous counties. Additionally, there are very significant emissions in the more industrialized of these counties, especially Polk County. Polk County is the largest phosphate fertilizer producing area in the United States and includes numerous sources of PM and SO_2 (sulfuric acid production).

Sources in the counties surrounding the described region are also typically of the same kinds that has been described, including e.g. power plants in Orange, Osceola, Volusia, Alachua, Hillsborough, and Pinellas Counties. Similarly there are fertilizer plants, orange juice facilities, etc. Furthermore the wider swath includes the more heavily populated and fast growing cities of Tampa, Daytona St. Petersburg, Orlando. The traffic from these population centers provides the greatest contributions to VOC and CO as well as substantial emissions of NO_X.

Air Quality and Monitoring in Sumter and Adjacent Counties

The State of Florida operates a large ambient air quality monitoring network. Basically monitors are located to characterize background ambient air quality, air quality in populated areas, and air quality at areas of greatest impact from industrial activities.

The map on the following page shows the location of the monitors nearest to the proposed project site. The ozone monitor in Lake County is representative of the entire in-land region because ozone formation is a wide scale phenomenon. The CO and NO_X monitors reflect a combination of industrialized and populated areas. The SO_2 monitor is located at a point of maximum expected impacts from sources in the Tampa Bay area. The PM_{10} monitor is representative of rural areas.

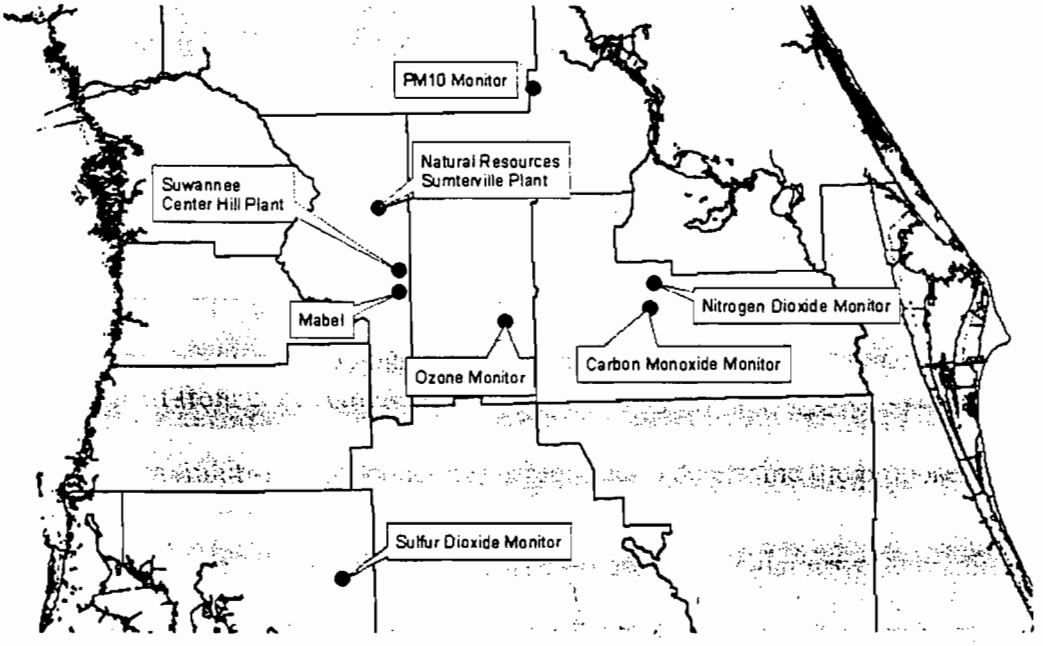

Figure 14. Monitor Locations Nearest to the Proposed Center Hill Site.

The monitoring locations are all in attainment with the respect to the NAAQS. It is reasonable to conclude that pollutant concentrations in Sumter are also in attainment of the NAAQS. Measured ambient air quality information is summarized in the following table:

Table 11. Ambient Air Quality Nearest to Project Site (2003)

Pollutant	Location	Averaging Period	Ambient Concentration				
			High	2nd High	Mean	Standard	Units
PM_{10}	Ocala National Forest	24-hour	42	39		150 [a]	ug/m^3
		Annual			17	50 [b]	ug/m^3
SO_2	Plant City	3-hour	35	27		500 [a]	ppb
		24-hour	9	8		100[a]	ppb
		Annual			2	20 [b]	ppb
NO_2	Orlando	Annual			11	53 [b]	ppb
CO	Orlando	1-hour	3	3		35 [a]	ppm
		8-hour	2	2		9 [a]	ppm
Ozone	Clermont	1-hour	0.102	0.09		0.12 [C]	ppm
		8-hour	0.086	0.081		0.08 [C]	ppm

a - Not to be exceeded more than once per year
b - Arithmetic mean
c - Not to be exceeded on more than an average of one day per year over a three-year period

The measured values of all pollutants are all less than the respective National Ambient Air Quality Standards (NAAQS). Based on local emission trends, it is not likely that ground-level concentrations will approach the NAAQS levels. The exception is ozone because it is formed from precursors that are clearly available (NO_X and VOC). The precursors are more available during drought years. The tendency to form ozone is accentuated by hot ambient temperature, high pressure, and relatively low wind speed.

Preconstruction Ambient Monitoring Requirements

A preconstruction monitoring analysis is done for those pollutants with listed de minimis impact levels. This monitoring requirement may be satisfied by using previously existing representative monitoring data, if available. An exemption to the monitoring requirement shall be granted by rule if either of the following conditions is met:

- The maximum predicted air quality impact resulting from the projected emissions increase, as determined by air quality modeling using emissions at worst load conditions as inputs to the models, is less than a pollutant-specific de minimis ambient concentration; or
- The existing ambient concentrations are less than a pollutant-specific de minimis ambient concentration.

If preconstruction ambient monitoring is exempted, determination of background concentrations for PSD significant pollutants with established AAQS may still be necessary for use in any required AAQS analysis. These concentrations may be established from the required preconstruction ambient air quality monitoring analysis or from the existing representative monitoring data. The background ambient air quality concentrations are added to pollutant impacts predicted by modeling and represent the air quality impacts of sources not included in the modeling.

The table below shows project air quality impacts for comparison to de minimis ambient concentrations.

Table 12. Maximum Air Quality Impacts Compared with De Minimis Impact Levels

Pollutant	Averaging Time	Max Predicted Impact (ug/m^3)	De Minimis Level (ug/m^3)	Baseline (ug/m^3)	Impact Greater Than De Minimis?
PM_{10}	24-hour	62	10	~63	YES
NO_2	Annual	0.4	14	~21	NO
SO_2	24-hour	0.7	13	~23	NO
CO	8-hour	22	575	~2300	NO

As shown in the table SO_2, NO_2 and CO impacts from the project are predicted to be less than the de minimis levels; therefore, preconstruction monitoring is not required for these pollutants. As will be shown in the significant impacts section of this evaluation, CO, SO_2 and NO_2 emissions are not predicted to have significant impacts; therefore no further modeling for these pollutants is required, and no background concentrations need to be determined.

However, the table shows that PM_{10} impacts from the project are predicted to be greater than the corresponding de minimis level. The Maximum Predicted Impact for PM_{10} shown in the Table above is based on data that includes concentrations within the proposed project's property line. This is more conservative than what the Department requires. Modeled impacts for purposes of PSD ambient air quality analyses require only results of impacts from the property-line and beyond.

Regardless, the applicant is not exempt from preconstruction monitoring for PM_{10}. The applicant may, instead, satisfy this requirement using previously existing representative data. Previously existing representative monitoring data do exist from a PM_{10} monitor located in the adjacent county. The following table summarizes the monitoring data.

Table 13. PM_{10} Monitor Data for Background Concentrations

Years	Monitor Location	Concentration (ug/m^3) High, 1st high 24-hour average	Arithmetic Mean Concentration (ug/m^3) Annual Average
1999 - 2003	Lake County	63	20

VOC emissions are predicted to be less than the de minimis emission rate that could otherwise require modeling. However, the existing ozone monitor in Clermont is representative of the entire region (i.e. Sumter County and inland portions of contiguous counties). Finally, the additional loading of VOC is not enough to impact the ozone monitor reading within the two significant figures (even if it was located in Sumter County).

C. Models and Meteorological Data Used in Significant Impact, PSD Increment and AAQS Analyses

The air quality models used are those listed in the "Guideline on Air Quality Models" in Appendix W of 40 CFR Part 51.

PSD Class II Area

The EPA-approved Industrial Source Complex Short-Term (ISCST3) dispersion model was used to evaluate the pollutant emissions from the proposed project in the surrounding Class II Area. This model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area, and volume sources. It incorporates elements for plume rise, transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition.

The ISCST3 model allows for the separation of sources, building wake downwash, and various other input/output parameters. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfied the good engineering practice (GEP) stack height criteria.

Meteorological data used in the ISCST3 model consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from Tampa. The 5-year period of meteorological data was from 1991 through 1995. This airport station was selected for use in the study because it is the closest primary weather station to the study area and is most representative of the project site. The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling.

The modeling source inputs consisted of point, volume and area sources. The roadway sources, which include both paved and unpaved roads, were subdivided into 89 area source segments for the whole facility. Characterization of road sources as area sources is generally more conservative than characterizing them as volume sources. The process-related fugitive sources were characterized as 28 volume and 2 area sources for the whole facility in the modeling inputs.

The building configuration at the plant consists of multiple building complexes and many out-buildings used for storage, maintenance, etc. The dimensions of these buildings and structures were used in the modeling to determine downwash impacts.

The applicant provided the Department with plot plans and electronic files representing the property and all sources, buildings, and fence line used in the modeling.

In reviewing this permit application, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in NRDC v. Thomas, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification should EPA revise the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators.

PSD Class I Area

The nearest distances of this site from the Chassahowitzka National Wilderness Area (CNWA), Okefenokee National Wilderness Area (ONWA), St. Marks National Wilderness Area, and Bradwell Bay National Wilderness Areas are 61, 219, 250 and 297 kilometers, respectively. Since the PSD Class I areas evaluated for impacts are greater than 50 km from the proposed facility, long-range transport modeling was required for the Class I impact assessments. The California Puff (CALPUFF) dispersion model was used to evaluate the potential impact of the proposed pollutant emissions on the PSD Class I increments and the Air Quality Related Values (AQRVs), regional haze and sulfur/nitrate deposition for the Class I areas within 300 km.

CALPUFF is a non-steady state, Lagrangian, long-range transport model that incorporates Gaussian puff dispersion algorithms. This model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, line, area, and volume sources. The CALPUFF model has the capability to treat time-varying sources. It is also suitable for modeling domains from tens of meters to hundreds of kilometers, and has mechanisms to handle rough or complex terrain situations. Finally, the CALPUFF model is applicable for inert pollutants as well as pollutants that are subject to linear removal and chemical conversion mechanisms.

CALPUFF was run in screening mode using extended ISCST3 meteorological input data. The hourly surface weather observations and twice-daily upper air soundings from the National Weather Service (NWS) station at Tampa (1986-1990) were used.

C. SIGNIFICANT IMPACT ANALYSIS

Significant Impact Levels (SILs) are defined for PM/PM_{10}, CO, NO_X and SO_2. A significant impact analysis is performed on each of these pollutants to determine if a project can even cause an increase in ground level concentration greater than the SIL for each pollutant. In order to conduct a significant impact analysis, the applicant uses the proposed project's emissions at worst load conditions as inputs to the models. The highest predicted short-term concentrations and highest predicted annual averages predicted by this modeling are compared to the appropriate SILs for the PSD Class I (CNWA) and PSD Class II Areas (everywhere except the Class I areas).

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

Modeling to determine significance in the PSD Class II area in the vicinity of the project was conducted using a polar receptor grid. The polar grid consisted of 10 rings centered at the Kiln extending out to 7.5 km, consisting of 3600 total receptors.

The applicant's initial PM/PM_{10}, CO, NO_X, and SO_2 air quality impact analyses for this project indicated that maximum predicted impacts from all pollutants are less than the applicable SILs for the Class II area except for PM_{10}. These values are tabulated in the table below and compared with existing ambient air quality measurements from the local monitoring network.

Table 14. Maximum Projected Air Quality Impacts from Center Hill Cement Project for Comparison to the PSD Class II Significant Impact Levels

Pollutant	Averaging Time	Max Predicted Impact (ug/m^3)	Significant Impact Level (ug/m^3)	Baseline Concentrations (ug/m^3)	Ambient Air Standards (ug/m^3)	Significant Impact?
SO_2	Annual	0.05	1	~5	60	NO
	24-Hour	0.7	5	~24	260	NO
	3-Hour	3	25	~91	1300	NO
PM_{10}	Annual	13	1	~20	50	YES
	24-Hour	62	5	~63	150	YES
CO	8-Hour	22	500	~2300	10,000	NO
	1-Hour	96	2000	~3450	40,000	NO
NO_2	Annual	0.4	1	~21	100	NO

It is obvious that maximum predicted impacts from the project are much less than the respective AAQS. PM_{10} was determined to have greater than significant impacts in the Class II area. The PM_{10} concentrations, as stated above, are from receptors located within the plant property boundary and are therefore more conservative.

In the Class II area, the significant impact distance is the critical distance and determines the Significant Impact Area (SIA) over which additional multi-source modeling is required. The SIA is defined as a circular area centered on the proposed source with a radius equal to the critical distance. The SIA was established for the annual and 24-hour averaging period for PM_{10} for every year of meteorological data. The SIA over which NAAQS and increment compliance modeling is performed, is the largest of these areas. The SIA based on maximum predicted ambient air concentrations of PM_{10} for all periods was 4 km.

The nearest PSD Class I area is the CWNA located about 61 km from the project site. Maximum air quality impacts from the proposed project are summarized in the following table.

Table 15. Maximum Air Quality Impacts from the Center Hill Cement Project for Comparison to the PSD Class I SILs at CWNA

Pollutant	Averaging Time	Max. Predicted Impact at Class I Area (ug/m^3)	Class I Significant Impact Level (ug/m^3)	Significant Impact?
PM_{10}	Annual	0.02	0.2	NO
	24-hour	0.2	0.3	NO
NO_2	Annual	0.06	0.1	NO
SO_2	Annual	0.01	0.1	NO
	24-hour	0.16	0.2	NO
	3-hour	0.4	1	NO

The results of the initial PM/PM_{10}, NO_X and SO_2 air quality impact analyses for this project indicated that maximum predicted impacts from SO_2, PM_{10}, and NO_2 are less than the applicable SILs for the Class I areas. Therefore no further detailed modeling efforts are required.

It can be assumed that Class I Areas even further away (such as Everglades, Okeefenokee, and St. Marks) from the proposed project than the CWNA will experience less impacts than noted above.

D. PSD Increment Analysis

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant over a baseline level set in 1977. Refined Class I and II Increment compliance modeling is performed only if the Significant Impact Analysis indicates that the project would have a significant impact on air quality. The purpose of this increment compliance modeling is to demonstrate that the new sources will not significantly cause or contribute to a violation of a PSD increment.

This modeling involved the sources under review as well as sources from within and near the SIA in the inventory prepared by the Department and the applicant using approved screening techniques for determining the sources to be included in the modeling analysis. These runs were to identify regulatory high receptors, high-first-high for each year for the PM_{10} annual average, and high-second-high over the five years for the 24-hour average.

The applicant submitted a PSD Class II increment analysis based on 25 meter receptor spacing along the fence line and a Cartesian receptor grid. The fenceline grid consisted of receptors no further than 25 meters from either edge of road into and out of the facility. The Cartesian grid consisted of a grid with 100 meter spacing from the origin out to 2 km, 500 meter spacing from 2 km to 5 km and 1000 meter spacing from 5 km out to 10 km. All maximum concentrations were then refined by using a 100 meter grid. Cartesian receptors within the plant boundary were excluded. The results of the PM_{10} Class II increment analysis are given below and show that the maximum predicted impacts are less than the respective allowable increments.

Table 16. PSD Class II Increment Analysis

Pollutant	Averaging Time	Maximum Predicted Impact ($\mu g/m^3$)	Impact > Allowable Increment? (Yes/No)	Allowable Increment ($\mu g/m^3$)
PM_{10}	Annual	7	No	17
PM_{10}	24-hr	29.8	No	30

The predicted long-term maximum annual impact is well below the allowable increment. The predicted short-term maximum 24-hour impact is just below the allowable increment, and is located on the property line nearby a road leading in/out of the facility. The maximum predicted PM_{10} increment consumption values drop off rapidly with distance from the property line.

The highest PM_{10} impacts from the proposed project are on the property boundary of the facility. Another proposed cement plant in Sumter County, Sumterville Cement, Natural Resources (American Cement), also showed that their highest PM_{10} impacts were on their property boundary. This suggests that PM_{10} impacts due to this project would not be or would be minimally influenced by Sumterville Cement. The applicant for Sumterville Cement modeled this proposed project as a source in their ambient air quality analysis and remained in compliance with the PM_{10} Increment. Mabel is a proposed cement plant closest to the Center Hill project. However, the application for the Mabel project is incomplete at this time. A map showing the proposed cement plants in Sumter County is on the following page.

E. AMBIENT AIR QUALITY STANDARDS (AAQS) ANALYSIS

AAQS compliance modeling was performed for PM_{10} because the Significant Impact Analysis indicated that the new sources would have a significant impact on air quality. The purpose of AAQS compliance modeling is to demonstrate that the new sources will not cause or contribute to a violation of an AAQS. AAQS compliance modeling addressed all areas within the SIA. The applicant used the same methods, sources and grids that were in the Increment Analysis. The table on the following page gives the results and shows that maximum predicted impacts are less than the AAQS.

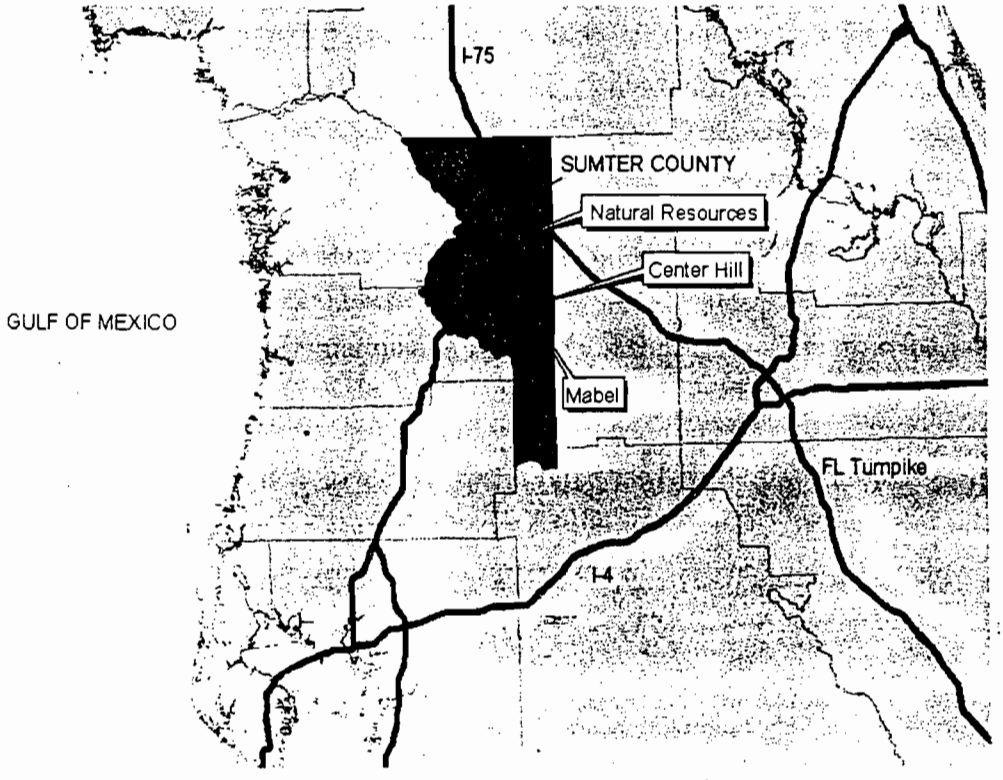

Figure 15. Locations of Proposed Cement Plants in Sumter County.

Table 17. Ambient Air Quality Impacts

Pollutant	Averaging Time	Major Sources Impact ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	Total Impact Greater than AAQS	Florida AAQS ($\mu g/m^3$)
PM_{10}	Annual	7	20	27	No	50
PM_{10}	24-hr	29.8	63	92.8	No	150

Good Engineering Practice Stack Height Determination

A Good Engineering Practice (GEP) review was conducted for each proposed new source to determine if building downwash effects needed to be included in the modeling and to determine the appropriate stack heights to be used with the models. The new stacks will be lower than GEP height; therefore building downwash effects were included in the modeling analyses.

F. Additional Impact Analysis

Impacts on Soils, Vegetation, and Wildlife

The impacts to ambient air resulting from emissions of PM_{10} are well below the applicable National Ambient Air Quality Standards. Compliance with PSD Class II increments establishes an effective ambient air quality standard that is much more stringent than the ambient air quality standards.

As part of the Additional Impact Analysis, Air Quality Related Values (AQRV) are evaluated with respect to the Class I areas within 300 km. This includes the analysis of sulfur and nitrogen deposition. The CALPUFF model is also used in this analysis to produce quantitative impacts. The results of the analysis show that sulfur deposition rates are less than the significant impact levels (0.01 kg/ha/yr) determined by the National Park Service. According to the applicant, the maximum predicted deposition rate of sulfur is 0.008 kg/ha/yr. The results of the analysis show that nitrogen deposition rates are higher than the significant impact levels in the CWNA as (0.01 kg/ha/yr) determined by the National Park Service. According to the applicant, the maximum predicted deposition rate of nitrogen is 0.026 kg/ha/yr. The National Park Service has received the application for Center Hill Cement. The Department has not received any comments or concerns regarding this project.

Impact on Visibility and Regional Haze

The applicant submitted a regional haze analysis for the Class I Areas within 300 km. The analysis included modeling from the CALPUFF model. The CALPUFF model predicted modeled impacts well below the 5% visibility impairment based on criteria from the NPS for the proposed project.

It is equally important to put this evaluation into the context of the large scale emission reductions expected in the State of Florida as a result of the Clean Air Interstate Rule. According to EPA's projections, CAIR will help Florida sources reduce emissions of SO_2 by 308,000 tons or 65%. Substantial reductions of the $PM_{2.5}$ and ozone precursors and will occur at the power plants in the counties that are contiguous to Sumter County. EPA's assessment of benefits for the State of Florida can be reviewed at: www.epa.gov/CAIR/state/fl.html

Table 18. EPA's Projections of Power Plant SO_2 and NO_X Reductions in Florida.

Pollutant	2003	2010	2015
SO_2 Emissions	475,000	218,000	167,000
NO_X Emissions	253,000	69,000	61,000

By comparison, the emission increases expected due to new cement plants will not reverse the present and expected continuation of the trend towards less $PM_{2.5}$ and ozone precursor emissions and their impacts in the Sumter County area. In fact the reductions will ameliorate some of the past regional impacts on soils, vegetation and wildlife.

Similarly, other existing industries will be required to reduce emissions by installing "Best Available Retrofit Technology" (BART) if they have contributed to degradation of visibility. These reductions will also be very significant in comparison with the possible increases due to cement plant projects in Sumter County. Many of the affected facilities are within 100 miles of Sumter County.

For more information about CAIR and BART, consult the Department's Webpage on these topics at: www.dep.state.fl.us/air/rules.htm . The list of facilities potentially affect by BART is at: www.dep.state.fl.us/air/rules/specialprojects/cair/BART-Eligible_Source_List.pdf .

Growth-Related Impacts Due to the Proposed Project

Operation of the project will require approximately 118 new permanent employees, which will cause no significant impact on the local area. Rather than causing significant growth in the area, the project is a response to very substantial growth in Sumter and the contiguous or adjacent counties. Construction of the plants will reduce the level of expected cement importation particularly from abroad.

VIII. CONCLUSION

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 PSD application, reasonable assurances provided by the applicant, the draft determinations of Best Available Control Technology (BACT), review of the air quality impact analysis, and the conditions specified in the draft permit.

Deborah Nelson is the project meteorologist responsible for reviewing the submitted air quality impact analysis and conducting the Department's analysis. She may be contacted at 850-921-9537 and deborah.nelson@dep.state.fl.us . Cindy Mulkey is responsible for reviewing the application, and preparing the draft permit. She may be contacted at 850-921-9529 and cindy.mulkey@dep.state.fl.us . Alvaro Linero is the project engineer responsible for preparing the draft BACT determination and sealing the evaluation. He may be contacted at 850-921-9523 and alvaro.linero@dep.state.fl.us .

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PERMITTEE:

Sumter Cement Company, LLC
Post Office Box 410
Branford, Florida 32008

Authorized Representative:
Dan Fritz, CEO/President

DEP File No. 1190041-001-AC
Air Permit No. PSD-FL-358
Center Hill Cement Plant
Expiration date: June 30, 2010

PROJECT AND LOCATION

This permit authorizes the construction of a greenfield portland cement plant with a dry process preheater/calciner kiln, in-line raw mill, clinker cooler and associated materials handling, storage, conveyance and shipping facilities. The nominal capacity is 1,715,500 tons per year of clinker. The project will be located in the town of Center Hill, Sumter County.

STATEMENT OF BASIS

The 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 project was processed in accordance with the requirements of Rule 62-212.400, F.A.C., the preconstruction review program for the Prevention of Significant Deterioration (PSD) of Air Quality. The permittee is authorized to perform the proposed work in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

The attached Appendices are made a part of this permit:

Appendix BD	Final BACT Determination and Emissions Standards
Appendix C	Common State Rules
Appendix GC	Construction Permit General Conditions
Appendix LLL	NESHAP Subpart LLL Requirements
Appendix OOO	NSPS Subpart OOO Requirements
Appendix Y	NSPS Subpart Y Requirements

(DRAFT)

Michael G. Cooke, Director
Division of Air Resources Management

Effective Date: _____

FACILITY DESCRIPTION

The proposed facility will be a dry process greenfield portland cement plant incorporating a dry process kiln with a preheater and calciner (PH/C). The nominal capacity is 1,715,500 tons per year of clinker. Major equipment associated with the main components of the plant will include the following:

- A raw materials storage building (MSB) and a limestone storage building;
- A primary crusher at the quarry and belt conveyors to MSB;
- Raw material piles stored inside of the storage buildings. The piles will include limestone, alumina sources (e.g. bauxite and coal ash), iron sources (e.g. mill scale, slag, and iron ore), silica sources (e.g. sand, and clay), and additives (e.g. feldspar, and gypsum);
- Materials handling equipment including reclaimers, stackers, belt conveyors, covered conveyors from the MSB and limestone storage building to the raw mill, control system/analyzer, etc.;
- An in-line raw mill that simultaneously dries raw materials using the exhaust gas from the kiln, PH/C, and clinker cooler;
- A preheater with staged combustion calciner and selective non-catalytic reduction (SNCR) system;
- An air heater for use when additional drying capacity is required;
- A nominal 12,000 ton per day blending silo;
- An indirect-firing system with a Low NO_X main kiln burner capable of burning coal, petroleum coke, fuel oil, and natural gas;
- A whole tire feeder and/or tire gasification system.
- A clinker cooler with cooling air fans, and hot air ducting to the kiln, PH/C, and raw mill;
- Clinker storage and grinding including two finish mills with air separators, clinker silos with metering devices, limestone and gypsum bins and associated conveyors;
- Cement transfer and storage silos, truck loadouts and packhouse; and
- A nominal 28.4 TPH coal and/or petroleum coke grinding system with associated mill, storage facility, associated conveyors, and equipped with a fabric filter baghouse.

REGULATORY CLASSIFICATION

Title III: The cement plant will be a major source of hazardous air pollutants (HAP).

Title V: The cement plant will be a Title V major source in accordance with Chapter 62-213, F.A.C. because the potential emissions of at least one regulated pollutant exceed 100 tons per year. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO_X), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

PSD: The facility is located in an area that is designated as "attainment", "maintenance", or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard. It is classified as a "portland cement plant", which is one of the 28 Prevention of Significant Deterioration (PSD) Major Facility Categories with the lower PSD applicability threshold of 100 tons per year. Potential emissions of at least one regulated pollutant exceed 100 tons per year, therefore the facility is classified as a major source of air pollution with respect to Rule 62-212.400 F.A.C., Prevention of Significant Deterioration of Air Quality.

NSPS: Portions of the cement plant are subject to the following New Source Performance Standards (NSPS) in 40 CFR 60: Subpart A (General Provisions); Subpart Y (Coal Preparation Plants); and Subpart OOO (Non Metallic Mineral Processing). Any affected source subject to the provisions of 40 CFR 63, Subpart LLL

(Portland Cement Manufacturing Industry) is exempt from any otherwise applicable new source performance standard contained in 40CFR 60, Subpart F (Portland Cement Plants).

NESHAP: Portions of the cement plant are subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) in 40 CFR 63: Subpart A (General Provisions); and Subpart LLL (Portland Cement Manufacturing Industry).

State Rules: The cement plant is subject to state Rule 62-296.407, F.A.C. (Portland Cement Plants).

EMISSIONS UNITS

This permit authorizes the construction of a new Portland cement plant. The project includes the following new emissions units:

EU ID	Emissions Unit Description
001	(CH-1) - Primary Crushing, and Associated Conveyors. Includes front end loaders to primary crusher, primary crusher operation, base rock and limestone conveyors to base rock storage pile and limestone storage building.
002	(CH-2) - Raw Material Conveying and transfer to and from storage piles.
003	(CH-3) - Raw Material Processing and Storage. Including raw material transport from raw mill to blend silo, blend silo, fly ash silo, and kiln feed and fly ash transport to kiln.
004	(CH-4) - Pyroprocessing System. Includes preheater/precalciner kiln with in-line raw mill, clinker cooler and air heater.
005	(CH-5) - Clinker Storage and Conveying. Includes clinker transport from kiln; clinker, limestone, and gypsum silos; and clinker, limestone and gypsum conveying to finish mills.
006	(CH-6) - Finish Mills Cement Processing. Includes two finish mills, cement silos, packaging plant and truck loadout.
007	(CH-7) - Coal and Petroleum Coke Grinding System. Includes coal mill and ground coal/petroleum bins.
008	(CH-8) – Coal and Petroleum Coke Conveying. Includes coal/petroleum coke handling and conveying from unloading to storage bins.
010	(CH-10, CH-11) – Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads.

RELEVANT DOCUMENTS

The documents listed are not a part of this permit; however, this information is specifically related to the permitting action and is on file with the Department.

- Application received on June 16, updated September 8, 2005
- Department's Request for Additional Information dated October 9, 2005
- Response to Request for Additional Information Received October 21, 2005
- Public Notice of Application published December 1, 2005
- Department's Technical Evaluation and Preliminary Determination dated December 21, 2005
- Department's Intent to Issue and Public Notice Package dated December 21, 2005
- Department's Final Determination and Best Available Control Technology Determination issued concurrently with this Final Permit

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. Copies of all such documents shall also be submitted to the Compliance Authority. 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 Resources Section of the Department's Southwest District Office at 13051 N. 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 N. Telecom Parkway, Temple Terrace, FL 33637-0926.

3. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403 of the Florida Statutes (F.S.); Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.); and Title 40, Parts 51, 52, 60, 63, 72, 73, and 75 of the Code of Federal Regulations (CFR) adopted by reference in Rule 62-204.800, F.A.C. The terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]

4. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports, and submit an application for a Title V operation permit to the Department. Approval to construct shall become invalid for any of the following reasons: construction is not commenced within 18 months after issuance of this permit; construction is discontinued for a period of 18 months or more; or construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. In conjunction with an extension of the 18-month period to commence or continue construction (or to construct the project in phases), the Department may require the permittee to demonstrate the adequacy of any previous determination of Best Available Control Technology (BACT) for emissions units regulated by the project. For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, 62-210.300(1), and 62-212.400(6)(b), F.A.C.; 40 CFR 52.21(r)(2); 40 CFR 51.166(j)(4)]

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. Relaxations of Restrictions on Pollutant Emitting Capacity. If a previously permitted facility or modification becomes a facility or modification which would be subject to the preconstruction review requirements of this rule if it were a proposed new facility or modification solely by virtue of a relaxation in any federally enforceable limitation on the capacity of the facility or modification to emit a pollutant (such as a restriction on hours of operation), which limitation was established after August 7, 1980, then at the time of such relaxation the preconstruction review requirements of this rule shall apply to the facility or modification as though construction had not yet commenced on it. [Rule 62-212.400(2)(g), F.A.C.]

7. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rule 62-4.030 and Chapters 62-210 and 62-212, F.A.C.]

8. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Primary Crushing

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

EU ID	Emission Unit Description
001	(CH-1) - Primary Crushing, and Associated Conveyors. Includes front end loaders to primary crusher, primary crusher operation, base rock and limestone conveyors to base rock storage pile and limestone storage building

The primary crushing and conveying system contains the following emission points.

Point ID	Emissions Point Description
CH-1-1	Primary Crushing and Conveying – loader to primary crusher, primary crusher, and conveyors
CH-1-2	Base Rock Conveying – belts to radial stacker
CH-1-3	Limestone Conveying - belts

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for, particulate matter (PM/PM_{10}). To satisfy the BACT requirements for this unit the visible emissions limits are surrogate standards for PM.

2. NSPS Requirements: This unit shall comply with all applicable requirements of 40 CFR 60, Subparts A (General Provisions) and OOO (Nonmetallic Mineral Processing Plants) adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NSPS provisions. Some separate reporting and monitoring may be required by the individual subparts.

EQUIPMENT DESCRIPTION

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the raw material quarrying, crushing, and storage operation. Equipment will include a primary crusher at the quarry, and an enclosed limestone storage building (LSB) which will house the limestone storage piles. Enclosed belt conveyors will be constructed between the crusher and the LSB. Open conveyors will transport base rock to the base rock storage pile. [Applicant Request]

PERFORMANCE REQUIREMENTS

4. Hours of Operation: This emissions unit system is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C.]

5. Process Rate Specification: The crusher may process up to 2,143 tons per hour (TPH) of raw materials. No more than 3,798,428 tons of raw materials shall be processed during any consecutive 12 months.

   {Permitting Note: The process rate includes an estimated raw materials moisture content of 17% by weight.}

   [Rules 62-210.200 (PTE) and 62-4.070(3), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

6. Visible Emission Standards: These opacity standards do not apply to truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher.

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

b. Fugitive emissions from any transfer point on belt conveyors or from any other affected facility shall not exceed 10% opacity.

[Rule 62-212.400(BACT), F.A.C.; and 40 CFR 60, Subpart OOO]

7. Visible Emissions Tests: Compliance with the visible emission limits shall be determined by conducting EPA Method 9 tests. Initial tests shall be conducted 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup. Thereafter, the permittee shall demonstrate compliance during each federal fiscal year (October 1st to September 30th) for the primary crusher. Tests shall be conducted in accordance with the applicable requirements in Appendix C of this permit as well as the applicable NSPS provisions.

REPORTING AND RECORD KEEPING

8. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C., and 40 CFR 60, Subpart OOO]

9. Process Rate Information: The permittee shall maintain records of the monthly processing rate. Such reports shall be recorded and available for inspection no later than 10 days following the end of the month.

B. Raw Materials Conveying and Transfer

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

EU ID	Emissions Unit Description
002	(CH-2) - Raw Material Conveying and transfer to and from storage piles.

The raw materials conveying and transfer systems contain all emission points associated with the following areas:

- Limestone Pile Handling
- Wet Coal Ash Hopper Building
- Wet Coal Ash Pile Handling
- Clay/Sand Hopper Building
- Clay/Sand Pile Handling
- Steel Slag Pile Handling
- Bauxite Pile Handling
- Limestone Conveying
- Wet Coal Ash Conveying
- Wet Coal Ash Conveying
- Clay/Sand Conveying
- Bauxite Conveying
- Steel Slag/Iron Ore/Mill Scale Conveying
- Crossbelt Analyzer
- Raw Mill Feed Conveying
- Gypsum/Limestone Conveying to Finish Mills

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for, particulate matter (PM/PM_{10}). To satisfy the BACT requirements for this unit the visible emissions limits are surrogate standards for PM.

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the conveyance and handling of the raw materials. Equipment will include reclaimers, conveyors, belts, loaders, hoppers, and a crossbelt analyzer. [Applicant]

PERFORMANCE REQUIREMENTS

4. Hours of Operation: This emissions unit system is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

5. Visible Emissions Standards: Fugitive emissions from any emissions point shall not exceed 5% opacity. [Rule 62-212.400(BACT)]

6. Compliance Demonstrations: Each emission point shall be tested to demonstrate initial compliance with the emission standards for visible emissions in accordance with EPA Method 9. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emission limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rules 62-4.070(3), 62-297.310(7)(a), F.A.C. and 40 CFR 63.1349(b)(2)]

7. Periodic Monitoring Requirements: Each affected source subject to an opacity standard shall be periodically monitored using the procedures described in 40 CFR 63.1350(a) (4) (i) through (vii) to ensure compliance with the emissions limits of condition No. 6. [Rule 62-4.070(3), and 40 CFR, 63.1350, Subpart LLL]

8. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NESHAP provisions.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources
22	Visual Determination of Fugitive Emissions From Material Sources

REPORTING AND RECORD KEEPING

9. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

C. Raw Material Processing and Storage

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

ID No.	Emissions Unit Description
003	(CH-3) - Raw Material Processing and Storage. Including raw material transport from raw mill to blend silo, blend silo, fly ash silo, and kiln feed and fly ash transport to kiln.

The following emissions points in the raw materials processing and storage system are controlled by fabric filter baghouses.

Point ID	Emissions Point Description
NDC-01	Raw Material Transport From Raw Mill to Homogenizing Silo
NDC-02	Baghouse Dust Bin
NDC-03	Raw Material Transport to Homogenizing Silo
NDC-04	Homogenizing Silo Inlet
NDC-05	Homogenizing Silo
NDC-06	Homogenizing Silo Outlet
NDC-07	Kiln Feed Transport
NDC-08	Fly Ash Silo
NDC-09	Fly Ash Transport to Calciner

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for, particulate matter (PM/PM_{10}). To satisfy the BACT requirements for this unit the visible emissions limits are surrogate standards for PM.

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the processing and storage of raw materials. Equipment will include one homogenizing silo (nominal throughput from blend silo of 2,553,018 TPY), one coal ash silo (nominal throughput 278.437 TPY), and associated conveyors, belts, and bucket elevators. [Applicant]

4. Baghouse Controls: Each emissions point identified for raw material processing and storage shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. [Rule 62-212.400(BACT), F.A.C.]

C. Raw Material Processing and Storage

PERFORMANCE REQUIREMENTS

5. Hours of Operation: This emissions unit is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C

EMISSIONS AND TESTING REQUIREMENTS

6. Emissions Limits: Visible emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse. [Rule 62 -212.400(BACT), F.A.C.]

   {Note: The baghouses are designed to control PM emissions to 0.01 grains/dry standard cubic foot (gr/dscf) and PM_{10} emissions to 0.0085 gr/dscf. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM_{10} from the above emissions points will be less than 12.1/10.28 TPY. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

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

7. Compliance Demonstrations: Each emission point shall be tested to demonstrate initial compliance with the emission standards for visible emissions in accordance with EPA Method 9. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emission limits for each emission point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rules 62-4.070(3), 62-297.310(7)(a), F.A.C. and 40 CFR 63.1349(b)(2)]

8. Periodic Monitoring Requirements: Each affected source subject to an opacity standard shall be periodically monitored using the procedures described in 40 CFR 63.1350(a) (4) (i) through (vii) to ensure compliance with the emissions limits of condition No. 6. [Rule 62-4.070(3), and 40 CFR, 63.1350, Subpart LLL]

9. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NESHAP provisions.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources
22	Visual Determination of Fugitive Emissions From Material Sources

REPORTING AND RECORD KEEPING

10. Baghouse O&M Plan: For each baghouse the permittee shall prepare an operation and maintenance (O&M) plan to address proper operation, parametric monitoring, and a schedule for conducting periodic inspections and preventive maintenance. Baghouse inspections and maintenance activities shall be recorded in a log. The O&M plan shall be submitted to the Compliance Authority prior to the initial compliance tests for this unit. [Rule 62-4.070(3), and 40 CFR 63.1350, Subpart LLL]

11. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

D. Pyroprocessing System

The following specific conditions apply to the following emissions unit after construction:

ID No.	Emissions Unit Description
004	(CH-4) - Pyroprocessing System. Includes preheater/precalciner kiln with in-line raw mill, clinker cooler and air heater.

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for carbon monoxide (CO), nitrogen oxides (NO_X), sulfur dioxide (SO_2), volatile organic compounds (VOC), and particulate matter (PM/PM_{10}).

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions for particulate matter. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Pyroprocessing System: : The permittee is authorized to construct a pyroprocessing system consisting of a dry process pre-heater/calciner rotary kiln with in-line raw mill that simultaneously dries raw materials using the exhaust gas from the kiln, PH/C, or cooler. The preheater is designed with a staged combustion calciner and a selective non-catalytic reduction (SNCR) system. The kiln will be equipped with a Low NO_X main kiln burner capable of burning coal, petroleum coke, natural gas, used oil, and fuel oil. Other equipment includes an air heater for use when additional drying capacity is required, and a clinker cooler with cooling air fans, and hot air ducting to the kiln, PH/C and/or in-line raw mill. The air heater will be capable of firing fuel oil and natural gas. All emissions from the pyroprocessing system are directed to a single stack. The exhaust stack shall be no more than 16.5 feet in diameter and no less than 427 feet tall. [Applicant Request]

4. Kiln Design: The kiln will be designed to process approximately 353 tons per hour of dry preheater feed material (including baghouse dust recirculation and excluding dry coal ash) with an annual nominal throughput of 2,784,370 tons per year. However, preheater feed rate is ultimately restricted through clinker production limitations. [Applicant Request]

5. NO_X Controls
   a) *Low-NO_X Burners and Indirect Firing:* The main kiln and calciner will be equipped with Low NO_X burners that will create distinct combustion zones within the flame. An indirect firing system will be used to reduce the amount of primary air injected with the fuel used in the main kiln burner.
   b) *Staged Combustion in the Calciner (SCC)*: Introduction of fuel, air and meal to the calciner will be staged or sequenced for the reduction of NO_X emissions.
   c) *SNCR*: A selective non-catalytic reduction (SNCR) system shall be designed, constructed and operated to achieve the permitted levels for NO_X emissions from the pyroprocessing system. The SNCR system will consist of an aqueous ammonia and/or urea tank, pumps, piping, compressed air delivery, injectors, control system, and other ancillary equipment. Aqueous ammonia and/or urea solution will be injected at a location(s) in the preheater/calciner with an appropriate temperature profile to support the SNCR process.

6. Particulate Matter (PM/PM_{10}) Controls: The permittee shall install a baghouse control system to remove particulate matter emissions from the pyroprocessing exhaust gas stream to achieve the PM/PM_{10} emissions standards specified in this permit.
7. Sulfur Dioxide Controls: The use of low-sulfur raw materials will help to keep SO_2 emissions below permitted levels. Additionally, a hydrated lime injection system shall be installed for utilization as needed to reduce SO_2 emissions.

PERFORMANCE REQUIREMENTS

8. Hours of Operation: The hours of operation for this emissions unit are not limited (8760 hours per year). [Rule62-210.200(PTE), F.A.C.]
9. Process Rate Limitations: Kiln preheater feed rate and dry coal ash shall be monitored and recorded for purposes of determining clinker production. The clinker production rate of the kiln shall not exceed 208.3 tons per hour (24-hour rolling average) and 1,715,500 tons during any consecutive 12 month period. The clinker production rate shall be determined using kiln feed and dry coal ash feed, and kiln and dry coal ash feed loss on ignition (LOI) factors. The feed rates and kiln feed LOIs shall be based on a 30 operating-day block average of daily measurements. For purposes of this requirement, an operating day is any day that the kiln produces clinker or burns fuel. [Rules 62-4.070(3), and 62-212.200(PTE), F.A.C.]
10. Authorized Fuels: Only the following authorized fuels shall be fired in the pyroprocessing system (kiln and calciner): coal, petroleum coke, fly ash, gasified tires, whole or chipped tires, natural gas, distillate oil, and/or on-specification used oil fuel. The maximum heat input rate to the pyroprocessing system (kiln and calciner) shall not exceed 15,300 MMBtu per day (nominally 638 MMBtu/hr).
    a) The permittee is authorized to install a tire gasification system with an airlock on the feed mechanism. The maximum heat input rate from gasified tires shall not exceed 40% of the total pyroprocessing heat input rate (kiln and calciner) and shall not exceed 255 MMBtu per hour. The remaining 60% of the total pyroprocessing heat input rate shall come from other authorized fuels. The permittee shall provide details of the gasifier system within 30 days of finalizing the design.
    b) The maximum heat input rate from firing whole or chipped tire derived fuel (TDF) shall not exceed 15% of the total pyroprocessing heat input rate (kiln and calciner) and shall not exceed 96 MMBtu per hour. The remaining 85% of the total pyroprocessing heat input rate shall be from the firing of other authorized fuels. TDF shall be directly fed into the kiln system at the transition section between the base of the calciner and the point where gases exit the kiln. The tire feed mechanism shall be designed with an airlock/gate system. Tires shall be stored, handled and managed in accordance with the provisions of Chapter 62-711, F.A.C.
    c) Dry coal ash may be injected directly into the calciner.
    d) The air heater shall fire only natural gas or distillate fuel oil (No. 2 or No. 4) with a design maximum heat input rate of 80 MMBtu per hour.
    e) The firing of "on-specification" used oil fuel shall not exceed 2000 gallons per hour and 3,000,000 gallons during any consecutive 12 months. On-Specification Used Oil Fuel shall meet the following specifications:
        1. Arsenic shall not exceed 5.0 ppm;
        2. Cadmium shall not exceed 2.0 ppm;
        3. Chromium shall not exceed 10.0 ppm;
        4. Lead shall not exceed 100.0 ppm;
        5. Total halogens shall not exceed 1000 ppm; and

6. Flash point shall not be less than 100° F.

Used oil fired as a fuel may be generated from on site sources or purchased from a vendor. Used oil shall not contain any PCB's. [40 CFR 279.61; 40 CFR 761.20(e); Rule 62-4.070(3), F.A.C.]

11. Prohibited Fuels and Materials: The owner or operator shall not introduce into any part of the process or emission control equipment any of the following fuels and materials: hazardous wastes; petroleum contaminated soil or materials; used oil, oil fuels, or solid fuels other than those allowed by this permit; or solid wastes other than tires as allowed by this permit. [Rule 62-4.070(3), F.A.C.]

12. Cement Kiln Dust: Cement kiln dust shall be re-circulated in the process and shall not be directly discharged from process or emission control equipment. Cement kiln dust removed from process equipment during maintenance and repair shall be confined and controlled at all times and shall be managed in accordance with the applicable provisions of 40 CFR 261. [Rule 62-4.070(3), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

13. Emissions Standards: Emissions from the pyroprocessing system (including the air heater) shall not exceed the following emissions standards.

Pollutant	Emission Limit	Averaging Time	Compliance Method	Basis
CO	2.9 lb/ton of clinker	30-day rolling	CEMS	BACT
	604.1 lb/hr			
NO_X[a]	1.95 lb/ton of clinker	30-day rolling	CEMS	BACT
	406.19 lb/hr			
PM/PM_{10}[b]	0.153 lb/ton of clinker	Three 1-hr runs	Annual Test	BACT
	31.87 lb/hr			
	10 % opacity	6-minute block	COMS	
SO_2	0.20 lb/ton of clinker	24-hr rolling	CEMS	BACT
	41.66 lb/hr			
VOC[c]	0.115 lb/ton of clinker	30-day block	CEMS	BACT
	23.95 lb/hr			
Dioxin/Furan[d]	0.20 ng/dscm (TEQ) @ 7% O_2	Three 3-hr runs	Temperature Monitoring	NESHAP LLL
	0.40 ng/dscm (TEQ) @ 7% O_2			
THC	50 ppmvd (as propane)@ 7% O_2	30-day block	CEMS	NESHAP LLL
Mercury[e]	184 lb/12-month period	12-month rolling	Fuel/Materials and/or CEMS	Avoid PSD

a. For an "initial startup period" NOx emissions shall not exceed 3.0 lb/ton of clinker (624.9 lb/hour) based on a 30-day rolling average. The "initial startup" period shall begin after initial certification of the NOx CEMS and shall end as soon as any of the following conditions are met:
   1) The Kiln system produces 121,500 tons of clinker or more in any 30-day rolling period.
   2) The Kiln system produces 250,000 tons of clinker.
   3) 365 days calendar days elapse after initial certification of the NOx CEMS.

   After the "initial startup" period ends, NOx emissions shall not exceed 1.95 lb/ton of clinker (406.19 lb/hour) based on a 30-day rolling average. These requirements do not waive or vary any applicable NSPS or NESHAP monitoring or record keeping requirements.

b. All PM emitted from the baghouse exhaust is assumed to be PM10. The BACT standard for PM is equivalent to approximately 0.09 lb per ton of preheater feed material. The emissions limits for particulate matter and visible emissions imposed by Rule 62-212.400(BACT) are as stringent as or

more stringent than the limits imposed by the applicable NESHAP provisions. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements.

c. Compliance shall be demonstrated by THC CEMS. VOC emissions shall be measured as total hydrocarbons (THC) and expressed as "propane" for the mass emissions rate.

d. Dioxin/furans shall not exceed 0.20 ng/dscm (TEQ) @ 7% oxygen when the average of the performance test run temperatures at the inlet to the particulate matter control device is 204° C (400° F) or more and shall not exceed 0.40 ng/dscm (TEQ) @ 7% oxygen when the average of the performance test run average particulate matter control device inlet temperature is 204° C (400° F) or less.

e. Compliance shall be demonstrated using the sampling, analysis, and calculation methods specified in permit Condition No. 21.

{Note: In combination with the annual clinker production limitation of 1,715,500 tons per year, the above emissions standards effectively limit annual potential emissions from this unit to: 2,487.5 tons/year of CO; 1,673 tons/year of NOx (after year one); 131 tons/year of PM/PM10; 172 tons/year of SO2; and 99 tons/year of VOC. Note that first year annual NOx emissions could be as high as 2,573 tons/year.}

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

14. Test Methods: Any required stack tests shall be performed in accordance with the following methods.

EPA Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Methods shall be performed as necessary to support other methods.
5	Determination of Particulate Emissions. The minimum sample volume shall be 30 dry standard cubic feet.
6C	Determination of SO2 Emissions (Instrumental).
7E	Determination of NOx Emissions (Instrumental). NOx emissions testing shall be conducted with the air heater operating at the highest heat input possible during the test.
9	Visual Determination of Opacity
10	Measurement of Carbon Monoxide Emissions (Instrumental). The method shall be based on a continuous sampling train.
23	Measurement of Dioxin/Furan Emissions
25A	Measurement of Gaseous Organic Concentrations (Flame Ionization – Instrumental)

The methods are specified in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. Tests shall be conducted in accordance with the appropriate test method and the applicable requirements specified in Appendix C of this permit, NSPS Subpart A in 40 CFR 60, and NESHAP Subparts A and LLL in 40 CFR 63. [Rules 62-204.800, F.A.C.; 40 CFR 60, Appendix A]

15. Testing Requirements: Initial tests shall be conducted between 90% and 100% of permitted capacity; otherwise, this permit shall be modified to reflect the true maximum capacity as constructed. Subsequent annual tests shall be conducted between 90% and 100% of permitted capacity in accordance with the requirements of Rule 62-297.310(2), F.A.C. Tests shall be conducted for each required pollutant under the fuel scenario representing the highest potential for generating emissions. In general, this fuel scenario is firing coal as the primary fuel and firing TDF, petroleum coke, and coal ash as secondary fuels. If a secondary fuel listed above is not available at the time of testing, tests shall be based on the fuels that are

available. If a secondary fuel is added later, additional tests shall be conducted with that fuel scenario within 60 days of first fire of the new secondary fuel. [Rule 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]

16. Initial Compliance Demonstration: Initial compliance stack tests shall be conducted within 60 days after achieving a daily average clinker production rate of 187 tons per hour, but not later than 180 days after the initial startup. In accordance with the test methods specified in this permit, the kiln system exhaust stack shall be tested to demonstrate compliance with the emission standards for particulate matter, CO, SO_2, NO_X, dioxin/furans, and THC. The initial compliance demonstration with the THC, and dioxin/furans emissions standards shall be carried out in accordance with 63.1349(b). The permittee shall provide the Compliance Authority with any other initial emissions performance tests conducted to satisfy vendor guarantees. [Rule 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]
17. Subsequent Compliance Testing: Annual compliance stack tests for particulate matter CO, NO_X, and SO_2 shall be conducted during each federal fiscal year (October 1st to September 30th). Subsequent dioxins/furans tests shall be conducted in accordance with the provisions of 40 CFR 63.1349. Data collected from the reference method during the required RATA tests for CO, NO_X, and SO_2 may be used to satisfy the annual testing requirement provided the notification requirements and emission testing requirements for performance and compliance tests of this permit are satisfied. [Rules 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]
18. Continuous Compliance: Continuous compliance with the permit standards for opacity and emissions of CO, NOx, SO2, and VOC/THC shall be demonstrated with data collected from the required continuous monitoring systems. [Rules 62-212.400(5)(c) and 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8]
19. Supplemental Dioxin/Furan and PM/PM10 Tests: The owner or operator shall notify the Compliance Authority prior to initiating any significant change in the feed or fuel used in the most recent compliant performance test for dioxin/furan or PM/PM10. For purposes of this condition, significant means any of the following: a physical or chemical change in the feed or fuel; the use of a raw material not previously used; a change in the LOI of the coal ash; a change between non-beneficiated coal ash and beneficiated coal ash. Based on the information provided, the Compliance Authority will promptly determine if performance testing pursuant to 40 CFR 63.1349 will be required for the new feed or fuel. A significant change shall not include switching to a feed/fuel mix for which the permittee already tested in compliance with the dioxin/furan and PM/PM10 emission limits. [62-4.070(3), F.A.C.]
20. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]
21. Mercury Compliance Demonstration:
    a. *Material Balance Demonstration:* The owner or operator shall demonstrate compliance with the mercury throughput limitation by material balance and maintaining records of the monthly and rolling 12-month mercury throughput. Samples of the raw mill feed and all fuels shall be collected each day. A single composite daily sample shall be made from all samples collected during a day. A monthly composite sample shall be made from each of the daily composite samples. Each monthly composite sample shall be analyzed to determine the mercury concentration of the materials representative for the month. The analytical methods used to determine mercury concentration shall be EPA or ASTM methods such as EPA Method 7471A (Mercury in Solid or Semisolid Waste). No other methods may be used unless prior written approval is received from the Department. For each raw material and fuel, the monthly mercury throughput rate (pounds per month) shall be the product of the mercury

concentration from the monthly composite sample and the mass of raw material or fuel used during the month. If the mercury concentration is below detection limit or below the limits of quantification, the detection limit will be assumed for the concentration of the raw material or fuel. For each month, the mass of mercury introduced into the pyroprocessing system (pounds per month) shall be the sum of the monthly mercury throughput rate for each raw material and fuel. The consecutive 12-month mercury throughput rate shall be the sum of the individual monthly records for the current month and the preceding eleven months (pounds of mercury per consecutive 12-months). Such records, including calculations and data, shall be completed no later than 25 days following the month of the records.

b. *Mercury Continuous Emissions Monitoring System (Hg-CEMS)*: Within 60 days following the first year of operation, the owner or operator shall install any model of Hg-CEMS that has been demonstrated to meet the requirements in Performance Specification 12A (PS-12A), "Specifications and Test Procedures for Total Vapor phase Mercury Continuous Monitoring Systems in Stationary Sources," or that has passed verification tests conducted under the auspices of the U.S. Environmental Protection Agency's (EPA) Environmental Technology Verification (ETV) Program. During the subsequent 90 days, the owner or operator shall certify the Hg-CEMS and begin reporting Hg mass emissions data. The owner or operator shall adhere to the calibration drift and quarterly accuracy assessment procedures in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B. The 12-month rolling mass emissions shall be estimated based on the actual data collected no later than 10 days following the end of the month. Upon certification, the owner or operator may use the Hg-CEMS to demonstrate compliance with the cumulative 12-month rolling mass emission limitation (184 pounds per rolling 12-month period) in lieu of the procedures described in the preceding paragraph. Prior to use of the Hg-CEMS as the method to demonstrate compliance, the owner or operator shall submit written notice to the Department, and receive approval for a missing data substitution plan. For purposes of this requirement, the first year of operation ends 365 calendar days following the first day the kiln produces clinker.
[Rules 62-4.070(3) and 62-212.400(2)(g), F.A.C.]

EXCESS EMISSIONS

{Note: The following conditions apply only to the SIP-based emissions standards specified in Condition No. 13 of this section. Rule 62-210-700, F.A.C. (Excess Emissions) cannot vary or supersede any federal provision of the NSPS or the NESHAP programs.}

22. Operating Procedures: The Best Available Control Technology (BACT) determinations established by this permit rely on "good operating practices" to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the kiln and calciner, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods for minimizing excess emissions.
[Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

23. Definitions:

a. *Startup* is defined as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.

b. *Shutdown* means the cessation of the operation of an emissions unit for any purpose.

c. *Malfunction* means any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

[Rule 62-210.200(159,230, and 245), F.A.C.]

24. 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. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C.]

25. Allowable Data Exclusions: Continuous monitoring data collected during periods of startup, shutdown, and malfunction may be excluded from the compliance demonstrations only in accordance with the following requirements, provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions are minimized. As provided by the authority in Rule 62-210.700(5), F.A.C., the following conditions replace the provisions in Rule 62-210.700(1), F.A.C.

    a. *CO Data*: Each 30-day rolling average shall include all periods of operation (including startup, shutdown, and malfunction), but may exclude limited periods due to equipment malfunctions. No more than 30 hours in any calendar month shall be excluded from the compliance determinations due to equipment malfunctions. Malfunctions do not include process upsets that occur as a normal part of cement production.

    b. *NOx Data*: Each 30-day rolling average shall include all periods of operation (including startup, shutdown, and malfunction), but may exclude limited periods due to malfunctions of the SNCR system. "Malfunctions of the SNCR system" are defined as any unavoidable mechanical and/or electrical failure that prevents introduction of ammonia-based solutions into the kiln system. No more than 30 hours in any calendar month shall be excluded from the compliance determinations due to malfunctions of the SNCR system.

    c. *SO_2 Data.* Each 24-hr rolling average shall include all periods of operation (including startup, shutdown, and malfunction), but may exclude limited periods due to malfunctions of the hydrated lime system, which are defined as any unavoidable mechanical and/or electrical failure that prevents introduction of lime into the kiln system. No more than 30 hours in any calendar month shall be excluded from the compliance determinations due to malfunctions of the hydrated lime system.

    d. *Other Data*: All opacity and VOC data shall be included in the compliance determination. If the mercury CEMS is used as the method for demonstrating compliance, all valid data shall be included in the compliance determination.

    The permittee shall notify the Compliance Authority within one working day of discovering any emissions in excess of a CEMS standard subject to the specified averaging period. Within one working day of occurrence, the owner or operator shall notify the Compliance Authority of any malfunction resulting in the exclusion of CEMS data. All such reasonably preventable emissions shall be included in any CEMS compliance determinations. All valid emissions data (including data collected during startup, shutdown and malfunction) shall be used to report emissions for the Annual Operating Report

    [Rules 62-210.200, 62-212.400(BACT) and 62-210.700, F.A.C.]

CONTINUOUS MONITORING REQUIREMENTS

26. CEM Systems: The permittee shall install, calibrate, operate and maintain continuous emissions monitoring systems (CEMS) to measure and record concentrations of CO, Hg, NOx, SO2, and VOC/THC in the kiln system exhaust stack in a manner sufficient to demonstrate continuous compliance with the emissions standards specified in this section. All continuous monitoring systems other than the Hg CEMS shall be installed and functioning within the required performance specifications by the time of the initial

performance tests. The Hg CEMS shall be installed and functioning within the required performance specifications following the first year of operation as specified in condition No. 21.

a. *CO Monitor.* The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F. The required RATA tests shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately, considering the expected range of emissions and corresponding emission standards.

b. *NOx Monitor.* The NO_X monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 2. Quality assurance procedures shall conform to the requirements of in 40 CFR 60, Appendix F. The required RATA tests shall be performed using EPA Method 7E in Appendix A of 40 CFR 60. The NO_X monitor span values shall be set appropriately, considering the expected range of emissions and corresponding emission standards.

c. *SO2 Monitor.* The SO_2 monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 2. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F. The required RATA tests shall be performed using EPA Method 6C in Appendix A of 40 CFR 60. The SO_2 monitor span values shall be set appropriately, considering the expected range of emissions and corresponding emission standards.

d. *THC Monitor.* A monitor shall be installed to determine THC emissions from the stack and shall meet the requirements of NESHAP Subpart LLL in 40 CFR 63 (40 CFR 63.1349 and 63.1350). The THC monitor shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture).

e. *Diluent Monitor.* An oxygen monitor shall be installed at the THC monitor location to correct measured THC emissions to the required oxygen concentration.

f. *Mercury Monitor.* A mercury monitor (Hg-CEMS) shall be installed and operated as described in Condition 21 above.

CEMS, other than the Hg CEMS, are also subject to the General Provisions specified in Subpart A of 40 CFR 60 (CO, NOx, and SO2) and Subpart A of 40 CFR 63 (THC/VOC).
[Rules 62-4.070(3), 62-210.800, 62-212.400(BACT) and 62-297.520, F.A.C.]

27. COMS: A continuous opacity monitoring system (COMS) shall be installed, calibrated, operated, and maintained in the kiln system exhaust stack, after the baghouse, in a manner sufficient to demonstrate continuous compliance with the opacity standards specified in this section. Opacity shall be based on a 6-minute block average computed from at least one observation (measurement) every 15 seconds. For the COMS, the 6-minute block averages shall begin at the top of each hour. The COMS shall meet the applicable requirements of 40 CFR 63.1350. [NESHAP Subpart LLL in 40 CFR 63]

28. CEMS/COMS Certification and Initial Startup: Each CEMS/COMS required by this permit shall be installed prior to startup. Within 60 calendar days of achieving an average daily clinker production rate of 187 tons per hour, but no later than 180 calendar days after initial startup, the owner or operator shall certify each CEMS/COMS. Upon certification of each CEMS/COMS, the owner or operator shall demonstrate compliance with all applicable standards as specified in this permit. The Hg CEMS shall be installed and functioning within the required performance specifications following the first year of operation as specified in condition No. 21. [Rules 62-4.070(3), 62-210.800, 62-212.400(BACT) and 62-297.520, F.A.C.; 40 CFR 60.7(a), 60.13(b) and Appendix B; and 40 CFR 63.7(a)(2)]

29. CEMS Data Requirements: The CEMS shall be installed, calibrated, maintained, and operated in the in-line kiln/raw mill stack to measure and record the emissions of CO, NO_X, SO_2, and THC/VOC in a manner

sufficient to demonstrate compliance with the emission limits of this permit. The CEMS shall express the results in units of pounds per ton of clinker produced, and pounds per hour. Emissions of VOC shall be reported in units of the standards (lb/hr, lb/ton of clinker) and ppmvd as propane corrected to 7% oxygen.

a. *Valid Hourly Averages:* Each CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over the hour at a minimum of one measurement per minute. All valid measurements collected during an hour shall be used to calculate a 1-hour block average that begins at the top of each hour. Each 1-hour block average shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel (or produced clinker) during that quadrant of an hour. Notwithstanding this requirement, a 1-hour average shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). If less than two such data points are available, there is insufficient data and the 1-hour block average is not valid.

   - Hours during which there is no kiln feed and no fuel fired are not valid hours.
   - Hours during which the plant is firing fuel but producing no clinker are valid, but these hours are excluded from the production-normalized emission rate computation (pounds per ton of clinker). These hours are included in any pollutant mass emission rate computation (pounds per hour).

b. *24-hour Rolling Averages*: Compliance with the emission limit for SO_2 shall be based on a 24-hour rolling average that shall be recomputed after every valid hour as the arithmetic average of that hourly average and the preceding 23 valid hourly averages.

c. *30-day Rolling Averages*: Compliance with the emission limits for CO and NO_X shall be based on a 30-day rolling average. Each 30-day rolling average shall be the arithmetic average of all valid hourly averages collected during the last 30 operating days. A new 30-day rolling average shall be recomputed after every day of operation for the new day and the preceding 29 operating days. For purposes of computing these emission limits, an operating day is any day that the kiln produces clinker or fires fuel.

d. *30-day Block Average:* Compliance with the emission limit for VOC shall be based on a 30-day block average. Each 30-day block average shall be the arithmetic average of all valid hourly averages occurring within each 30 operating-day block and shall be consistent with the averaging period specified in 40 CFR 63.1350(h) for THC emissions.

e. *Data Exclusion*: Except for monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, each CEMS shall monitor and record emissions during all operations including episodes of startups, shutdowns, and malfunctions. Limited amounts of CEMS emissions data recorded during some of these episodes may be excluded from the corresponding compliance demonstration subject to the provisions of Condition No. 25 in this section. The permittee shall minimize the duration of data excluded for such episodes to the extent practicable.

f. *Availability*. Monitor availability for each CEMS used to demonstrate compliance shall be 95% or greater in any calendar quarter. Monitor availability shall be reported in the quarterly excess emissions report. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit, except as otherwise authorized by the Compliance Authority.

30. Continuous Flow Monitor: A continuous flow monitor shall be installed to determine the stack exhaust flow rate to be used in determining mass emission rates. The flow monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 6.

31. Baghouse Temperature Monitor: A continuous temperature monitor shall be installed, calibrated, operated, and maintained at the inlet to the baghouse for the kiln system exhaust in accordance with the requirements of 40 CFR 63.1350(f). [NESHAP Subpart LLL in 40 CFR 63]

32. Ammonia Injection: A monitoring system to continuously monitor and record the ammonia and/or urea injection rate of the SNCR system (1-hour block averages) shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

REPORTING AND RECORD KEEPING REQUIREMENTS

33. Operational Records: To demonstrate compliance with the limitations specified in this section, the owner or operator shall maintain the following records on site.

    a. For each 1-hour block of operation, continuously monitor and record the dry preheater feed rate, clinker production rate, fuel firing rate, heat input rate (the representative heating value of each fuel and the hourly fuel firing rate), and estimates of NH_3/NO_X molar ratio or ammonia injection rate. Records shall also document the dry preheater feed rate and clinker production rates for each 24-hour rolling period and consecutive12 months.

    b. For each fuel delivery, maintain records of the quantity of fuel delivered and a representative analysis of the fuel. Records shall include the sulfur content, higher and lower heating value, proximate analysis, and ultimate analyses.

    c. Maintain records demonstrating compliance with the mercury throughput limitation as required in Condition No. 21 of this permit.

    All records shall be made available to the Department and Compliance Authority upon request. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

34. Stack Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Compliance Authority on the results of each such test. The required test report shall be filed with the Compliance Authority as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Compliance Authority 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 specified in Rule 62-297.310(8), F.A.C. [Rule 62-297.310(8), F.A.C.]

35. Malfunction Notifications: If temporarily unable to comply with any condition of the permit due to breakdown of equipment (malfunction) or destruction by hazard of fire, wind or by other cause, the permittee shall immediately (within one working day) notify the Compliance Authority. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. If requested by the Compliance Authority, the owner or operator shall submit a quarterly written report describing the malfunction. [Rules 62-210.700(6) and 62-4.130, F.A.C.]

36. SIP Quarterly Report: Within 30 days following the end of each calendar quarter, the permittee shall submit a report to the Compliance Authority summarizing: equipment malfunctions resulting in excluded CEMS data and/or excess emissions; mercury throughput rates; and the monitor availability of each CEMS. The report shall contain the information and follow the general format specified in Appendix F of this permit. [Rules 62-4.070(3), 62-4.130, and 62-212.400(BACT), F.A.C.]

37. Used Oil Records: For each shipment of used oil received, the owner or operator shall maintain records from the vendor certifying that the used oil meets the above requirements for "on-specification" used oil fuel. Records shall include the following parameters: arsenic, cadmium, chromium, lead, total halogens, flash point, PCBs, sulfur content, ash, and heating value. Otherwise, the owner or operator shall sample and analyze each shipment of used oil received for the above parameters. If vendor certifications are relied upon, the owner or operator shall analyze at least one sample obtained each calendar year for the above parameters. If analytical results show that the used oil does not meet the above requirements, the owner or operator shall immediately: cease burning of the used oil, and notify the Compliance Authority of the analytical results. The analysis shall be performed via EPA-approved or ASTM methods. The permittee shall obtain, make, and keep the following records:Gallons of on-specification used oil received and burned each month;

    a) Gallons of on-specification used oil received and burned each month;;
    b) Name and address of all vendors delivering used oil to the facility
    c) Copies of the vendor certifications, if obtained, and any supporting information; and
    d) Analytical results.

    The records shall be retained in a form suitable for inspection at the facility by the Department, and shall be retained permanently. [40 CFR 279.61; 40 CFR 761.20(e), and Rule 62-4.070(3), F.A.C.]

38. O&M Plan for Baghouse: The permittee shall prepare an operation and maintenance (O&M) plan to address the schedule for inspection and preventive maintenance of the baghouse control system. The O&M plan shall be submitted to the Compliance Authority prior to expiration of this permit. The permittee shall maintain records of the condition of the control equipment for each inspection and any maintenance activities performed. [Rule 62-4.070(3), F.A.C., and 40 CFR 63.1350, Subpart LLL]

E. Clinker Storage and Conveying

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

ID No.	Emissions Unit Description
005	(CH-5) - Clinker Storage and Conveying. Includes clinker transport from kiln; clinker, limestone, and gypsum silos; and clinker, limestone and gypsum conveying to finish mills.

Clinker storage and conveying includes the following emission points controlled by fabric filter baghouses.

Point ID	Emissions Point Description
NDC-10	Clinker Transport From Kiln
NDC-11	Clinker Silo #1
NDC-12	Clinker Silo #2
NDC-13	Off-Spec Clinker Silo
NDC-14	Finish Mill #1 Clinker Silo Outlet Conveyor
NDC-15	Finish Mill #2 Clinker Silo Outlet Conveyor
NDC-16	Gypsum and Limestone Silos
NDC-17	Conveying to Finish Mills (2 feed belts)

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for, particulate matter (PM/PM_{10}). To satisfy the BACT requirements for this unit the visible emissions limits act as surrogate standards for PM.
2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the conveying and storage of clinker, and the limestone and gypsum storage and conveying to the two finish mills. Equipment will include two clinker silos, one off-spec clinker silo, gypsum and limestone silos, and associated conveyors, and control equipment.
4. Baghouse Controls: Each emissions point identified for clinker storage and conveying shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

PERFORMANCE REQUIREMENTS

5. Hours of Operation: This emissions unit is allowed to operate 8,760 hours per year. [Applicant Request, Rule 62-210.200(PTE), F.A.C]

E. Clinker Storage and Conveying

EMISSIONS AND TESTING REQUIREMENTS

6. Emissions Limits: The following standards apply to each emissions point of this unit including all clinker storage and conveying system transfer points:

   a. Emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse.

   b. Emissions are limited to 10% opacity from any emissions point not controlled by a baghouse.

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

   {Note: The baghouses are designed to control PM emissions to 0.01 grains/dry standard cubic foot (gr/dscf) and PM_{10} emissions to 0.0085 gr/dscf. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM_{10} from all emission points listed above will be no more than 24.97/21.23 TPY. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

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

7. Compliance Demonstrations: Each emission point shall be tested to demonstrate initial compliance with the emission standards for visible emissions in accordance with EPA Method 9. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emission limits shall be demonstrated during each federal fiscal year (October 1st to September 30th).
   [Rules 62-4.070(3), 62-297.310(7)(a), F.A.C. and 40 CFR 63.1349(b)(2)]

8. Periodic Monitoring Requirements: Each affected source subject to an opacity standard shall be periodically monitored using the procedures described in 40 CFR 63.1350(a) (4) (i) through (vii) to ensure compliance with the emissions limits of condition No. 6. [Rule 62-4.070(3), and 40 CFR, 63.1350, Subpart LLL]

9. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NESHAP provisions.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources
22	Visual Determination of Fugitive Emissions From Material Sources

REPORTING AND RECORD KEEPING

10. Baghouse O&M Plan: For each baghouse the permittee shall prepare an operation and maintenance (O&M) plan to address proper operation, parametric monitoring, and a schedule for conducting periodic inspections and preventive maintenance. Baghouse inspections and maintenance activities shall be recorded in a written log. The O&M plan shall be submitted to the Compliance Authority prior to the initial compliance tests for this unit. [Rule 62-4.070(3), and 40 CFR 63.1350, Subpart LLL]

11. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

F. Finish Mills Cement Processing

The specific conditions of this subsection apply to the following emissions unit after construction is complete.

ID No.	Emissions Unit Description
006	(CH-6) - Finish Mills Cement Processing. Includes two finish mills, cement silos, packaging plant and truck loadout.

The Finish Mills Cement Processing includes the following emission points controlled by fabric filter baghouses.

Point ID	Emissions Point Description
NDC-18	Finish Mill #1 Clinker Conveying
DC-02	Finish Mill #1 Separator Baghouse
DC-03	Finish Mill #1 Sweep Baghouse
NDC-21	Fringe Cement Bin
NDC-19	Finish Mill #1 Baghouse No. 3
DC-04	Finish Mill #2 Separator Baghouse
DC-05	Finish Mill #2 Sweep Baghouse
NDC-20	Finish Mill #2 Baghouse No. 3
NDC-22	Cement Silos
NDC-23	Cement Silos
NDC-24	Cement Silos
NDC-25	Truck Loadout #1
NDC-26	Truck Loadout #2
NDC-27	Truck Loadout #3
NDC-28	Packaging Plant

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for particulate matter (PM/PM_{10}). To satisfy some of the BACT requirements for this unit the visible emissions limits act as surrogate standards for PM.

2. NESHAP Requirements: This unit is subject to 40 CFR 63, Subpart A (Identification of General Provisions) and 40 CFR 63, Subpart LLL (National Emissions Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NESHAP provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for cement finishing, storage, packaging, and loadout. Equipment will include two finish mills, six cement silos

with two interstices, one fringe cement bin, three truck loadouts, one packaging plant, and associated conveyors, bucket elevators, belts, and control equipment.

4. Baghouse Controls: Each emissions point identified for finish mills cement processing shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

PERFORMANCE REQUIREMENTS

5. Hours of Operation: This emissions unit is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C

6. Process Rate Specification: Each finish mill may process up to 170 tons per hour (TPH) of clinker, gypsum or limestone to produce an equal amount of cement. [Applicant Request]

   {Note: The finish mills are capable of processing more clinker than can be produced by the on-site pyroprocessing system. Any projects to utilize the additional capacity would constitute a modification per Section 2, Condition 7.}

EMISSIONS AND TESTING REQUIREMENTS

7. Particulate Matter Standards: Particulate matter emissions from the finish mill air separators (Points DC-02, and DC-04) shall not exceed 0.0085 grains per dscf of exhaust as determined by EPA method 5. All PM emitted from the baghouse exhaust is assumed to be PM_{10}. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements. [Rules 62-212.400 (BACT), F.A.C.]

8. Visible Emissions Standards: Visible emissions shall not exceed the following limits as determined by EPA Method 9:

   a. Visible emissions are limited to 5% opacity from each of the above listed emissions points controlled by a baghouse.

   b. Visible emissions are limited to 10% opacity from any emissions point not controlled by a baghouse.

   {Note: The baghouses are designed to control PM emissions to 0.01 grains/dry standard cubic foot (gr/dscf) and PM_{10} emissions to 0.0085 gr/dscf. The 5% opacity limitation is consistent with this design and provides reasonable assurance that annual emissions of PM/PM_{10} from the above emissions points (excluding the air separators) will be less than 42.03/35.74 TPY. Exceedance of the 5% opacity limit shall be deemed an exceedance of this permit condition and not necessarily an exceedance of the opacity limitations given in 40 CFR 63, Subpart LLL.}

   [Rules 62-212.400 (BACT), F.A.C.]

9. Testing Requirements: Each emission point shall be stack tested to demonstrate initial compliance with the applicable emission standards for PM/PM_{10} and visible emissions. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the particulate limits (PM/PM_{10}) shall be demonstrated within the 12 month period prior to each renewal of the operation permit and compliance with the visible emissions limits for each unenclosed transfer point shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

10. Periodic Monitoring Requirements: Each affected source subject to an opacity standard shall be periodically monitored using the procedures described in 40 CFR 63.1350(a) (4) (i) through (vii) to ensure compliance with the emissions limits of condition No. 6. [Rule 62-4.070(3), and 40 CFR, 63.1350, Subpart LLL]

11. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NSPS provisions.

Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Methods shall be performed as necessary to support other methods.
5	Determination Particulate Matter from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
22	Visual Determination of Fugitive Emissions From Material Sources

REPORTING AND RECORD KEEPING

12. Baghouse O&M Plan: For each baghouse the permittee shall prepare an operation and maintenance (O&M) plan to address proper operation, parametric monitoring, and a schedule for conducting periodic inspections and preventive maintenance. Baghouse inspections and maintenance activities shall be recorded in a written log. The O&M plan shall be submitted to the Compliance Authority prior to the initial compliance tests for this unit. [Rule 62-4.070(3)]

13. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

G. Coal and Petroleum Coke Grinding System

The specific conditions of this subsection apply to the following emissions unit.

ID No.	Emissions Unit Description
007	(CH-7) - Coal and Petroleum Coke Grinding System. Includes coal mill and coal bins.

The coal and petroleum coke grinding system includes the following emission points controlled by fabric filter baghouses.

Point ID	Emissions Point Description
DC-06	Coal Mill #1 Baghouse
DC-07	Coal Mill #2 Baghouse
NDC-29	Pulverized Coal Bin
NDC-30	Pulverized Coal Bin

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for particulate matter (PM/PM_{10}). To satisfy some of the BACT requirements for this unit the visible emissions limits act as surrogate standards for PM.

2. NSPS Requirements: This unit is subject to 40 CFR 60, Subpart A (Identification of General Provisions) and 40 CFR 60, Subpart Y (Standards of Performance for Coal Preparation Plants). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NSPS provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for coal and petroleum coke grinding and storage. Equipment will include a coal/petcoke grinding mill (nominal throughput 211,160 TPY and 28.4 TPH), storage bins, and associated conveyor systems. Clinker cooler gas will be used for drying.

4. Baghouse Controls: Each emissions point identified for the coal and petroleum coke grinding system shall be controlled by a baghouse system. Each required baghouse shall be designed, operated, and maintained to achieve a PM design specification of 0.01 gr/dscf and a PM_{10} design specification of 0.0085 gr/dscf. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

PERFORMANCE REQUIREMENTS

5. Hours of Operation: The hours of operation for this emissions unit are not limited (8760 hours per year). [Rule62-210.200(PTE), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

6. Particulate Matter Standards: Particulate matter emissions from the coal mill (Point ID DC-06 and DC-07) shall not exceed 0.0085 grains per dscf of exhaust as determined by EPA method 5. All PM emitted from the baghouse exhaust is assumed to be PM_{10}. The BACT requirements do not waive or vary any applicable NESHAP monitoring or record keeping requirements.
[Rules 62-212.400 (BACT), F.A.C. and 40 CFR 60.252]

7. Visible Emissions Standards: Visible emissions from each baghouse shall not exceed 5% opacity as determined by EPA Method 9.

   [Rules 62-212.400 (BACT), F.A.C. and CFR 60.252]

8. Testing Requirements: Each emission point shall be stack tested to demonstrate initial compliance with the applicable emission standards for PM/PM_{10} and visible emissions. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the particulate limits (PM/PM_{10}) shall be demonstrated within the 12 month period prior to each renewal of the operation permit and compliance with the visible emission limits shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

9. Test Methods: Any required tests shall be performed in accordance with the following reference methods and the applicable requirements of Appendix C of this permit, and the applicable NSPS provisions.

Method	Description of Method and Comments
1 - 4	Determination of Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content. Methods shall be performed as necessary to support other methods.
5	Determination Particulate Matter from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

CONTINUOUS MONITORING REQUIREMENTS

10. Thermal Dryer Exit Temperature: A monitoring device for the continuous measurement of the temperature of the gas stream at the exit of the thermal dryer shall be installed, calibrated, maintained, and continuously operated to measure the temperature of the gas stream in accordance with the requirements of 40 CFR, 60.253. [40 CFR 60.253]

REPORTING AND RECORD KEEPING

11. Baghouse O&M Plan: For each baghouse the permittee shall prepare an operation and maintenance (O&M) plan to address proper operation, parametric monitoring, and a schedule for conducting periodic inspections and preventive maintenance. Baghouse inspections and maintenance activities shall be recorded in a written log. The O&M plan shall be submitted to the Compliance Authority prior to the initial compliance tests for this unit. [Rule 62-4.070(3), and 40 CFR 63.1350, Subpart LLL]

12. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

H. Coal and Petroleum Coke Conveying

The specific conditions of this subsection apply to the following emissions unit.

ID No.	Emissions Unit Description
008	(CH-8) – Coal and Petroleum Coke Conveying. Includes coal/petroleum coke handling and conveying from unloading to storage bins.

The coal and petroleum coke conveying system contains the following emission points.

Point ID	Emissions Point Description
CH-8-1	Coal/Petroleum Coke Pile Handling – unloading, FEL reclaim, FEL transfer to hopper
CH-8-2	Coal/Petroleum Coke Conveying – belt transfer to elevator, transfer to scrap metal box, conveyor transfer to piles, truck dump to hopper, hopper transfer to elevator

APPLICABLE STANDARDS AND REGULATIONS

1. BACT Determinations: A determination of the Best Available Control Technology (BACT) was made for particulate matter (PM/PM_{10}).

2. NSPS Requirements: This unit is subject to 40 CFR 60, Subpart A (Identification of General Provisions) and 40 CFR 60, Subpart Y (Standards of Performance for Coal Preparation Plants). The Department determines that the BACT emissions performance requirements are as stringent as or more stringent than the limits imposed by the applicable NSPS provisions. Some separate reporting and monitoring may be required by the individual subpart.

EQUIPMENT AND CONTROL TECHNOLOGY

3. Equipment Description: The permittee is authorized to construct, operate, and maintain equipment needed for the conveyance and handling of the coal and petroleum coke. Equipment will include conveyors, belts, loaders, and hoppers. [Applicant Request]

PERFORMANCE REQUIREMENTS

4. Hours of Operation: This emissions unit system is allowed to operate 8,760 hours per year. [Applicant Request, Rule62-210.200(PTE), F.A.C.]

EMISSIONS AND TESTING REQUIREMENTS

5. Visible Emissions Standards: Visible emissions from all coal/petcoke processing and conveying equipment, coal/petcoke storage system, or coal/petcoke transfer and loading system processing coal/petcoke, and not controlled by a baghouse, shall not exceed 5 % opacity. [Rules 62-212.400 (BACT), F.A.C. and CFR 60.252]

6. Testing Requirements: Each emission point shall be stack tested to demonstrate initial compliance with the visible emissions standards. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup. Thereafter, compliance with the visible emission limits shall be demonstrated during each federal fiscal year (October 1st to September 30th). [Rule 62-297.310(7)(a), F.A.C.]

7. Visible Emissions Tests: Compliance with the visible emission limits shall be determined by conducting EPA Method 9 tests. Initial tests shall be conducted 60 days after achieving the maximum production rate at which the unit will be operated, but no later than 180 days after initial startup. Thereafter, the permittee shall demonstrate compliance during each federal fiscal year (October 1st to September 30th). Tests shall be conducted in accordance with the applicable requirements in Appendix C of this permit as well as the applicable NSPS provisions.

8. Test Reports: For each test conducted, the permittee shall file a test report including the information specified in Rule 62-297.310(8), F.A.C. with the compliance authority no later than 45 days after the last run of each test is completed. [Rules 62-297.310(8), F.A.C.]

I. Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads

The following specific conditions apply to the following emissions unit after construction.

ID No.	Emissions Unit Description
010	(CH-10, CH-11) – Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads.

PERFORMANCE REQUIREMENTS

1. Unconfined Emissions of Particulate Matter

   a. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity without taking reasonable precautions to prevent such emissions. Such activities include, but are not limited to: vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling.

   b. Reasonable precautions shall include the following:

      (1) Landscaping and planting of vegetation.

      (2) Application of water to control fugitive dust from activities such as demolition of buildings, grading roads, construction, and land clearing.

      (3) Water supply lines, hoses and sprinklers shall be located near all stockpiles of raw materials, coal, and petroleum coke.

      (4) All plant operators shall be trained in basic environmental compliance and shall perform visual inspections of raw materials, coal and petroleum coke periodically and before handling. If the visual inspections indicate a lack of surface moisture, such materials shall be wetted with sprinklers. Wetting shall continue until the potential for unconfined particulate matter emissions are minimized.

      (5) Water spray shall be used to wet the materials and fuel if inherent moisture and moisture from wetting the storage piles are not sufficient to prevent unconfined particulate matter emissions.

      (6) As necessary, applications of asphalt, water, or dust suppressants to unpaved roads, yards, open stockpiles and similar activities.

      (7) Paving of access roadways, parking areas, manufacture area, and fuel storage yard.

      (8) Removal of dust from buildings, roads, and other paved areas under the control of the owner or operator of the facility to prevent particulate matter from becoming airborne.

      (9) A vacuum sweeper shall be used to remove dust from paved roads, parking, and other work areas.

      (10) Enclosure or covering of conveyor systems where practicably feasible.

      (11) All materials at the plant shall be stored under roof. Materials, other than quarried materials, shall be stored on compacted clay or concrete, or in enclosed vessels.

      (12) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.

      (13) Confining abrasive blasting where possible.

   c. In determining what constitutes reasonable precautions for a particular source, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

   [Rules 62-212.400(BACT) and 62-296.320(4)(c), F.A.C.]

SECTION IV. APPENDICES
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FINAL BACT DETERMINATION AND EMISSION STANDARDS

The final BACT Determination will be issued with the final permit.

SECTION IV. APPENDIX C
COMMON STATE RULES

Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

EMISSIONS AND CONTROLS

1. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
4. 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.]
5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permitee shall notify the Department or the appropriate Local Program 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.]
6. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. 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) and62-210.200(203), F.A.C.]
8. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20 percent opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. 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.]

GENERAL COMPLIANCE TESTING REQUIREMENTS

The focal point of a compliance test is the stack or duct which vents process and/or combustion gases and air pollutants from an emissions unit into the ambient air. [Rule 62-297.310, F.A.C.]

10. 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.]

11. 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.]

12. 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.]

13. Applicable Test Procedures [Rule 62-297.310(4), F.A.C.]

    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 sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

            (a) 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 equipment shall 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.

14. Determination of Process Variables [Rule 62-297.310(5), F.A.C.]

    a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

    b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

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

    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 conduct a 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 dualrail 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.

16. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required. [Rule 62-297.310(7), F.A.C.]

a. *General Compliance Testing.*

1. The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.

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

(a) Did not operate; or

(b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours.

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

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

(b) b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

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

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
6. For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup.
7. For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to paragraph 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup.
8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.
9. 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.
10. An annual compliance test conducted for visible emissions shall not be required for units exempted from air permitting pursuant to subsection 62-210.300(3), F.A.C.; units determined to be insignificant pursuant to subparagraph 62-213.300(2)(a)1., F.A.C., or paragraph 62-213.430(6)(b), F.A.C.; or units permitted under the General Permit provisions in paragraph 62-210.300(4)(a) or Rule 62-213.300, F.A.C., unless the general permit specifically requires such testing.

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

c. *Waiver of Compliance Test Requirements.* If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of paragraph 62-297.310(7)(b), F.A.C., shall apply.

RECORDS AND REPORTS

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

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.

RECORDS AND REPORTS

18. 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 five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rules 62-4.160(14) and 62-213.440(1)(b)2, F.A.C.]
19. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

SECTION IV. APPENDIX GC
CONSTRUCTION PERMIT GENERAL CONDITIONS

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

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

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

   a. Have access to and copy and records that must be kept under the conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

   a. A description of and cause of non-compliance; and

   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

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

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

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology;
    b. Determination of Prevention of Significant Deterioration; and
    c. Compliance with New Source Performance 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 stipulated by the Department.

    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        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; and
        f. The results of such analyses.

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

SECTION IV. APPENDIX LLL

NESHAP SUBPART LLL PROVISIONS – PORTLAND CEMENT MANUFACTURING INDUSTRY

The provisions of this subsection apply to the following emissions units.

EU ID	Emissions Unit Description
002	(CH-2) - Raw Material Conveying and transfer to and from storage piles.
003	(CH-3) - Raw Material Processing and Storage. Including raw material transport from raw mill to blend silo, blend silo, fly ash silo, and kiln feed and fly ash transport to kiln.
004	(CH-4) - Pyroprocessing System. Includes preheater/precalciner kiln with in-line raw mill, clinker cooler and air heater.
005	(CH-5) - Clinker Storage and Conveying. Includes clinker transport from kiln; clinker, limestone, and gypsum silos; and clinker, limestone and gypsum conveying to finish mills.
006	(CH-6) - Finish Mills Cement Processing. Includes two finish mills, cement silos, packaging plant and truck loadout.
010	(CH-10, CH-11) – Fugitive Dust From Storage Piles, Paved Roads, and Unpaved Roads.

1. NESHAP Subpart A: The affected emissions units are subject to the applicable General Provisions in NESHAP Subpart A of 40 CFR 63, as adopted by Rule 62-204.800(11), F.A.C. At the end of Appendix LLL, Table LLL-1 summarizes the portions of the NESHAP General Provisions that are applicable to the affected NESHAP Subpart LLL units. [40 CFR 63, Subpart A]
2. NESHAP Subpart LLL: The affected emissions units are subject to the applicable requirements for the Portland Cement Manufacturing Industry specified in NESHAP Subpart LLL of 40 CFR 63, as adopted by Rule 62-204.800(11), F.A.C. [40 CFR 63, Subpart LLL]

§ 63.1340 Applicability and Designation of Affected Sources.

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

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

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

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

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

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

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

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

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

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

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

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

§ 63.1341 Definitions.

All terms used in this subpart that are not defined below have the meaning given to them in the CAA and in subpart A of this part.

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

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

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

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

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

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

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

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

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

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

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

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

Hazardous waste is defined in §261.3 of this chapter.

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

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

Kiln exhaust gas bypass means alkali bypass.

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

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

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

Portland cement plant means any facility manufacturing portland cement.

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

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

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

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

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

§ 63.1342 Standards - General.

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

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

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

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

Affected Source	Pollutant / Opacity	Emission and Operating Limit
New greenfield raw material dryers at major sources	THC	50 ppmvd, as propane, corrected to 7 percent oxygen
All raw material dryers and material handling points at major sources	Opacity	10 percent

§ 63.1343 Standards for Kilns and In-line Kiln/Raw Mills.

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

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

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

(2) Exhibit opacity greater than 20 percent.

(3) Contain D/F in excess of:

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

(ii) 0.40 ng per dscm (1.7×10^{-10} gr per dscf)(TEQ) corrected to seven percent oxygen, when the average of the performance test run average temperatures at the inlet to the particulate matter control device is 204° C (400° F) or less.

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

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

(2) Exhibit opacity greater than 20 percent.

(3) Contain D/F in excess of:

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

(ii) 0.40 ng per dscm (1.7×10^{-10} gr per dscf)(TEQ) corrected to seven percent oxygen, when the average of the performance test run average temperatures at the inlet to the particulate matter control device is 204° C (400° F) or less.

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

(d) *Reserved*

(e) *Rseserved*

§ 63.1344 Operating Limits for Kilns and In-line Kiln/Raw Mills.

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

(1) When the raw mill of the in-line kiln/raw mill is operating, the applicable temperature limit for the main in-line

kiln/raw mill exhaust, specified in paragraph (b) of this section and established during the performance test when the raw mill was operating is not exceeded.

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

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

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

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

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

(2) The owner or operator shall either:

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

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

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

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

§ 63.1345 Standards for Clinker Coolers.

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

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

(2) Exhibit opacity greater than ten percent.

(b) [Reserved]

§ 63.1346 Standards for New and Reconstructed Raw Material Dryers.

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

(b) *Reserved*

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

which:

(1) Contain THC in excess of 50 ppmvd, reported as propane, corrected to seven percent oxygen.

(2) Exhibit opacity greater than ten percent.

§ 63.1347 Standards for Raw and Finish Mills.

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

§ 63.1348 Standards for Affected Sources Other than Kilns; In-line Kiln/Raw Mills; Clinker coolers; New and Reconstructed Raw Material Dryers; and Raw and Finish Mills.

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

§ 63.1349 Performance Testing Requirements.

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

(1) A brief description of the process and the air pollution control system;

(2) Sampling location description(s);

(3) A description of sampling and analytical procedures and any modifications to standard procedures;

(4) Test results;

(5) Quality assurance procedures and results;

(6) Records of operating conditions during the test, preparation of standards, and calibration procedures;

(7) Raw data sheets for field sampling and field and laboratory analyses;

(8) Documentation of calculations;

(9) All data recorded and used to establish parameters for compliance monitoring; and

(10) Any other information required by the test method.

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

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

(i) Method 5 of appendix A to part 60 of this chapter shall be used to determine PM emissions. Each performance test shall consist of three separate runs under the conditions that exist when the affected source is operating at the representative performance conditions in accordance with Sec. 63.7(e). Each run shall be conducted for at least 1 hour, and the minimum sample volume shall be 0.85 dscm (30 dscf). The average of

the three runs shall be used to determine compliance. A determination of the PM collected in the impingers ("back half") of the Method 5 particulate sampling train is not required to demonstrate initial compliance with the PM standards of this subpart. However, this shall not preclude the permitting authority from requiring a determination of the "back half" for other purposes.

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

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

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

Where:

E = emission rate of particulate matter, kg/Mg of kiln feed.

c_s = concentration of PM, kg/dscm.

Q_{sd} = volumetric flow rate of effluent gas, dscm/hr.

P = total kiln feed (dry basis), Mg/hr.

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

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

Where:

E_c = the combined emission rate of particulate matter from the kiln or in-line kiln/raw mill and bypass stack, kg/Mg of kiln feed.

c_{sk} = concentration of particulate matter in the kiln or in-line kiln/raw mill effluent, kg/dscm.

Q_{sdk} = volumetric flow rate of kiln or in-line kiln/raw mill effluent, dscm/hr.

c_{sb} = concentration of particulate matter in the alkali bypass gas, kg/dscm.

Q_{sdb} = volumetric flow rate of alkali bypass gas, dscm/hr.

P = total kiln feed (dry basis), Mg/hr.

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

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

(2) The owner or operator of any affected source subject to limitations on opacity under this subpart that is not subject to paragraph (b)(1) of this section shall demonstrate initial compliance with the affected source opacity limit by conducting a test in accordance with Method 9 of appendix A to part 60 of this chapter. The performance test shall be conducted under the conditions that exist when the affected source is operating at the representative

performance conditions in accordance with Sec. 63.7(e). The maximum 6-minute average opacity exhibited during the test period shall be used to determine whether the affected source is in initial compliance with the standard. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages), except that the duration of the Method 9 performance test may be reduced to 1 hour if the conditions of paragraphs (b)(2)(i) through (ii) of this section apply:

(i) There are no individual readings greater than 10 percent opacity;

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

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

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

(ii) The temperature at the inlet to the kiln or in-line kiln/raw mill PMCD, and where applicable, the temperature at the inlet to the alkali bypass PMCD, must be continuously recorded during the period of the Method 23 test, and the continuous temperature record(s) must be included in the performance test report.

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

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

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

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

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

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

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

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

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

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

(i) The source must provide the Administrator written notice at least 60 days prior to undertaking an operational change that may adversely affect compliance with an applicable standard under this subpart, or as soon as practicable where 60 days advance notice is not feasible. Notice provided under this paragraph shall include a description of the planned change, the emissions standards that may be affected by the change, and a schedule for completion of the performance test required under paragraph (e)(1) of this section, including when the planned operational change period would begin.

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

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

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

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

TABLE 1 TO § 63.1349. SUMMARY OF PERFORMANCE TEST REQUIREMENTS

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

[a] Required initially and every 5 years thereafter.

[b] Includes main exhaust and alkali bypass.

[c] In-line kiln/raw mill to be tested with and without raw mill in operation.

[d] Must meet COM performance specification criteria. If the fabric filter or electrostatic precipitator has multiple

stacks, daily EPA Method 9 visual opacity readings may be taken instead of using a COM.

[e] Opacity limit is 20 percent.

[f] Alkali bypass is tested with the raw mill operating or not operating.

[g] Temperature and (if applicable) activated carbon injection parameters determined separately with and without the raw mill operating.

[h] Required initially and every 30 months thereafter.

[i] EPA Performance Specification (PS)-8A of appendix B to part 60 of this chapter.

[j] Opacity limit is 10 percent.

§ 63.1350 Monitoring Requirements.

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

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

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

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

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

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

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

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

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

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

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

(vii) If visible emissions from a building are monitored, the requirements of paragraphs (a)(4)(i) through (iv) of this section apply to the monitoring of the building, and you must also test visible emissions from each side, roof

and vent of the building for at least 1 minute. The test must be conducted under normal operating conditions.

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

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

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

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

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

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

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

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

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

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

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

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

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

(e) The owner or operator of a raw mill or finish mill shall monitor opacity by conducting daily visual emissions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

considering previous recordings.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(m) The requirements under paragraph (e) of this section to conduct daily Method 22 testing shall not apply to any specific raw mill or finish mill equipped with a continuous opacity monitor COM or bag leak detection system (BLDS). If the owner or operator chooses to install a COM in lieu of conducting the daily visual emissions testing required under paragraph (e) of this section, then the COM must be installed at the outlet of the PM control device of the raw mill or finish mill, and the COM must be installed, maintained, calibrated, and operated as required by the general provisions in subpart A of this part and according to PS-1 of appendix B to part 60 of this chapter. To remain in compliance, the opacity must be maintained such that the 6-minute average opacity for any 6-minute block period does not exceed 10 percent. If the average opacity for any 6-minute block period exceeds 10 percent, this shall constitute a violation of the standard. If the owner or operator chooses to install a BLDS in lieu of conducting the daily visual emissions testing required under paragraph (e) of this section, the requirements in paragraphs (m)(1) through (9) of this section apply to each BLDS:

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

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

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

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

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

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

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

(i) Adjust the range and the averaging period of the device; and

(ii) Establish the alarm set points and the alarm delay time.

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

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

(n) A summary of the monitoring requirements of this subpart is given in Table 1 to this section.

Table 1 to §63.1350. Monitoring Requirements.

Affected Source/Pollutant or Opacity	Monitor Type/ Operation/Process	Monitoring Requirements
All affected sources	Operations and maintenance plan	Prepare written plan for all affected sources and control devices
All kilns and in-line kiln raw mills at major sources (including alkali bypass)/opacity	Continuous opacity monitor, if applicable	Install, calibrate, maintain and operate in accordance with general provisions and with PS-1
	Method 9 opacity test, if applicable	Daily test of at least 30-minutes, while kiln is at highest load or capacity level
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/particulate matter	Particulate matter continuous emission monitoring system	Deferred
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/ D/F	Combustion system inspection	Conduct annual inspection of components of combustion system
	Continuous temperature monitoring at PMCD inlet	Install, operate, calibrate and maintain continuous temperature monitoring and recording system; calculate three-hour rolling averages; verify temperature sensor calibration at least quarterly
Kilns and in-line kiln raw mills at major sources (including alkali bypass)/ D/F (continued)	Activated carbon injection rate monitor, if applicable	Install, operate, calibrate and maintain continuous activated carbon injection rate monitor; calculate three-hour rolling averages; verify calibration at least quarterly; install, operate, calibrate and maintain carrier gas flow rate monitor or carrier gas pressure drop monitor; calculate three-hour rolling averages; document carbon specifications
New greenfield kilns and in-line kiln raw mills at major sources/THC	Total hydrocarbon continuous emission monitor	Install, operate, and maintain THC CEM in accordance with PS-8A; calculate 30-day block average THC concentration
Clinker coolers at major sources/opacity	Continuous opacity monitor, if applicable	Install, calibrate, maintain and operate in accordance with general provisions and with PS-1

Affected Source/Pollutant or Opacity	Monitor Type/ Operation/Process	Monitoring Requirements
	Method 9 opacity test, if applicable	Daily test of at least 30-minutes, while kiln is at highest load or capacity level.
Raw mills and finish mills at major sources/opacity	Method 22 visible emissions test (This requirement does not apply to a raw mill or finish mill equipped with a continuous opacity monitor or bag leak detection system)	Conduct daily 6-minute Method 22 visible emissions test while mill is operating at highest load or capacity level: if visible emissions are observed, initiate corrective action within one hour and conduct 30-minute Method 9 test within 24 hours
	Continuous opacity monitoring, if appilicable	Install, operate, and maintain in accordance with general provisions and with PS-1. A six-minute average greater than 10% opacity is a violation
	Bag leak detection system, if applicable	Install, operate and maintain in accordance with Sec. 63.1350(m). Operate and maintain such that alarm is not activated and alarm condition does not exist for more than 4% of the total operating time in a 6-month period. If alarm sounds, initiate corrective action.
New greenfield raw material dryers at major sources/THC	Total hydrocarbon continuous emission monitor	Install, operate, and maintain THC CEM in accordance with PS-8A: calculate 30-day block average THC concentration
Raw material dryers; raw material, clinker, finished product storage bins; conveying system transfer points; bagging systems; and bulk loading and unloading systems at major sources/opacity	Method 22 visible emissions test	As specified in operation and maintenance plan

§ 63.1351 Compliance Dates.

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

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

§ 63.1352 Additional Test Methods.

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

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

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

§ 63.1353 Notification Requirements.

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

Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

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

(1) Initial notifications as required by §63.9(b) through (d). For the purposes of this subpart, a Title V or 40 CFR part 70 permit application may be used in lieu of the initial notification required under §63.9(b), provided the same information is contained in the permit application as required by §63.9(b), and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA. Permit applications shall be submitted by the same due dates as those specified for the initial notification.

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

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

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

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

§ 63.1354 Reporting Requirements.

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

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

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

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

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

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

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

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

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

under §63.8(e).

(8) As required by §63.10(e)(3), the owner or operator of an affected source equipped with a continuous emission monitor shall submit an excess emissions and continuous monitoring system performance report for any event when the continuous monitoring system data indicate the source is not in compliance with the applicable emission limitation or operating parameter limit.

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

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

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

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

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

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

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

§ 63.1355 Recordkeeping Requirements.

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

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

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

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

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

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

§ 63.1356 Exemption from New Source Performance Standards.

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

(1) Reserved

(2) Reserved

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

§ 63.1357 Temporary, Conditioned Exemption from Particulate Matter and Opacity Standards.

(a) Subject to the limitations of paragraphs (b) through (f) of this section, an owner or operator conducting PM CEMS

correlation tests (that is, correlation with manual stack methods) is exempt from:

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

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

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

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

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

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

(4) The anticipated normal particulate matter emission level.

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

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

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

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

§ 63.1358 Implementation and Enforcement.

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

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

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

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

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

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

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

§ 63.1359 [Reserved]

Table LLL-1. Applicability of NESHAP Subpart A Provisions to Affected NESHAP Subpart LLL Units

Citation	Requirement	Applies?	Explanation
63.1(a)(1)–(4)	Applicability	Yes	
63.1(a)(5)		No	[Reserved]
63.1(a)(6)–(8)	Applicability	Yes	
63.1(a)(9)		No	[Reserved]
63.1(a)(10)–(14)	Applicability	Yes	
63.1(b)(1)	Initial Applicability Determination	No	§ 63.1340 specifies applicability.
63.1(b)(2)–(3)	Initial Applicability Determination	Yes	
63.1(c)(1)	Applicability After Standard Established	Yes	
63.1(c)(2)	Permit Requirements	Yes	Area sources must obtain Title V permits.
63.1(c)(3)		No	[Reserved]
63.1(c)(4)–(5)	Extensions, Notifications	Ye	
63.1(d)		No	[Reserved]
63.1(e)	Applicability of Permit Program	Yes	
63.2	Definitions	Yes	Additional definitions in § 63.1341.
63.3(a)–(c)	Units and Abbreviations	Yes	
63.4(a)(1)–(3)	Prohibited Activities	Yes	
63.4(a)(4)		No	[Reserved]
63.4(a)(5)	Compliance date	Yes	
63.4(b)–(c)	Circumvention, Severability	Yes	
63.5(a)(1)–(2)	Construction/Reconstruction	Yes	
63.5(b)(1)	Compliance Dates	Yes	
63.5(b)(2)		No	[Reserved]
63.5(b)(3)–(6)	Construction Approval, Applicability	Yes	
63.5(c)		No	[Reserved]
63.5(d)(1)–(4)	Approval of Construction/Reconstruction	Yes	
63.5(e)	Approval of Construction/Reconstruction	Yes	
63.5(f)(1)–(2)	Approval of Construction/Reconstruction	Yes	
63.6(a)	Compliance for Standards and Maintenance	Yes	
63.6(b)(1)–(5)	Compliance Dates	Yes	
63.6(b)(6)		No	[Reserved]
63.6(b)(7)	Compliance Dates	Yes	
63.6(c)(1)–(2)	Compliance Dates	Yes	
63.6(c)(3)–(4)		No	[Reserved]
63.6(c)(5)	Compliance Dates	Yes	
63.6(d)		No	[Reserved]
63.6(e)(1)–(2)	Operation & Maintenance	Yes	
63.6(e)(3)	Startup, Shutdown Malfunction Plan	Yes	
63.6(f)(1)–(3)	Compliance with Emission Standards	Yes	
63.6(g)(1)–(3)	Alternative Standard	Yes	
63.6(h)(1)–(2)	Opacity/VE Standards	Yes	
63.6(h)(3)	Opacity/VE Standards	No	[Reserved]
63.6(h)(4)–(h)(5)(i)	Opacity/VE Standards	Yes	
63.6(h)(5)(ii)–(iv)	Opacity/VE Standards	No	Test duration specified in subpart LLL.
63.6(h)(6)	Opacity/VE Standards	Yes	
63.6(h)(7)	Opacity/VE Standards	Yes	
63.6(i)(1)–(14)	Extension of Compliance	Yes	
63.6(i)(15)		No	[Reserved]
63.6(i)(16)	Extension of Compliance		Yes
63.6(j)	Exemption from Compliance	Yes	
63.7(a)(1)–(3)	Performance Testing Requirements	Yes	§ 63.1349 has specific requirements.
63.7(b)	Notification	Yes	

SECTION IV. APPENDIX LLL

NESHAP SUBPART LLL PROVISIONS – PORTLAND CEMENT MANUFACTURING INDUSTRY

Citation	Requirement	Applies?	Explanation
63.7(c)	Quality Assurance/Test Plan	Yes	
63.7(d)	Testing Facilities	Yes	
63.7(e)(1)–(4)	Conduct of Tests	Yes	
63.7(f)	Alternative Test Method	Yes	
63.7(g)	Data Analysis	Yes	
63.7(h)	Waiver of Tests	Yes	
63.8(a)(1)	Monitoring Requirements	Yes	
63.8(a)(2)	Monitoring	No	§ 63.1350 includes CEMS requirements.
63.8(a)(3)	Monitoring	No	[Reserved]
63.8(a)(4)	Monitoring	No	Flares not applicable.
63.8(b)(1)–(3)	Conduct of Monitoring	Yes	
63.8(c)(1)–(8)	CMS Operation/Maintenance	Yes	PS supersedes requirements for THC CEMS. Temperature and activated carbon injection monitoring data reduction requirements given in Subpart LLL.
63.8(d)	Quality Control	Yes	
63.8(e)	Performance Evaluation for CMS	Yes	PS supersedes requirements for THC CEMS.
63.8(f)(1)–(5)	Alternative Monitoring Method	Yes	Additional requirements in § 63.1350(l).
63.8(f)(6)	Alternative to RATA Test	Yes	
63.8(g)	Data Reduction	Yes	
63.9(a)	Notification Requirements	Yes	
63.9(b)(1)–(5)	Initial Notifications	Yes	
63.9(c)	Request for Compliance Extension	Yes	
63.9(d)	New Source Notification for Special Compliance Req.	Yes	
63.9(e)	Notification of Performance Test	Yes	
63.9(f)	Notification of VE/Opacity Test	Yes	Notification not required under § 63.1350(e) and (j).
63.9(g)	Additional CMS Notifications	Yes	
63.9(h)(1)–(3)	Notification of Compliance Status	Yes	
63.9(h)(4)		No	[Reserved]
63.9(h)(5)–(6)	Notification of Compliance Status	Yes	
63.9(i)	Adjustment of Deadlines	Yes	
63.9(j)	Change in Previous Information	Yes	
63.10(a)	Recordkeeping/Reporting	Yes	
63.10(b)	General Requirements	Yes	
63.10(c)(1)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(2)–(4)		No	[Reserved]
63.10(c)(5)–(8)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(c)(9)		No	[Reserved]
63.10(c)(10)–(15)	Additional CMS Recordkeeping	Yes	PS–8A supersedes requirements for THC CEMS.
63.10(d)(1)	General Reporting Requirements	Yes	
63.10(d)(2)	Performance Test Results	Yes	
63.10(d)(3)	Opacity or VE Observations	Yes	
63.10(d)(4)	Progress Reports	Yes	
63.10(d)(5)	Startup, Shutdown, Malfunction Reports	Yes	
63.10(e)(1)–(2)	Additional CMS Reports	Yes	
63.10(e)(3)	Excess Emissions and CMS Performance Reports	Yes	Exceedances are defined in subpart LLL.
63.10(f)	Waiver for Recordkeeping/Reporting	Yes	
63.11(a)–(b)	Control Device Requirements	No	Flares not applicable.
63.12(a)–(c)	State Authority and Delegations	Yes	
63.13(a)–(c)	State/Regional Addresses	Yes	
63.14(a)–(b)	Incorporation by Reference	Yes	
63.15(a)–(b)	Availability of Information	Yes	

SECTION IV. APPENDIX OOO

NSPS SUBPART OOO – NONMETALLIC MINERAL PROCESSING PLANTS

The provisions of this subsection apply to the following emissions unit.

ID	Emission Unit Description
001	(CH-1) - Primary Crushing, and Associated Conveyors. Includes front end loaders to primary crusher, primary crusher operation, base rock and limestone conveyors to base rock storage pile and limestone storage building.

1. NSPS Subpart A: The affected emissions units are subject to the applicable General Provisions in NSPS Subpart A of 40 CFR 60, as adopted by Rule 62-204.800(8), F.A.C. [40 CFR 60, Subpart A]
2. NSPS Subpart OOO: The affected emissions units are subject to the applicable requirements for Nonmetallic Mineral Processing Plants specified in NSPS Subpart OOO of 40 CFR 60, as adopted by Rule 62-204.800(8), F.A.C. [40 CFR 60, Subpart OOO]

{Permitting Note: Numbering of the original NSPS rules in the following conditions has been preserved for ease of reference with the rules. Paragraphs that are not applicable have been omitted for clarity and brevity. When used in 40 CFR 60, the term "Administrator" shall mean the Secretary or the Secretary's designee.}

§ 60.670 Applicability and Designation of Affected Facility.

(a) (1) The provisions of 40 CFR 60 Subpart OOO are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each belt conveyor or crusher.

§ 60.671 Definitions.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Crusher means a machine used to crush any nonmetallic materials, and includes, but is not limited to, the following types: jaw, gyratory, cone roll, rod mill, hammermill, and impactor.

§ 60.672 Standard for Particulate Matter.

(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.11, no owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in paragraph (c) and (d) of this section.

(c) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.11, no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

§ 60.675 Test Methods and Procedures.

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

(c) (1) In determining compliance with the particulate matter standards in 40 CFR 60.672 (b) and (c), the owner or operator shall use Method 9 and the procedures in 40 CFR 60.11, with the following additions:

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

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

(iii) For affected emissions units using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and

is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(3) When determining compliance with the fugitive emissions standard for any affected facility described under Section 60.672(b) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 10 percent opacity; and

(ii) There are no more than 3 readings of 10 percent for the 1-hour period.

(4) When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under Section 60.672(c) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6- minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 15 percent opacity; and

(ii) There are no more than 3 readings of 15 percent for the 1-hour period.

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of 40 CFR 60.675(c), if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(g) If, after 30 days notice for an initially scheduled performance test, there is a delay (due to operation problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least 7 days prior to any rescheduled performance test.

§ 60.676 Reporting and Recordkeeping.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in 40 CFR 60.672, including reports of opacity observations made using Method 9 to demonstrate compliance with 40 CFR 60.672(b) and (c).

(h) The Subpart A requirement under 40 CFR 60.7(a)(2) for notification of the anticipated date of initial startup of an affected facility shall be waived for owners or operators of affected facilities regulated under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

SECTION IV. APPENDIX Y
NSPS SUBPART Y – COAL PREPARATION PLANTS

The specific conditions of this subsection apply to the following emissions unit.

ID No.	Emissions Unit Description
007	(CH-7) - Coal and Petroleum Coke Grinding System. Includes coal mill and ground coal/petroleum bins.
008	(CH-8) – Coal and Petroleum Coke Conveying. Includes coal/petroleum coke handling and conveying from unloading to storage bins.

1. NSPS Subpart A: The affected emissions units are also subject to the applicable General Provisions in Subpart A of 40 CFR 60, as adopted by Rule 62-204.800(8), F.A.C. [40 CFR 60, Subpart A]
2. NSPS Subpart Y: The affected emissions units are also subject to the applicable requirements for Coal Preparation Plants specified in NSPS Subpart Y of 40 CFR 60, as adopted by Rule 62-204.800(8), F.A.C. [40 CFR 60, Subpart Y]

{Permitting Note: Numbering of the original NSPS rules in the following conditions has been preserved for ease of reference with the rules. Paragraphs that are not applicable have been omitted for clarity and brevity. When used in 40 CFR 60, the term "Administrator" shall mean the Secretary or the Secretary's designee.}

§ 60.250 Applicability and Designation of Affected Facility.

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

§ 60.251 Definitions.

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

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

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

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

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

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

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

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

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

§ 60.252 Standards for Particulate Matter.

(a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, an owner or operator shall not cause to be discharged into the atmosphere from any thermal dryer gases which:

(1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf).

(2) Exhibit 20 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, an owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment or coal storage system, gases which exhibit 20 percent opacity or greater. [40 CFR 60.252(a) and (c)]

§ 60.253 Monitoring of Operations.

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

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

(b) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under 40 CFR 60.13(b). [40 CFR 60.253(a) and (b)]

§ 60.254 Test Methods and Procedures.

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

(b) The owner or operator shall determine compliance with the particular matter standards in 40 CFR 60.252 as follows:

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

(2) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Marvin A. Beier
1900 Peachtree Avenue
The Villages, Florida 32162-7559

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Marvin A. Beier ☐ Agent ☒ Addressee

B. Received by (Printed Name) MARVIN A. BEIER C. Date of Delivery 12/27/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7000 1670 0013 3109 9878

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Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Postmark Here

Mr. Marvin A. Beier
1900 Peachtree Avenue
The Villages, Florida 32162-7559

PS Form 3800, May 2000 See Reverse for Instructions

7000 1670 0013 3109 9878

U.S. Postal Service
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Ms. Pauline T. Beier
1900 Peachtree Avenue
The Villages, Florida 32162

PS Form 3800, January 2001 See Reverse for Instructions

7001 0320 0001 3692 3715

SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Pauline T. Beier
1900 Peachtree Avenue
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Marvin A. Beier ☐ Agent ☒ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3715

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Joyce Christie
700 Rosella Place
The Village, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Joyce A. Christie ☐ Agent ☒ Addressee

B. Received by (Printed Name) | C. Date of Delivery
12-30-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0001 3692 3951

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7001 0320 0001 3692 3951

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Ms. Joyce Christie
700 Rosella Place
The Village, Florida 32162

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7000 1670 0013 3109 9885

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Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Ms. Carol Correa
872 Ladson Loop
The Village, FL 32162-3393

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Carol Correa
872 Ladson Loop
The Village, FL 32162-3393

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Carol Correa ☐ Agent ☐ Addressee

B. Received by (Printed Name) Carol Correa | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

9885

102595-02-M-1540

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Daniel R. Fritz, CEO/President
Sumter Cement Company, LLC
Post Office Box 410
Branford, Florida 32008

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☒ Agent ☐ Addressee

B. Received by (Printed Name) T-Foster | C. Date of Delivery 12/23/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7000 1670 0013 3109 9861

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Total

Sent To Mr. Daniel R. Fritz, CEO/President
Street, Sumter Cement Company, LLC
City, S. Post Office Box 410
Branford, Florida 32008

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7000 1670 0013 3109 9861

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Postmark Here

Mr. Everett Hadley
3399 Atwell Avenue
The Villages, Florida 32162

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7001 0320 0001 3692 3708

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Everett Hadley
3399 Atwell Avenue
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Carolyn Hadley | C. Date of Delivery 12-30-

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3708

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Sue Michalson
3367 Reston Drive
Lady Lake, Florida 32162-7688

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) S. Michaelson C. Date of Delivery 12-23-L

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7000 1670 0013 3109 9977

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Return Receipt Fee (Endorsement Required)	
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Ms. Sue Michalson
3367 Reston Drive
Lady Lake, Florida 32162-7688

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Restricted Delivery Fee (Endorsement Required)	

Postmark Here

June B. Paser
2124 Barbosa Ct.
Lady Lake, Florida 32159

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7001 0320 0001 3692 3753

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

June B. Paser
2124 Barbosa Ct.
Lady Lake, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3753

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- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. John Megan& Louise Racine
3448 County Road 567
Center Hill, Florida 33514-6217

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X J Megan ☐ Agent ☑ Addressee

B. Received by (Printed Name) X J Megan C. Date of Delivery 12/23/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3760

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Restricted Delivery Fee (Endorsement Required)	

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Mr. John Megan& Louise Racine
3448 County Road 567
Center Hill, Florida 33514-6217

7001 0320 0001 3692 3760

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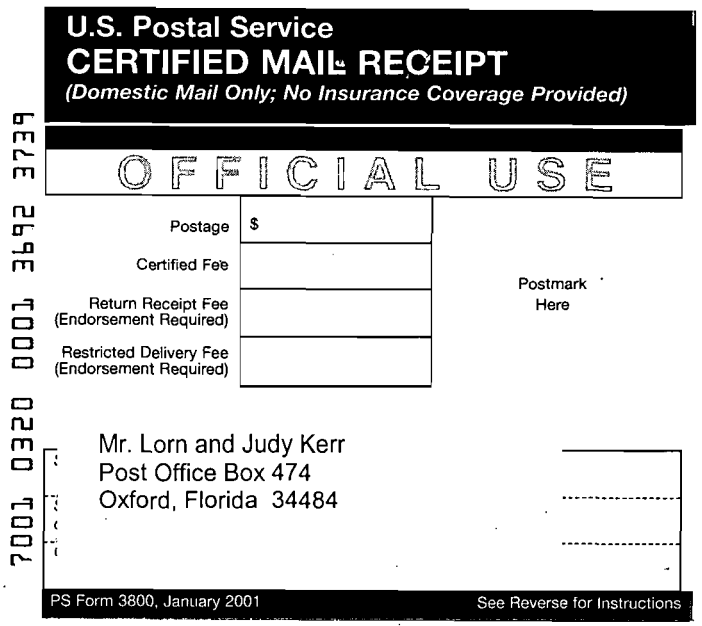

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Restricted Delivery Fee (Endorsement Required)	

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Mr. Lorn and Judy Kerr
Post Office Box 474
Oxford, Florida 34484

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Lorn and Judy Kerr
Post Office Box 474
Oxford, Florida 34484

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* LORN B. KERR — C. Date of Delivery 12/27/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3739

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• Sender: Please print your name, address, and ZIP+4 in this box •

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

RECEIVED
DEC 2005
BUREAU OF AIR REGULATION

U.S. Postal Service
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7001 0320 0001 3692 3678

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Restricted Delivery Fee (Endorsement Required)	

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Tot

Sent

Stree or PC

City,

Mr. Lawrence H. Paser
2124 Barbosa Court
Village of Santo Domingo
Lady Lake, Florida 32159

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- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Lawrence H. Paser
2124 Barbosa Court
Village of Santo Domingo
Lady Lake, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3678

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First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd , MS 5505
Tallahassee, FL 32399-2400

RECEIVED
DEC 28 2005
BUREAU OF AIR REGULATION

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr, Douglas R. Kinney
1864 Dalton Drive
The Villages, Florida 32162-7613

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Margaret P. Dwyer ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) Dwyer
C. Date of Delivery 12/23/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2 Article Number
(*Transfer from service label*) 7001 0320 0001 3692 3685

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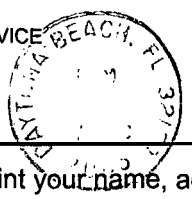

First-Class Mail
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USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

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Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7000 1670 0013 3109 9915

Mr. Martin Farber
1801 Fonseca Way
The Villages, Florida 32159

PS Form 3800, May 2000 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Martin Farber
1801 Fonseca Way
The Villages, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery 12-23-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7000 1670 0013 3109 9915

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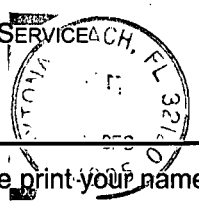
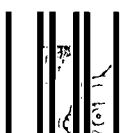


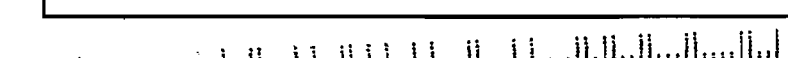


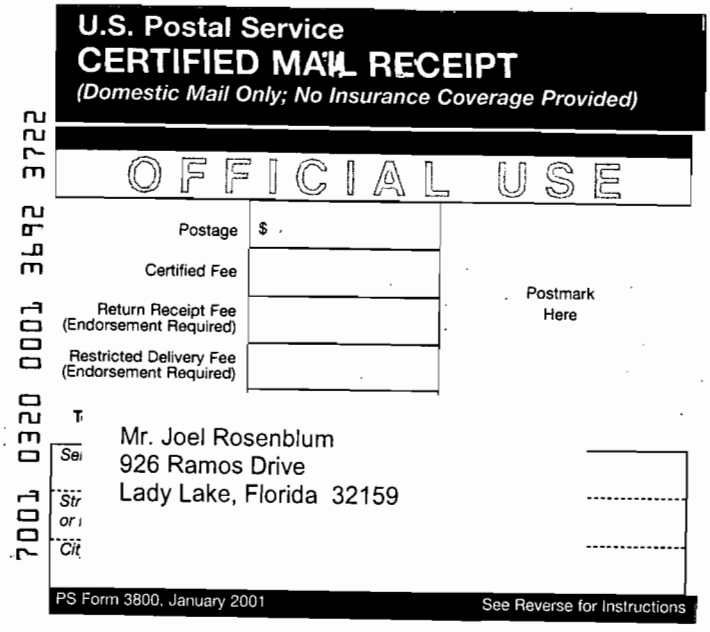
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

RECEIVED
DEC 29 2005
BUREAU OF AIR REGULATION





U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

7001 0320 0001 3692 3722

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)

Postmark Here

Mr. Joel Rosenblum
926 Ramos Drive
Lady Lake, Florida 32159

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Joel Rosenblum
926 Ramos Drive
Lady Lake, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☑ Agent ☐ Addressee

B. Received by (*Printed Name*) J. A. Rosenblum C. Date of Delivery 12-27-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2. Article Number (*Transfer from service label*) 7001 0320 0001 3692 3722

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

RECEIVED
DEC 30 2005
BUREAU OF AIR REGULATION

0001

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Ms. Ann Cantlin-Elkins
1265 County Road 543A
Sumterville, Florida 33585-5129

PS Form 3800, May 2000 — See Reverse for Instructions

7000 1670 0013 3109 9953

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Ann Cantlin-Elkins
1265 County Road 543A
Sumterville, Florida 33585-5129

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Ann Cantlin-Elkins ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* ANN CANTLIN — C. Date of Delivery 1/4/06

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7000 1670 0013 3109 9953

PS Form 3811, February 2004 — Domestic Return Receipt — 102595-02-M-1540

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

C001

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7000 1670 0013 3109 9908

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

H. Callahan
409 S. Timber Trail
Wildwood, Florida 34785

PS Form 3800, May 2000 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

H. Callahan
409 S. Timber Trail
Wildwood, Florida 34785

COLLINWOOD STATION
DEC 31 2005
USPS
CLEVELAND, OH 44110

COMPLETE THIS SECTION ON DELIVERY

A. Signature
H. Callahan ☐ Agent ☐ Addressee

B. Received by (Printed Name) H. Callahan
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No
316 Crawford Cleveland OH
Cleveland, Ohio 44120

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7000 1670 0013 3109 9908

PS Form 3811, February 2004 — Domestic Return Receipt — 102595-02-M-1540

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

RECEIVED

JAN 06 2006

BUREAU OF AIR REGULATION

C001

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3685

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Ms. Margaret Dwyer
1864 Dalton Drive
The Villages, Florida 32162

PS Form 3800, January 2001 — See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Margaret Dwyer
1864 Dalton Drive
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Margaret P. Dwyer ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 1/6/06

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3685

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Best Available Copy

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

RECEIVED
JAN 10 2006
BUREAU OF AIR REGULATION

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

C001

Adams, Patty

From: Mulkey, Cindy
Sent: Tuesday, January 17, 2006 10:07 AM
To: Adams, Patty
Subject: FW: Sumter Cement Company (1190041-001-AC) and American Cement Company (1190042-001-AC)

No comments from SWD.

From: Waters, Jason
Sent: Tuesday, January 17, 2006 7:33 AM
To: Mulkey, Cindy
Cc: Linero, Alvaro; Nasca, Mara
Subject: Sumter Cement Company (1190041-001-AC) and American Cement Company (1190042-001-AC)

Cindy,

Just wanted to let you know I read over these permits, and I don't have any comments on these projects.

Nice job on these permits.

Jason W. Waters, P.E.
Air Permitting Supervisor
Florida Department of Environmental Protection
Southwest District
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926
813-632-7600 x107 FAX 813-744-6458

SUMTER CEMENT COMPANY
CENTER HILL, FLORIDA, USA

AL,

PLEASE FIND THE NOTARIZED PROOF OF PUBLICATION FOR THE PUBLIC NOTICE FOR SUMTER CEMENT PUBLISHED ON DECEMBER 22ND, 2005 IN THE SUMTER COUNTY TIMES.

PLEASE LET ME KNOW IF YOU HAVE ANY QUESTIONS.

THANKS,

JOE HORTON

Proof of Publication

from the

SUMTER COUNTY TIMES

Bushnell, Sumter County, Florida

PUBLISHED WEEKLY

STATE OF FLORIDA
COUNTY OF SUMTER

Before the undersigned authority personally appeared

Kathleen Niehaus

Of the Sumter County Times, a newspaper published weekly at Bushnell, in Sumter County, Florida, that the attached copy of advertisement being a public notice in the matter of the
644-1222 SCT PUBLIC NOTICE PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT DEP File No. 1190041-001-AC (PSD-FL-358) Sumter Cement Company, L.L.C. Center Hill Cement Plant Sumter County The Department of Environmental Protection (Depart- ment

Court, was published in said newspaper in the issues of

December 22nd, 2005,

Affiant further says that the Sumter County Times is a Newspaper published at Bushnell in said Sumter County, Florida, and that the said newspaper has heretofore been continuously published in Sumter County, Florida, each week and has been entered as second class mail matter at the post office in Bushnell in said Sumter County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Kathleen Niehaus

The forgoing instrument was acknowledged before me

This 22nd day of December, 2005

By: Kathleen Niehaus

who is personally known to me and who did take an oath.

Notary Public

BETSY B. KING
MY COMMISSION # DD 267499
EXPIRES: November 16, 2007
1-800-3-NOTARY FL Notary Discount Assoc. Co.

644-1222 SCT
PUBLIC NOTICE

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

DEP File No. 1190041-001-AC (PSD-FL-358)
Sumter Cement Company, L.L.C.
Center Hill Cement Plant
Sumter County

The Department of Environmental Protection (Department) gives notice of its intent to issue an Air Construction Permit to Sumter Cement Company to construct a greenfield portland cement plant in the City of Center Hill in Sumter County. A review under the rules for the Prevention of Significant Deterioration of Air Quality (PSD) and Best Available Control Technology (BACT) determinations were required for nitrogen oxides (NOx), sulfur dioxide (SO2), volatile organic compounds (VOC), carbon monoxide (CO), and particulate matter (PM/PM10). The applicant's name and business address are Sumter Cement Company, L.L.C., Post Office 410, Branford, Florida 32008.

Sumter Cement Company (SCC) proposes to construct a dry process portland cement plant with a nominal capacity of 1,715,500 tons per year (TPY) of clinker. The equipment will include: a primary crusher and conveyance equipment to transport limestone to raw material storage; a raw material storage building for limestone and materials containing silica, alumina, iron, and additives; stackers, reclaimers, and conveyance equipment to raw materials drying and milling; a homogenizing silo; a dry process preheater/calciner (PH/C) kiln with in-line raw mill capable of producing 5,000 tons per day (TPD) of clinker; a clinker cooler; a coal and petroleum coke mill; conveyance equipment to clinker storage; conveyance equipment to the two finish mills; cement silos and a truck loadout area; and a packhouse. Numerous baghouses will be included to contain dust from materials conveyance, transfer and handling. A single large baghouse will serve exhaust from the PH/C kiln, raw mill, and clinker cooler.

The heat necessary to convert the raw materials to clinker will be provided primarily by coal and petroleum coke combustion in the main kiln burner and calcination burner. NOX emissions will be minimized by indirect firing in a Low NOX main kiln burner, staged combustion in the calciner, and a selective non-catalytic reduction (SNCR) ammonia injection system. SO2 emissions will controlled by use of inherently low sulfur raw materials, scrubbing by finely divided lime in the calciner, and hydrated lime injection system. CO and VOC emissions will be controlled by promoting complete combustion in the kiln and calciner and minimizing carbon and oily content of raw materials. PM/PM10 from the PH/C kiln, in-line raw mill, and clinker cooler will be controlled by a single large fabric filter baghouse. Emissions points from handling, conveyance, and transfer will be controlled by baghouses. Emissions from raw materials piles, loading operations, transportation, etc. will be controlled by reasonable precautions including paving, road sweeping, watering, planting grass, etc.

The SCC Plant will be subject to the maximum achievable control technology (MACT) requirements in 40CFR63, Subpart LLL - National Emission Standards for Hazardous Air Pollutants for Portland Cement Manufacturing Industry. In addition, the plant will be subject to the Department's determination of best available control technology (BACT). The BACT determinations for the PH/C kiln, in-line calciner, and clinker cooler are: 1.95 pounds of NOx per ton of clinker (lb/ton); 0.20 lb SO2/ton, 2.9 lb CO/ton, 0.115 lb VOC/ton; and 0.17 lb PM/PM10/ton. The BACT determinations are among the lowest emission limitations among recent determinations in the state and the country.

Mercury (Hg) emissions will be limited to 184 pounds per year. Initially compliance will be conservatively estimated based on the concentration of Hg in the fuels and raw materials entering the process. The Department has determined that by the second year of operation, reliable mercury continuous emission monitors (Hg-CEMS) will be available and requires that a Hg-CEMS be installed to measure actual emissions. This instrument together with another planned in Sumter County represent the first two Hg-CEMS installations required at any facility in the State of Florida. They also represent the first two Hg-CEMS monitors required at cement plants in the United States.

The Department reviewed the applicant's ambient air quality analysis for CO, NOx, SO2, VOC and PM/PM10, pollutonts subject to PSD for this project. All pollutants were less than their respective Significant Impact Levels for the Class II area (i.e. all areas except for the Class I Chassahowitzka Wilderness Area), except for PM/PM10 on a 24-hour and annual basis. Therefore, a refined increment modeling analysis, including nearby sources, was required for PM10. The results of this analysis are given in the table below. This refined analysis demonstrated compliance with regulatory requirements which include demonstrating compliance with the ambient air quality standards.

Averaging Time: 24-hour
Maximum Predicted Impact - ug/m3: 29.7
Allowable Increment - ug/m3: 30
Compliance with Increment: Yes
Percent of Increment: 99%

Averaging Time: Annual
Maximum Predicted Impact - ug/m3: 7
Allowable Increment - ug/m3: 17
Compliance with Increment: Yes
Percent of Increment: 41%

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4

Tallahassee, Florida, 32301
Telephone: (850) 488-0114
Fax: (850) 922-6979

Department of Environmental Protection
Southwest District Office
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: (813) 632-7600
Fax: (813) 632-7668

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Program Administrator, South Permitting Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/921-9523, for additional information. Key documents can be viewed at the following web page:
www.dep.state.fl.us/air/permitting/construction/sumter.htm

Published one (1) time in the Sumter County Times, December 22, 2005.

All pollutants were less than their respective Significant Impact Levels for the nearest Class I area (the Chassahowitzka Wilderness Area located 61km from project) therefore, a refined multi-source increment modeling analysis was not required. Based on the required analyses, the Department has reasonable assurance that the proposed project will not cause or significantly contribute to a violation of any ambient air quality standard or PSD increment.

The Department will accept written comments concerning the proposed permit issuance action and requests for a public meeting for a period of thirty (30) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

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

A petition that disputes the material facts on which the Department'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 how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action 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 Department'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.

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

SUMTER CEMENT COMPANY
CENTER HILL, FLORIDA, USA

JACKSONVILLE FL 322
28 DEC 2005 PM 1 L
HAPPY HOLIDAYS
MAILED FROM ZIP CODE 3__068

CINDY → PATTY
(pls update Arcys + note date received)
al

AL LINERO
FLORIDA DEP
2600 BLAIR STONE ROAD
MS # 5500
TALLAHASSEE, FL 32399-2400

32399+2542

Proof of Publication

from the

SUMTER COUNTY TIMES

Bushnell, Sumter County, Florida

PUBLISHED WEEKLY

STATE OF FLORIDA
COUNTY OF SUMTER

Before the undersigned authority personally appeared

Kathleen Niehaus

Of the Sumter County Times, a newspaper published weekly at Bushnell, in Sumter County, Florida, that the attached copy of advertisement being a public notice in the matter of the
691-1201 SCT PUBLIC NOTICE NOTICE OF APPLICATION STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DEP File No. 1190041-AC (PSD-FL-358) Sumter Cement Company Sumter County The Department of Environmental Protection announces receipt of an appl

Court, was published in said newspaper in the issues of
December 1st, 2005,

Affiant further says that the Sumter County Times is a Newspaper published at Bushnell in said Sumter County, Florida, and that the said newspaper has heretofore been continuously published in Sumter County, Florida, each week and has been entered as second class mail matter at the post office in Bushnell in said Sumter County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Kathleen Niehaus

The forgoing instrument was acknowledged before me

This 1st day of December, 2005

By: Kathleen Niehaus

who is personally known to me and who did take an oath.

Notary Public

BETSY B. KING
MY COMMISSION # DD 267499
EXPIRES: November 16, 2007
1-800-3-NOTARY FL Notary Discount Assoc. Co.

RECEIVED
DEC 7 2005
BUREAU OF AIR REGULATION

691-1201 SCT
PUBLIC NOTICE

NOTICE OF APPLICATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP File No. 1190041-AC (PSD-FL-358)

Sumter Cement Company
Sumter County

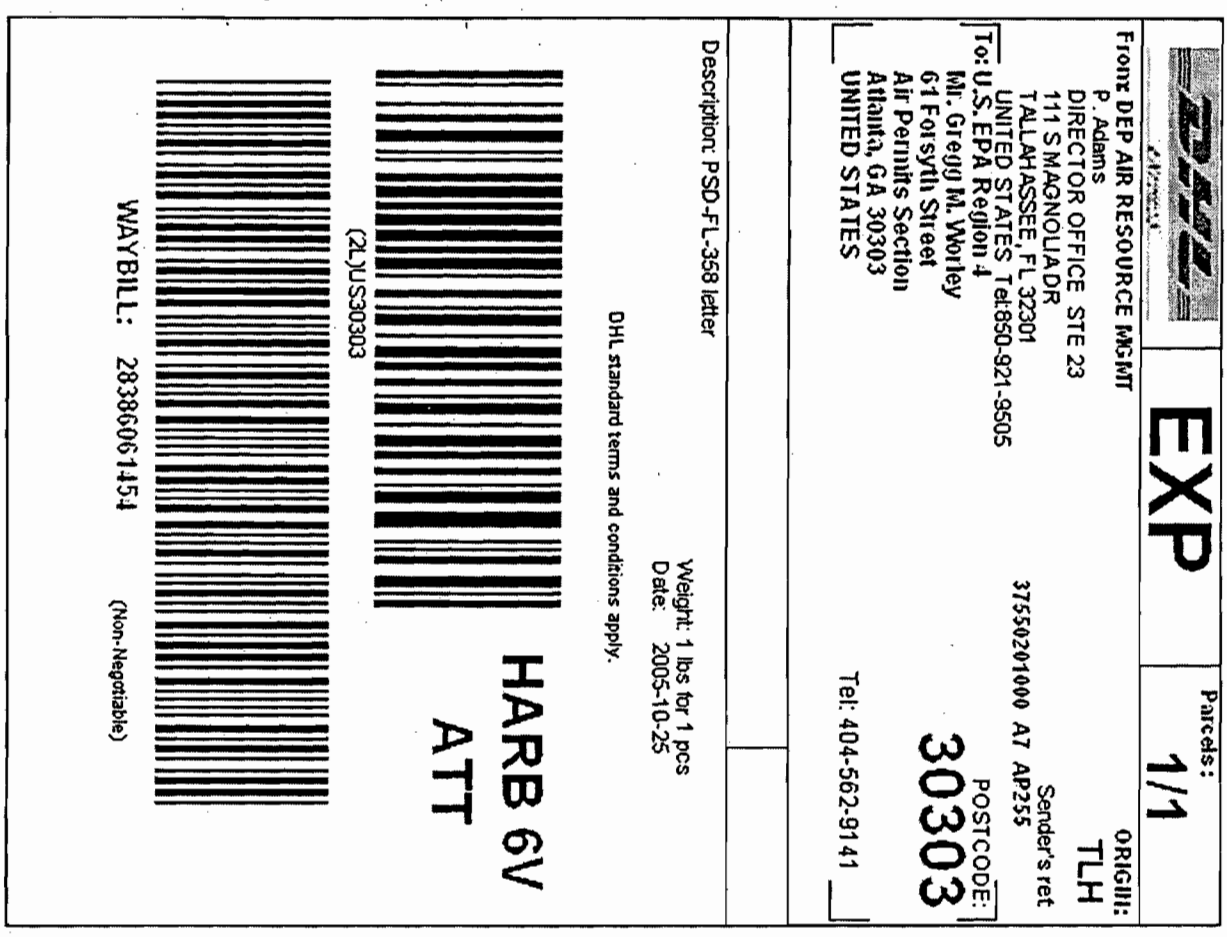
The Department of Environmental Protection announces receipt of an application for an air construction permit pursuant to the Rules for the Prevention of Significant Deterioration (PSD) of Air Quality from Sumter Cement Company. The project is to construct a dry process portland cement plant in the vicinity of Center Hill, Sumter County. This application is being processed and is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following Department offices:

Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32399-2400
Telephone: 850/921-9523
Fax: 850/921-9533

Department of Environmental Protection
Southwest District Office
8407 Laurel Fair Circle
Tampa, Florida 33610
Telephone: 813/744-6100
Fax: 813/744-6458

Key portions of the application and additional information can be accessed at the Department's website at:
www.dep.state.fl.us/Air/permitting/construction/sumter.htm

Published one (1) time in the Sumter County Times, December 1, 2005.



▲ PEEL HERE PEEL HERE ▲

Please fold or cut in half

DO NOT PHOTOCOPY

Using a photocopy could delay the delivery of your package and will result in additional shipping charge

SENDER'S RECEIPT
Waybill #: 28386061454

To(Company):
U.S. EPA Region 4
Air Permits Section
61 Forsyth Street

Atlanta, GA 30303
UNITED STATES

Attention To: Mr. Gregg M. Worley
Phone#: 404-562-9141

Sent By: P. Adams
Phone#: 850-921-9505

Rate Estimate: 6
Protection: Not Required
Description: PSD-FL-358 letter

Weight (lbs.): 1
Dimensions: 0 x 0 x 0

Ship Ref: 37550201000 A7 AP255
Service Level: Next Day 12:00 (Next business day by 12 PM)

Special Svc:

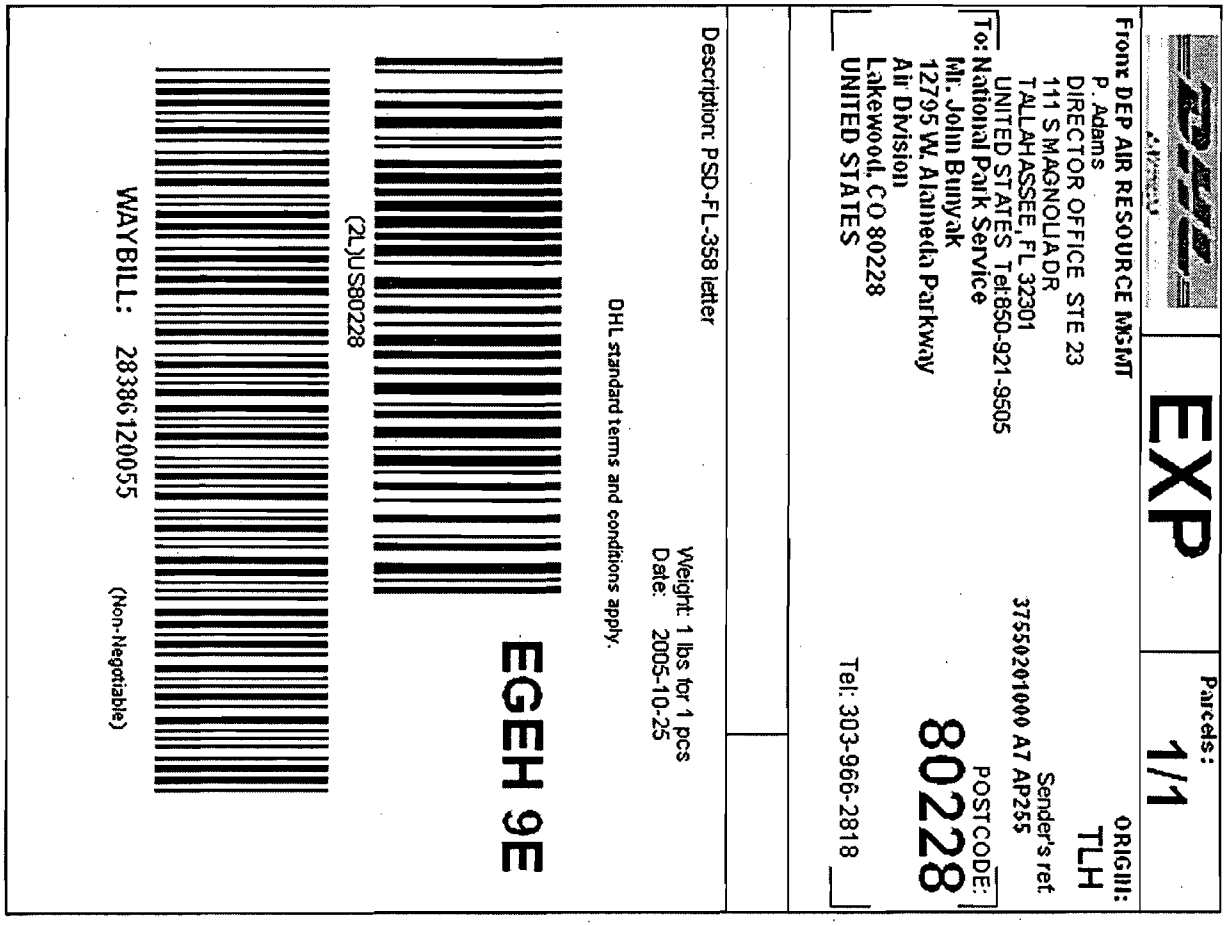
Date Printed: 10/25/2005
Bill Shipment To: Sender
Bill To Acct: 778941286

DHL Signature (optional) _____ Route _____ Date _____ Time _____

For Tracking, please go to www.dhl-usa.com or call 1-800-225-5345

Thank you for shipping with DHL

Create new shipment ▶ View pending shipments Print waybill



PEEL HERE PEEL HERE

Please fold or cut in half

DO NOT PHOTOCOPY

Using a photocopy could delay the delivery of your package and will result in additional shipping charge

SENDER'S RECEIPT
Waybill #: 28386120055

To(Company):
National Park Service
Air Division
12795 W. Alameda Parkway

Lakewood, CO 80228
UNITED STATES

Attention To: Mr. John Bunyak
Phone#: 303-966-2818

Sent By: P. Adams
Phone#: 850-921-9505

Rate Estimate: 12.51
Protection: Not Required
Description: PSD-FL-358 letter

Weight (lbs.): 1
Dimensions: 0 x 0 x 0

Ship Ref: 37550201000 A7 AP255
Service Level: Next Day 12:00 (Next business day by 12 PM)

Special Svc:

Date Printed: 10/25/2005
Bill Shipment To: Sender
Bill To Acct: 778941286

DHL Signature (optional) _____ Route _____ Date _____ Time _____

For Tracking, please go to www.dhl-usa.com or call 1-800-225-5345

Thank you for shipping with DHL

Create new shipment ▶ View pending shipments Print waybill

SUMTER COUNTY CEMENT
CENTER HILL, FLORIDA, USA

October 17, 2005

Mr. A.A. Linero
Bureau of Air Regulation
Department of Environmental Protection
2600 Blair Stone Road, MS # 5500
Tallahassee, Florida 32399-2400

SUBJECT: Response to Request for Additional Information dated October 7, 2005
Sumter Cement – Center Hill Plant
DEP File No. 1190041-001-AC (PSD-FL-358)
Proposed Portland Cement Plant in Sumter County, Florida

Dear Mr. Linero:

Sumter Cement Company (SCC) includes the following information in response to the Florida Department of Environmental Protection's (Department) request for additional information (RAI) dated October 7, 2005. SCC has included text from the Department's RAI in *italics* for clarity with SCC responses following each question.

Should the Department have additional questions or wish to meet to discuss the application, SCC would welcome this opportunity. SCC would be pleased to meet with the Department to clarify any outstanding issues or present the information in the application.

If the Department should have any additional questions please feel free to contact me directly to discuss at (386) 935-5039 or by e-mail at jbhorton@suwanneecement.com.

Sincerely,

Joe Horton
Sumter Cement Company

CC: Trina Vielhauer – DEP (w/o Attachments)
Dan Fritz - SCC
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1. *SCC relies on "good combustion" (GC) to control carbon monoxide (CO). SCC proposes a best available control technology (limit) by GC of 3.6 pounds of CO per ton of clinker (lb/ton) on a 30-day basis. The cost of further control by other technologies was calculated presuming that emissions without further control by GC will be 3.6 lb/ton. Please estimate the costs and cost-effectiveness of further control by GC by evaluating the following possibilities. Applicant's own possibilities are also encouraged.*

Carbon Monoxide (CO) is generated primarily from two sources in the cement pyro-processing. First from the incomplete combustion of fuel, and second from incomplete combustion and/or release from raw materials. Additionally, CO can be formed as a secondary reaction in the SNCR process depending on reagent usage and the location for injection for the primary reaction of oxidizing NO to NO_2. If reagents such as urea are used, CO is generated in the dissociation of the urea to ammonia (NH_3) and ultimately NH2 radicals. Even if ammonia is used directly a competitive reaction between the OH radicals for conversion of NO to NO2 and CO to CO2 occurs which can result in increased CO emissions. Suwannee American Cement (SAC), through testing at its other facilities, has seen increases in CO with the use of SNCR as a control technology. This has been reported to the Department in test reports from SAC and Polysius dated February 10, 2005. If the intent of SNCR is to minimize NOx, then the unintentional formation of CO may be unavoidable.

SCC has estimated CO emissions for the project with the assumptions of good combustion controls. This is meant to insure the design and operation of the combustion source (calciner) and insure the proper burn-out of CO to CO2. This is accomplished by proper oxygen, temperatures, mixing and residence time. This minimizes the amount of CO generation from the combustion of fuel only. Typical calciner designs allow for 3 to 5 seconds of retention time with mixing and the presence of oxygen to insure proper burn-out of the selected fuels. SCC will insure the correct amount of residence time for all proposed fuels in the final design of the calciner. Additionally, the use of SNCR will minimize the need to utilize harsh reducing conditions for the reduction of NO. This will again allow for the most efficient means to minimize the CO associated with incomplete combustion. However, use of the SNCR may contribute to the overall CO as a secondary reaction.

The second portion of CO generation comes from the raw materials and, in the case of SCC, is the primary means of generation. Little can be done to minimize the generation of CO from naturally occurring organic materials in the raw materials. As the materials travel through the pyro-process, they are heated through a temperature profile in a gradual manner allowing for the release of and incomplete combustion of hydrocarbons.

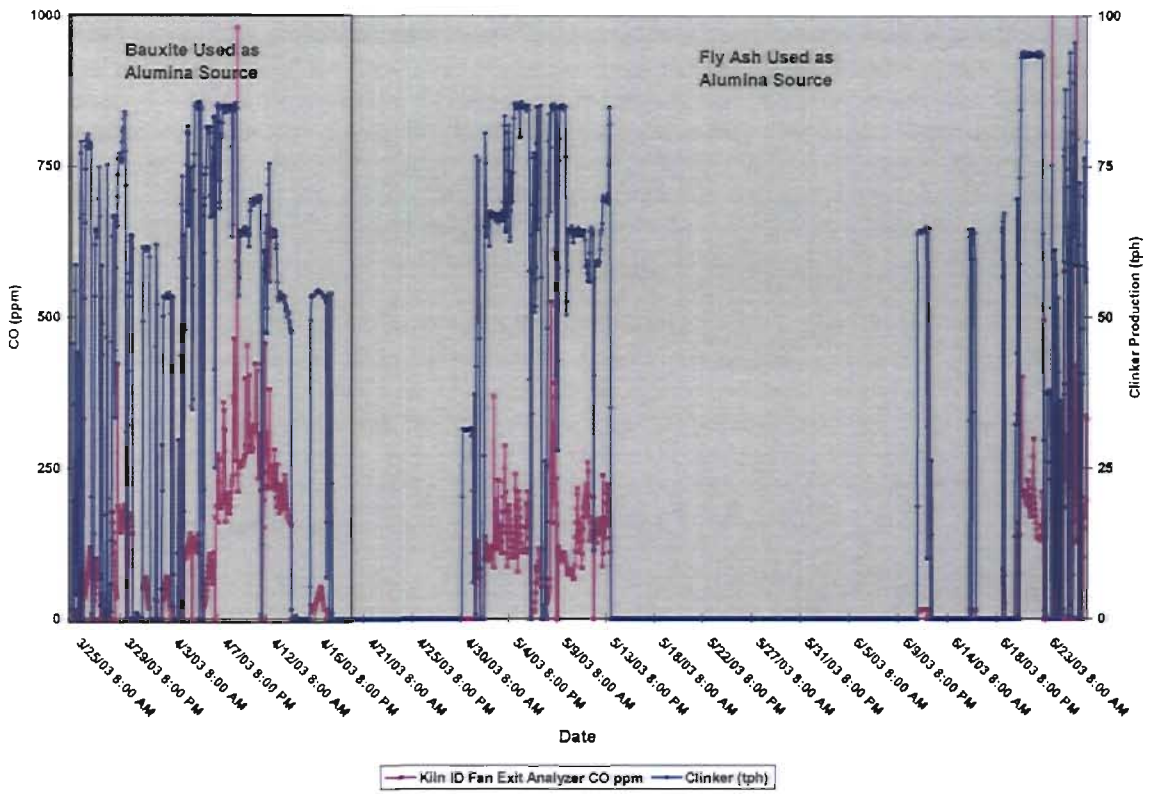
Based on 2.5 years plus of CO process data, CO stack testing, SNCR data, and Fly Ash Injection data at SAC, which fundamentally uses similar raw materials, a baseline for CO was developed. Improvements to combustion controls were evaluated and added to SCC, reducing the CO formation from incomplete combustion of fuels in the calciner. Projects such as Fly Ash Injection, which contribute some reduction to CO, were also included at SCC. SNCR for control of NO_x emissions was included for SCC, and the subsequent possible increase in CO was accounted for. The overall evaluations of these factors lead to a CO emission rate of 3.6 pounds per ton of clinker. This included the primary control of good combustion through extension of the retention time in the calciner to insure proper burn-out of fuel generated CO regardless of the fuel and including low volatile fuels such as Pet Coke.

a. *Given the present calciner design, estimate the CO emissions when using bauxite instead of fly ash as a raw material and only coal as fuel (except during startup).*

SCC has yet to design or have a calciner designed. The process flow sheets were done with the help of Polysius Corporation, a worldwide cement design expert to help in proper sizing and layout of the plant. Any preheater tower with vendor specific calciner such as FL Smidth, Polysius, or KHD could be utilized. SCC would insure the proper retention time of the calciner regardless of vendor and for all operating scenarios including proposed fuels.

Based on data from SAC, which actually ran with bauxite for several months prior to using fly ash, SCC determined minimal impact to CO emission from the use of bauxite versus fly ash. Chart 1 shows the CO as measured by a process analyzer for CO located in the downcomer after formation of CO from raw materials. It can be seen that during the limited time frame of bauxite use, the CO emissions appear comparable to the use of fly ash.

Chart 1: CO with Bauxite and Fly Ash Use at SAC



As stated previously, provisions for the injection of fly ash into the calciner will be included in the SCC project as a means to insure proper combustion of fly ash with higher carbon content instead of gradual heating through the tower. The data from SAC with use of bauxite as well as Fly Ash Injection were used to develop the baseline CO emissions for SCC at 3.6 lb per ton of clinker.

b. *Evaluate costs of using bauxite instead of fly ash or other material high in carbon.*

The cost evaluation for bauxite is not the determining factor for its selection as alumina source for the raw materials. As previously discussed SAC originally used bauxite as an alumina source, and SCC has made provisions in the design for the use of bauxite with storage areas shown in the site layout. Bauxite, although very high in alumina, contains little to no alkalis. SAC switched use from bauxite to fly ash for the alkalis present in the fly ash. For SAC as well as SCC it is foreseen that fly ash will be the major source of alkali which will be discussed in detail later in the RAI response for their impact to the sulfur-alkali balance.

c. *Evaluate costs of minimizing petroleum coke and other difficult to burn fuels to maximize burnout in the calciner and ducting to the lower cyclone.*

The calciner and associated ducting will be designed to insure proper burn-out of CO from any fuel used. The design will incorporate proper retention time to insure that CO from 100% pet coke will have the needed retention time for the burnout of CO, limiting the CO from the calciner region of the pyro-process. As stated previously, the major portion of the CO presumed from SCC is from raw materials.

d. *Evaluate costs and benefits of increasing retention time (in increments of 0.5 seconds) in the calciner and duct work to the lower cyclone to maintain the requested fuel and raw materials options while achieving the CO emissions estimated in paragraph a. above.*

As outlined in paragraph a and c, the calciner will be designed with maximum retention time to insure proper combustion and minimize the CO generation. The retention time will be on the order of 3 to 5 seconds, and any increase beyond that will not result in any measurable decrease in CO emissions from the fuels used. Extensions in calciner length and subsequent retention time would have no impact on CO generation from the raw material. The choices of raw materials and impacts from use of 100% fly ash to 100% bauxite have also been evaluated in determining the CO emissions. SCC has yet to decide on the alumina source for the project and has made provisions for the use of 100% fly ash, 100% bauxite, or a combination of the two. Storage and transportation for both sources have been included in the application in duplicate for each of the sources. The availability of sources and overall chemical composition of the raw mixture will decide the usage rates of each source.

e. *The Department notes that the above procedure would certainly be considered by any operator prior to assuming that a regenerative thermal oxidizer (RTO), estimated by the applicant at $47,000,000 (capital) and $17,900,000 per year, would be necessary to achieve lower CO emissions.*

SCC agrees that minimization of CO from proper design and operation of the calciner and reduction in organic materials in the raw materials is the most cost effective means to reduce CO emissions. In the cost analysis and baseline CO emissions, SCC has incorporated a calciner with the maximum retention time to reduce CO emissions from incomplete or partial combustion. Additionally, the major portion of CO present in the presumed 3.6 lb/ton BACT limit comes from raw materials, with fly ash only contributing a small portion. The use of bauxite versus fly ash seemed to have little impact on the overall CO emissions based on data from SAC. Although fly ash does contribute more to the overall CO emissions, it appears that the overall reduction in CO from the use of bauxite does not result in drastic reductions in CO. Naturally occurring organics in the limestone, which makes up far more of the raw

material input, would be believed to be the primary source of CO. These factors in conjunction with unknown contributions of CO from SNCR at SCC were the basis used when arriving at a BACT limit of 3.6 lb/ton.

f. With respect to the comment on page 35 about the decommissioning of the RTO at TXI, an agreement was reached between TXI and petitioners to operate the RTO all year round.

SCC has learned that TXI in fact has reached an agreement to run the RTO unit year round. SCC understood that TXI had requested to operate the RTO only during ozone season and was unaware of the most recent agreement. However, it should be noted that SCC has learned the RTO still experiences operational problems and does not operate year round due to these operational problems.

g. Provide estimate of impacts on CO due to operation rates between the guaranteed manufacturer production rates and the expected (greater) production rates foreseen by SCC. This may be just a part of the exercise described in d. above.

All emission rates for SCC are based on a maximum production rate above and beyond the design rates. SCC has only worked with Polysius Corporation in developing process flows and design calculations and not obtained quotes or guarantees for any throughputs from a vendor. All emissions are estimated from maximum throughput rates which are above the design rates, insuring all emissions are at the absolute maximum for the equipment designed and presented to the Department. No greater production rates are foreseen from those presented in the application.

[Rule 62-212.400(h)3., F.A.C. Requirement for: "A detailed description of the system of continuous emissions reduction proposed by the facility or modification as BACT, emissions estimates and any other information as necessary to determine that BACT would be applied to the facility or modification"]

2. *Tarmac America, LLC, dba Titan Florida Cement, recently proposed a BACT limit for CO of 2.0 lb/ton (30-day basis) at the Pennsuco cement plant in Miami-Dade County. Please replace the "ND" value in Table 5-1 with the revised proposal. Also replace the value of 1.77 lb/ton given in the table for the Suwannee American Cement (SAC) Plant with the present BACT limit. It is possible that as many as half of the lb/ton values in the table are erroneous or possibly shifted by one row.*

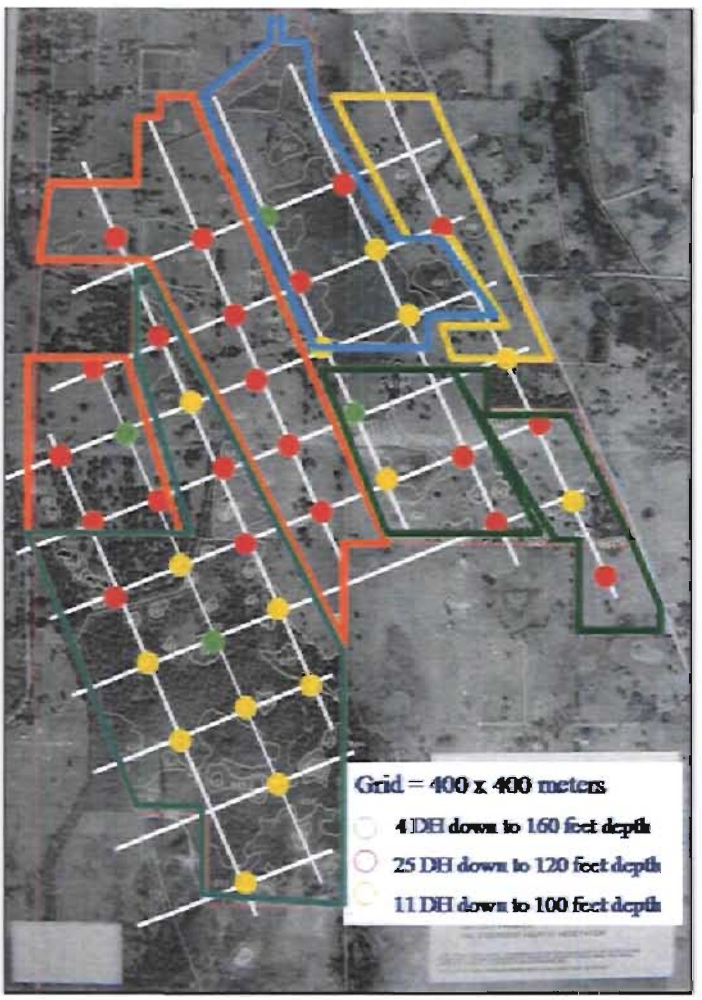
Table 5-1 in the BACT has been updated and corrected. It is included as part of Attachment 1 and is also provided in electronic form on the enclosed CD.

3. *VOC control to achieve 0.12 lb/ton of clinker is also given as GC. Regardless of combustion practices, VOC emissions can be high unless raw materials (especially additives) are selected that will not evolve VOC in the preheater. Please describe the raw material procurement practices for mill scale, fly ash, etc. that can influence both VOC and CO emissions. The proposed value appears to be adequate.*

   [Rule 62-4.070(1), F.A.C. (1) "A permit shall be issued to the applicant upon such conditions as the Department may direct, only if the applicant affirmatively provides the Department with reasonable assurance based on plans, test results, installation of pollution control equipment, or other information, that the construction, expansion, modification, operation, or activity of the installation will not discharge, emit, or cause pollution in contravention of Department standards or rules."]

SCC has evaluated the naturally occurring limestone and silica sources (sand/clay) onsite for organic deposits. SCC conducted an extensive drilling campaign to insure the appropriate amounts of limestone and quality of limestone including carbon content. The data was compared to similar raw materials present at SAC for comparison of organics and correlation to VOC emissions. The following diagram shows the drilling and sampling campaign for the silica and limestone sources.

Diagram 1: Drilling Campaign



The carbon content in the limestone area proposed for use at SCC was similar or lower than that at SAC, eliminating concerns of high organic material homogenously mixed in the limestone and silica. SCC would closely monitor additional raw materials used onsite in a similar manner to what is presently done at SAC to insure that high carbon sources are not introduced that could adversely impact the VOC emissions. All raw materials used onsite would be pre-approved for use based on control limits for several parameters. This is done to insure proper quality of product as well as eliminate materials which could lead to elevated emissions such as VOC and SO_2. Control limits for fixed carbon and hydrocarbons for sources such as mill scale and fly ash would be established and all materials would be analyzed to insure that they are under these limits prior to use in the process. This has also allowed SCC to re-

evaluate and lower its proposed VOC limit to the newly proposed 0.115 lb of VOC per ton of clinker. This will be discussed in further detail in response to question 17.

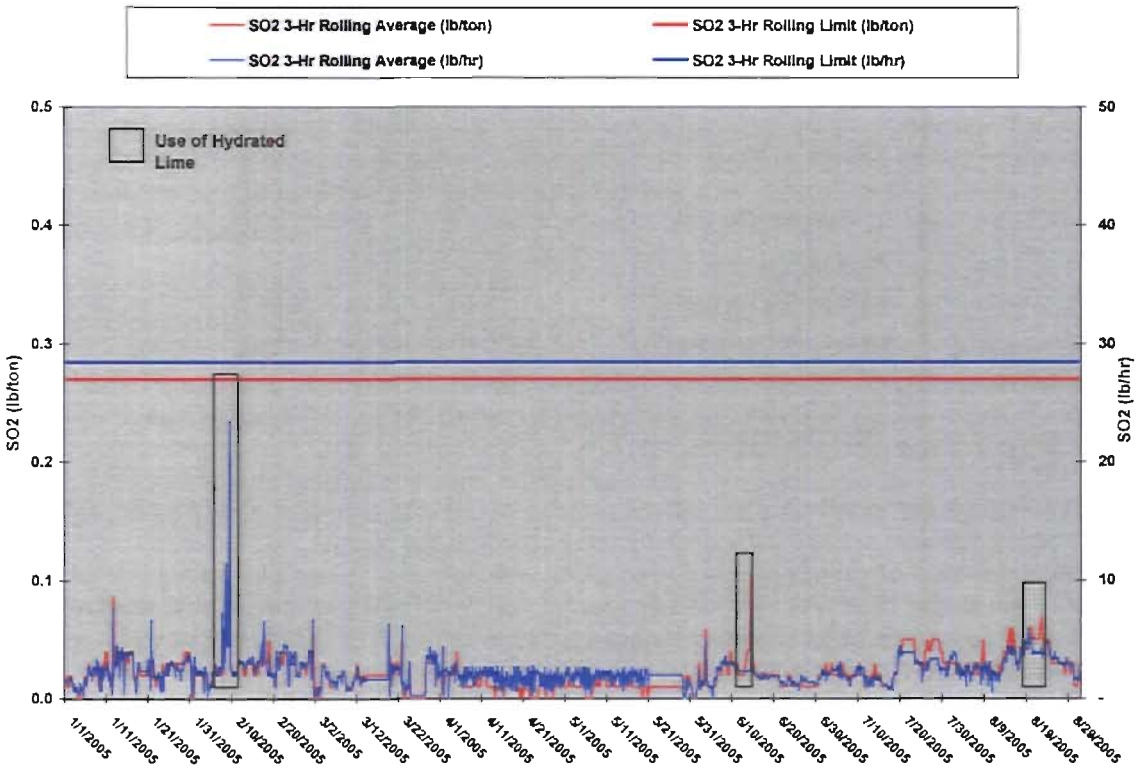
4. *Please provide a disk that includes a summary of 2005 data for 24-hr-averaged SO_2 emissions in terms of lb/ton from operation of the SAC plant. Indicate instances when injection of hydrated lime was practiced and the total amount of hydrated lime actually used for this purpose in 2005.*
[Rule 62-212.400(h)3., F.A.C.]

SCC has included a spreadsheet on the enclosed disk with the hourly and 24 hour data for SO_2 emissions as well as the hydrated lime usage for SAC. SAC has to date used approximately 60 tons of hydrated lime during 2005. Hydrated lime acts as a backup to insure compliance with SO_2 emissions during critical time periods when the sulfur-alkali balance has shifted and proper amounts of alkali are not present to capture the sulfur in the clinker. The hydrated lime does not alleviate the sulfur cycle but only traps the sulfur in the internal kiln cycle until the alkali balance can shift to a proper balance and the sulfur can exit through the clinker. SAC has only had to use this backup system on a few occasions.

SAC closely monitors the sulfur inputs, but due to limited alkali the smallest shift in sulfur in limestone can cause the balance to be lost and excess sulfur to circulate in the raw mill/kiln system. SCC proposed to install the hydrated lime system as SAC has done as a means to insure compliance with the extremely low SO_2 limit. The use of the system would be very limited, with control of sulfur inputs being the means to insure long term compliance.

Chart 2 shows the SO_2 emission data for SAC for 2005.

Chart 2: SAC SO_2 Emission Data 2005



5. *Please clarify whether fly ash injected into the calciner will be introduced within the area of the calciner burner as described on Section 1, page 1 or in the upper section of the calciner as apparent in the drawing referenced as Sheet 5 in Appendix F. The different locations have different implications regarding carbon monoxide burnout and emissions. [Rules 62-4.070(1) and 62-212.400(h)3., F.A.C.]*

Fly ash will be injected into the calciner as described in Section 1, page 1. Sheet 5 in Appendix F is for process flow only and does not show the correct detail.

6. *With reference to Table 3-1, please note that a 24-hour limit of 0.16 lb SO_2/ton applies to Florida Rock Industries pursuant to a permit issued in 2002 for a production increase at the existing FRI kiln.*

Table 3-1 in the BACT has been updated. It is included as part of Attachment 1 and provided in electronic form on the enclosed CD.

7. *Provide a qualitative if not quantitative discussion of the differences in sulfur and SO_2 generation potential due to raw materials differences between the quarries at SAC and SCC. [Rule 62-212.400(h)3., F.A.C.]*

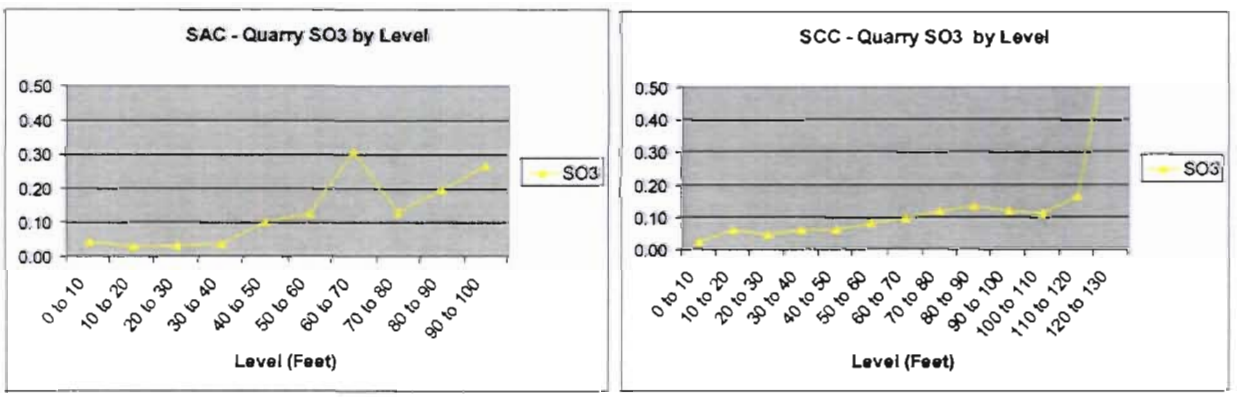
As described in Response 3, SCC has conducted an extensive drilling campaign to identify the chemical composition of the possible quarry reserves for mix calculations and design of equipment as well as for possible concerns over VOC and SO_2 emissions. Due to the relatively low alkali content of the raw materials currently available, stringent monitoring of raw materials is the only means to insure compliance with the SO_2 limits proposed as BACT. This includes the quarrying of limestone and silica which are generally low in sulfur, however isolated pockets of material have been identified at SAC which are high in sulfur. Selectively quarrying and continuous monitoring of raw materials is required at SAC to insure these materials are not introduced into the system in improper ratios as to negatively affect the sulfur-alkali ratio. The same practices will be followed at SCC.

For SCC, the results of the quarry survey revealed that in areas were the limestone was present very little sulfur was detected. Some areas which did not present high concentrations of limestone contained sulfur levels similar to those found at SAC, which is predominately pyritic sulfur. SCC has designed its quarry around these areas as shown in the following Figure.

Figure 1: SCC Proposed Quarry Area

Analysis of the coring conducted in the proposed quarrying area were similar or lower in SO_3 (oxide of sulfur detected by X-Ray Diffraction) than SAC. The following charts show the relation at the varying depths between SAC and SCC.

Chart 3: SCC and SAC Limestone Sulfur Comparison



From the quarry survey and analysis, SCC will be able to control its sulfur contribution from the quarry in a similar manner to SAC. Monitoring of the limestone will insure the sulfur-alkali balance is kept and the quarry survey areas with higher concentrations of sulfur will be avoided.

8. *SCC relies on selective non-catalytic reduction (SNCR) to control nitrogen oxides (NO_X) carbon monoxide (CO). SCC proposes a BACT limit by SNCR of 1.95 lb NO_X/ton on a 30-day basis. The cost of further control by other technologies was calculated presuming that emissions without further control by SNCR would be 1.95 lb/ton. Please estimate the costs and cost-effectiveness of further control by SNCR by evaluating the following possibilities. Applicant's own possibilities are also encouraged.*

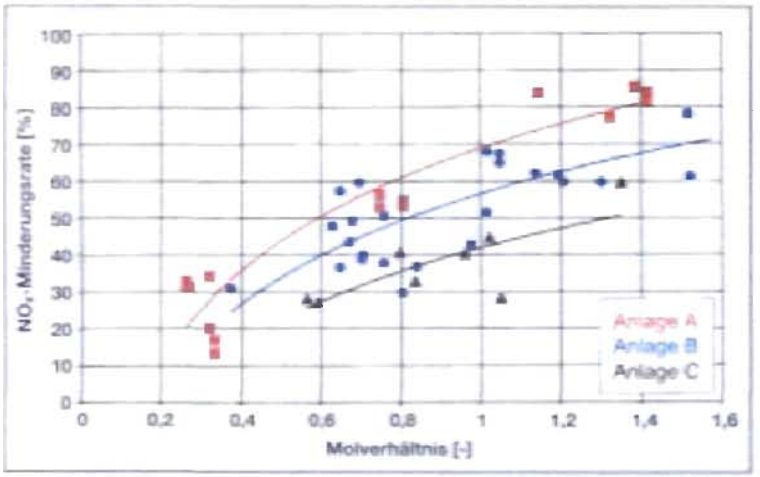
SCC has evaluated and selected SNCR for control of NO_x emissions. SCC used testing and long term data generated from SAC to help in determining the BACT limit. SAC was one of the first facilities in the U.S. to install and operate a SNCR system. To date SAC has over 6 months of continuous operating data on SNCR reduction of NO_x. SCC is also owned and operated by Votorantim Cimentos (VC) who has conducted extensive testing on SNCR at other locations throughout North America. SCC has relied on this extensive data and expertise in developing a BACT limit for NO_x.

a. *Evaluate costs and NO_X reductions of further increasing ammonia injection up to a molar ratio of 1.0 (NH_3/NO_X) in increments of 0.1 moles NH_3 per mole NO_X. There would be separate cases depending upon the extent to which the calciner is operated in a reducing atmosphere for NO_X reduction prior to further control. [Rule 62-212.400(h)3., F.A.C.]*

In Appendix B of the BACT Report submitted in the application, SCC outlines the assumptions made for SNCR and cost associated with the system. On page 3 of 13 in Appendix B of the BACT Report, SCC gives a maximum molar ratio of 1.0 which was used in the cost analysis. SCC has already evaluated the maximum molar ratio for cost analysis and would not propose to exceed a 1:1 molar ratio of ammonia to NO_x.

The assumptions for efficiency of reduction from the SNCR system for uncontrolled NO_x come from the data and operation experience gained at SAC. NO_x levels with and without SNCR can vary greatly and in setting a baseline for the NO_x levels to be controlled by SNCR, SCC took into consideration the NO_x reductions from the calciner as well. With all of this, SCC felt that 1.95 lb/ton was an extremely low NO_x limit and would require reduction of uncontrolled NO_x with all tools listed in the BACT and use of SNCR injection with a normalized stoichiometric ratio of around 1:1. SCC has also assumed a very high reduction efficiency for the SNCR system of around 70%. This level has been demonstrated at SAC but is not guaranteed to directly transfer over to a new facility even with similar raw materials. Changes in the dynamics of the gas flow and gas interaction, as well as material interaction and calciner design may not allow for the same reductions seen at SAC. SCC, through its parent company VC, has assisted in several SNCR pilot tests and has yet to achieve efficiency such as those seen at SAC at other facilities for a variety of reasons. Additionally, the SCC plant will be approximately 65% greater in size for gas flows and material throughput. This will greatly increase ducting size which has been shown to decrease the efficiency of the injection of SNCR. This was noted by Polysius during testing of several kilns in varying sizes, "It can be presumed from the investigations that the dependence on size is attributable mainly to the fact that the blending of a small quantity of liquid into a large quantity of exhaust gas becomes more difficult, with increasing quantity of gas and increasing calciner diameter" (D. Rose, K. Adler, R. Erpelding). The following chart, also from Polysius, shows the decrease in SNCR efficiency as a relation to size of the plant.

Chart 4: NOx Reduction as a Function of Molar Ratio and Plant Size



Therefore, the final BACT cost analysis and limit was based upon all of this information and with the assumption of a molar ratio of 1:1 (NH_3 to NO_x as NO_2).

b. *The Department notes that the above procedure would certainly be considered by any operator prior to assuming that a selective catalytic reduction (SCR) system, estimated by the applicant at $5,520,000 (capital) and $9,580,000 per year, would be necessary to achieve lower NO_X emissions.*

SCC agrees with the Department that an increase of the SNCR injection molar ratio to 1:1 is more cost effective then consideration of a SCR system. However, SCC has already evaluated the maximum injection molar ratio in determining its' BACT for both cost and NO_x reductions as discussed in response to paragraph a.

c. *With respect to the "experimental" nature (Section 4.4, page 23) at an SCR unit in Europe, it is noted that articles by the supplier, plant representative, and German government expert describe the system as a success. This is noteworthy because fewer of the factors claimed in the application to reduce the effectiveness of SCR are actually present in Florida compared with Germany. These include amount of sulfur and alkali in the exhaust gases.*

SCC is aware of documented reports of the success of the system at Solnhofen. Through conversations and visits to Solnhofen, SCC has been able to gather data and form its own opinion. SCC agrees that the system had demonstrated successful NO_x reduction but at great cost and over several years as the process evolved. The actual reductions in comparison to baseline emissions are unclear and currently proposed BACT technologies such as SNCR in conjunction with MSC may offer equal or greater reductions then the SCR system.

[Rule 62-212.400(h)3., F.A.C.]

9. *Please advise the meaning of the statement in Section 4, Page 22, "For the reaction to occur the ammonia must be present in excess molar ratio". If this means that the NH_3/NO_X ratio must be greater than 1.0, then the applicant is referred to the papers by the mentioned authors (Haug, Samant, and Sauter) showing that substantial reduction is possible at molar ratios much less than 1.0 (by SCR) at the Solnhofer Portland Cement Plant.*

The intent of the statement was that ammonia reaction efficiencies are not 100%. Thus one mole of ammonia does not react equally with one mole of NO. Some portion of the reagent goes un-reacted with NO and is utilized. NO_x reductions should be present at stoichiometric ratios well below 1:1 as the Department has noted.

10. *Please submit the information required on Page 3-61 related to the Process Fuel Segment for all fuels to be used at the facility.*

Please see Appendix H, Raw Material and Fuel Chemical Analyses, of the Application submitted to the Department.

11. *Typical fuel specifications were provided for the proposed fuels with the exception of tires, the non-hazardous liquids including on-spec used oil, non-hazardous solids including plastics, filter fluff and wood waste. From the application, non-hazardous solids and non-hazardous liquids may account for up to 50 % of the total heat input in the kiln and calciner respectively. Provide a description and expected analysis of these additional fuels to be combusted.*

Please find a table below including example fuel analysis for tires, used oils, oil filter fluff, wood waste, and plastic.

Table 1: Fuel Information

Fuel Type	Moisture (%)	Sulfur (%)	Ash (%)	Volatiles (%)	Cal. Value BTU/lb
Tires	0.62	1.3	4.78	65	15,500
Used Oils	10 - 25	0 - 1	0 - 5	-	10,000 – 15,000
Oil Filter Fluff	-	0.36	3.63	-	14,000
Wood Waste	-	0.01	0.36	-	7,000
Plastics	-	0.02	1.81	93	16,000

During discussions with the Department in regards to utilization of similar fuels as SAC, the intent was to outline possible fuels that could be utilized in the system. With the exception of tires, the following fuels would require specific permission from the Department to test and evaluate each of the fuels before allowing usage and setting acceptable rates based on testing. For each of the fuels, SCC would request permission from the Department to test and then request permission from the Department for continual use on the basis of the testing.

12. *What additives will be used to insure the correct alkali to sulfur ratio is maintained when using petroleum coke? Florida limestone is low in alkali. Use of high sulfur petroleum coke can upset the balance between alkali and sulfur that is needed to insure fuel sulfur is incorporated into the clinker rather than deposited within the internal cycle (calciner/bottom cyclone/kiln inlet). Submit a projected chemical analysis of the additives likely to be used at this plant.*

As the Department is aware, sulfur from fuels used in the calciner and kiln main burner do not exit the lower stages of the preheater during normal conditions due to the large amounts of CaO present and its scrubbing affect. However, during upset conditions or with high levels of CO the scrubbing presence of CaO is greatly reduced. The source of sulfur in relation to SO_2 emissions is from raw materials. As previously discussed, SCC has already conducted extensive sampling of the proposed quarry for deposits of sulfur and would closely monitor all raw material inputs to insure that excess sulfur is not introduced into the upper portions of the tower as is done at SAC. The hydrated lime would serve as a means to insure compliance should excess sulfur occur in the feed materials.

Sulfur cycles in the lower stage of the cyclone from fuel contributions or more stable forms of sulfur present in raw materials have limited options for release out of the system. A bypass could be incorporated for large amounts of sulfur to release excess sulfur while it is volatilized. The sulfur can also be captured into the clinker through the formation of stable sulfur-alkali compounds. This is the need for alkalis in the process, to allow for the alleviation of the lower sulfur cycle and entrap the sulfur in the clinker. If either of these are not present then the sulfur will be forced into buildup, typically called sulfospurrite (2C2S·CS or C2S2S), which will then begin to restrict flow and ultimately lead to blockage of the kiln.

As discussed in Response 1 paragraph c, alkali sources for the area are extremely limited. This led SAC to use fly ash as the major source of alkali. For SCC, it was assumed as well that fly ash would make up the major portion of alkali and, with the small amounts of sulfur present in the raw materials and in most fuels, lead to an acceptable sulfur-alkali balance. SCC through testing at SAC and other VC plants throughout the world is confident it can utilize pet coke with the readily available sources of alkali. If sulfur cycles in the lower stages of the cyclone are formed then operational sacrifices will be experienced and these will not lead to SO_2 emissions.

SCC has evaluated several sources of alkali but most have limiting factors that would preclude their use. Very few sources of alkali are present in the immediate area. Most sources that SCC has considered are high in both alkali and sulfur, negating the advantage of the alkali. Others have organics which could lead to elevated VOC emissions. Some are difficult to grind and increase the burnabilty of the kiln feed leading to higher NO_x. SCC has proposed the use of Feldspar in Appendix H of the application, which if needed is an available source of high alkali. The following is the information pertaining to Feldspar presented in the Appendix H of the application.

From Appendix H of Permit Application

Raw Material Additive Type	Moisture %	CaO %	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	MgO %	K_2O %	NaO %	SO3 %	LOI %	Fixed C %
Feldspar (Alkali Source)	0.55	1.73	73.80	15.90	0.52	0.00	3.47	4.00	0.00	-	-
Feldspar (Alkali Source)	1.01	2.10	70.90	18.30	0.46	0.00	3.03	4.72	0.00	-	-

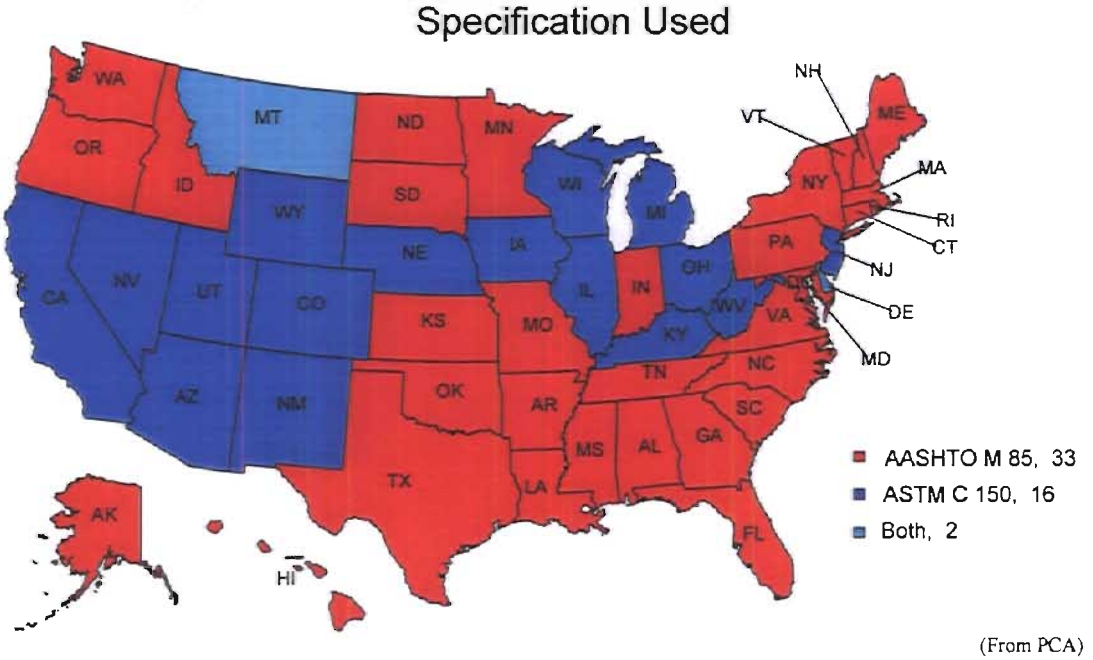
13. *What measures have been considered to minimize emissions of mercury entering the process or emitted from the kiln stack? Has SCC considered the possibility of inter-grinding a small portion of the dust collected in the (kiln/calciner/raw mill) air pollution control device with the clinker?*

SCC has closely examined the mercury emissions from the stack. As stated in the application, SCC will closely monitor all inputs into to the system to track the mercury input. SCC will assume detection limits of all materials as the input concentration which will insure conservatively high estimates of mercury to insure the actual mercury never exceeds proposed limits. SCC will assume all mercury inputs, which as stated will be overestimated, will be emitted out the stack as well. All of this will insure the proposed limitations will not be exceeded.

Additionally, SCC has studied the possibility of reducing the mercury through the possible use of enriched baghouse dust in finished grinding to entrap mercury in the cement. SAC voluntarily performed an extensive mercury study over several days to determine the feasibility of such a process. The overall conclusion was that baghouse dust although higher then raw material inputs in mercury due to the cycling of mercury in the kiln-mill system was never at a level to sufficiently purge the system of mercury. To adequately reduce mercury from the kiln-raw mill system, thousands of tons of baghouse dust would have to be wasted and then incorporated into cement. This constitutes more baghouse dust then could possibly be used in finish grinding.

Secondly, even if mercury could be concentrated in baghouse dust, the Department of Transportation (DOT) for the State of Florida requires its' cement meet the AASHTO M 85, 33 standards. This prohibits the use of limestone or baghouse dust in the finish grinding product. SCC, along with the Portland Cement Association (PCA), is working with state DOT offices to evaluate alternatives to the standard that may allow the use of limestone or baghouse dust in the final product. Without the re-evaluation of this, SCC could not sell its cement to the majority of its consumers. The following figure from PCA shows the states and what standard they are currently using for cement.

Figure 3: State Cement Requirements



(From PCA)

14. *Has Sumter Cement Company or its affiliates had any violations (or received warning letters) in the past two years related to any Department regulations at any of their facilities? Please provide the status of any matters that have not yet been resolved.*

    [Rule 62-4.070(5), F.A.C., "The Department shall take into consideration a permit applicant's violation of any Department rules at any installation when determining whether the applicant has provided reasonable assurances that Department standards will be met".

SCC is operated by Votorantim Cimentos (VC) which also operates SAC. SAC resolved compliance issues that occurred shortly after startup of the existing facility in late 2003 and early 2004. These issues were finalized in Consent Order OGC File No.: 03-2031. SAC also has received and responded to a warning letter from the Department (WL05-30-AP61-NED). SCC is unaware of any other violations or warning letters from the Department against SAC or VC.

15. *Has Sumter Cement Company or its cement operations affiliates (such as Votorantim and St. Mary's Cement) had any violations (or received warning letters) in the past two years related to the regulations of other states or EPA? Please provide the status of any matters that have not yet been resolved. Provide additional information in case the matters relate to actions by previous owners of the assets. [Rule 62-4.070(5), F.A.C.]*

SCC is operated by VC which owns and operates St. Mary's Cement. SCC is unaware of any violations or warnings issued against its operations by other states or the EPA while under operations of VC. Issues prior to ownership by VC are not available to SCC or relevant to the operations under VC.

16. *If the positions of plant manager and plant production manager are still to be determined, please describe the minimum requirements for this position established by your company including, but not limited to, total years experience in the cement industry, total years experience as plant operator, educational background, etc. [Rule 62-4.070(1), F.A.C.]*

As previously stated, VC will be in charge of operations of the SCC Plant. VC has been established in the cement industry since 1936 and currently is the 7th largest producer of cement in the world. VC operates 12 cement plants in South America with over 25 million metric tons of cement capacity. In North America, VC operates 5 cement plants and 2 grinding facilities. VC has among the highest operating standards of any cement company in the world. It has tremendous experience in the cement industry and technical expertise from its 20,000 employees.

VC will insure the positions of Plant Manager and Production Manager are filled with personnel with experience in the cement industry and appropriate educational background. VC would prefer not to set defined years for experience or education as these can limit the opportunities for promotion and growth within the company. To give an example of typical qualifications, the position of Plant Manager at SAC has been filled by two people under VC's period of operations. Both had 20+ years of experience in the cement industry and strong technical backgrounds in education.

17. *According to the application, the project has the potential to emit 103 tons per year of VOC. If a project has the potential to emit VOC over 100 tons per year, the applicant is required to perform an air quality analysis for this PSD pollutant. This includes a Pre-Construction Monitoring Analysis. Please provide a Pre-Construction Analysis for VOC and further, please explain how projected VOC emissions will not contribute to a violation of the National Ambient Air Quality Standard for ozone.*

VOC PTE emissions from the SCC Plant were conservatively estimated based on 0.12 lb VOC per short ton of clinker. SCC has decided to reduce the level of conservatism associated with VOC emissions. With current annual PTE VOC emissions at 103 short tons per year, this would require SCC to perform an ambient impact analysis, including pre-construction monitoring. As a result, SCC is revising the estimated annual PTE VOC emissions based on a revised emission factor of 0.115 lb VOC per short ton of clinker. This will result in annual PTE VOC emissions of 98.7 short tons per year and eliminates the requirement to perform an ambient impact analysis, including pre-construction monitoring.

Provided in Attachment 2 and 5 are applicable updated sections of the Permit-To-Construct Application. This information is also included on the enclosed CD.

18. *Although associated growth is addressed in the application, please provide an additional analysis to comply with Rule 62-212.400(5)(h)5, F.A.C.*

The secondary impact analysis addressed the direct impact of PTE TSP and PM_{10} emissions on surrounding soils, flora, fauna, and any associated direct and indirect growth attributable to the proposed project. These two regulated NSR pollutants had predicted maximum 24-hour and annual air quality impacts above their corresponding "significant impact levels" (SIL).

The recommended EPA methodology specified in "*A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals*" (EPA 450/2-81-078, December 12, 1980) and the EPA document "*New Source Review Workshop Manual*" (Draft October 1990) were used as references to perform the secondary impact analysis. Also, the secondary impact analysis of the project's air pollution impact on soil, vegetation, wildlife, direct growth, and indirect growth was assessed per the requirements stipulated in Florida Rule 62-212.400(5)(e)(1-3) and 62-212.400(5)(h)(5). Specifically, Rule 62-212.400(5)(h)5 states "*Information relating to the air quality impacts of, and the nature and extent of, all general commercial, residential, industrial and other growth which has occurred since August 7, 1977, in the area of the facility or modification would affect.*"

In the PTC Application, the following was presented relative to soils, flora, and fauna, including wildlife:

- **Soils, Flora, and Fauna, Including Wildlife**

  The estimated, maximum, total annual PM_{10} impact plus representative annual PM_{10} background value is 29.96 $\mu g/m^3$. This value is within the applicable annual PM_{10} NAAQS value of 50.0 $\mu g/m^3$.

  The estimated, highest second-highest, total 24-hour PM_{10} impact plus representative annual PM_{10} background value is 79.88 $\mu g/m^3$. This value is within the applicable 24-hour PM_{10} NAAQS value of 150.0 $\mu g/m^3$.

From the results of this analysis it is concluded that there will be no adverse impacts from PTE PM_{10} emissions on any surrounding soils, flora, or fauna, including wildlife, from the SCC Plant.

To supplement the information presented in the PTC Application, the following additional information is provided in response to Item No. 18.

- **Associated Direct and Indirect Growth**

  Work Force
  The construction of the SCC Plant is expected to produce 500 temporary jobs for a period of 18 months. The operation of the SCC Plant will also produce approximately 118 new permanent jobs. Of the 118 new permanent jobs, 24 of the jobs will be initially filled with technical personnel from the SCC parent, Votorantim Cementos. Votorantim Cementos will be the operator of the SCC Plant and also operates SAC which has a cement plant located in nearby Branford, Florida. The remaining 94 new permanent jobs are expected to be filled by the existing workforce from the surrounding population. No new significant air emissions are expected associated with the construction or operation of the SCC Plant from workers traveling to and from the SCC Plant.

  Residential
  The predominant existing housing units in the vicinity of the SCC Plant are single family and mobile homes. The easy availability of mobile homes and lots in the vicinity of the SCC Plant provides a local capacity for quick expansion. It can be anticipated that 12 new homes can be expected to be built in Center Hill and an additional 89 new homes can be expected to be built in Sumter County. The anticipated air emissions associated with the new home construction will be temporary and are considered insignificant because of the limited number of new homes expected to be constructed as the result of the SCC Plant. New air emissions associated with the heating of any new homes are also expected to be minimal and considered insignificant due to the climatology of the area.

  Industrial
  The construction and operation of the SCC Plant is not expected to produce any new industrial growth and no new air emissions.

  Commercial
  It is possible that a modest increase in commercial growth associated with the establishment of new small commercial establishments such as restaurants, convenience stores, and gas stations can be expected. However, it is concluded that no new significant emissions are expected from any realized commercial growth.

  Other
  No other direct or indirect growth is expected as the result of the construction and operation of the SCC Plant.

To summarize, no significant new emissions associated with direct and indirect growth impacts due to the construction or operation of the SCC Plant are expected.

19. *The modeling submitted with the application has fugitive road emissions evaluated as "Area" sources. Please provide justification for using this type of source for the roads.*

In the Modeling Protocol submitted to the Department in June of 2005, fugitive emissions from roads were identified as area sources and outlined to the Department that they would be modeled as such.

Fugitive emissions from roads were selected to be modeled as area sources since area sources are characterized as having a low-level release with no plume rise. Volume sources were not selected since they have initial dispersion prior to release which is not representative of particulate emissions from haul roads. Representing haul roads as area sources in generally considered more conservative than representing them as volume sources. The treatment of haul roads as area sources is consistent with EPA modeling guidance. As stated in the User's Guide for the ISC3 Dispersion Models[1], "The use of the ISC area source algorithm for elongated rectangles would be most applicable to near ground level line sources."

[1] Air Quality Modeling Guidelines, July 2001, South Carolina Department of Health & Environmental Control, Bureau of Air Quality.

20. *Please provide a table summarizing all pollutant emission rates from all sources that were included in the Class II PSD increment and NAAQS modeling. Include a list of major nearby sources that were omitted as well.*

Provided in Attachment 4 are three tables which identify the emission rates for all sources included in the Class II PSD Increment and NAAQS modeling, identify the sources excluded based on the 20D rule, and identify the sources excluded which were located just outside of the significant impact area (60 km). These tables are also provided in electronic format on the enclosed CD.

21. *Since the modeling protocol was deemed sufficient, the standard for the Receptor Grid has become more refined within the Department. In order to have continuity with other cement projects in the State, it is requested that a 25 meter plant boundary receptor grid interval be used for this project. This includes 2 receptors, one on either side of each road where it intersects the plant boundary, at a minimum distance of 25 meters from the road edge. Please update modeling to reflect the new standard to ensure that this continuity is satisfied.*

SCC submitted a modeling protocol for the Department's review and comment on June 16th. SCC and the Department reviewed and modified the protocol on several occasions before receiving final approval on the protocol from the Department on August 18th. The intent of submitting a protocol for review and approval was to avoid this exact situation where the Department would change the parameters by which the modeling should be performed causing SCC to remodel, and expending time and resources to do so. SCC understands the changing parameters by which the Department may need to re-evaluate modeling results, but SCC made every possible effort to work with the Department to insure modeling would be conducted in the appropriate manner prior to submittal of the updated Application on September 8th. Irregardless, SCC has conducted the requested modeling changes and remodeled the results as requested and attached the updated modeling results and associated input, output and intermediate files on the enclosed CD.

22. *Please provide a more detailed plot plan. The Department is requesting both an electronic version (preferably a .dwg file) and an updated paper plan (preferably 2 x 3 feet). Please grid the plot plan in UTM coordinates and highlight the buildings and structures.*

Updated drawings are included as AutoCAD files (.dwg file) on the enclosed CD. The UTM coordinates of the center of the kiln stack are noted on each file and have been provided below:

Easting 403754.39 (M), Northing 3167561.97 (M), Zone 17, WGS-84 Ellipsoid.

23. *Please provide a diagram showing each road segment, its location and its emission parameters.*

Provided in Attachment 3 is a table listing the exact location and emission parameters for each road segment and a chart showing the location of each road segment. The table and chart are also provided electronically on the enclosed CD.

24. *Please provide any Excel files for Tables in Appendix A to show how emission calculations were completed.*

SCC has provided in the Modeling Protocol, Modeling Report, Calculation Methodology (Section 4), and Potential to Emit (PTE) Spreadsheets in Appendix A all formulas used in calculating emissions. From these formulas every emission output can be duplicated and checked. SCC will provide the actual spreadsheets in Excel to the Department so they may more easily track the calculations through the spreadsheet cells. These can be found on the enclosed CD. SCC would request this Excel version of Appendix A be deemed a "Proprietary Work Product" and only the PDF version be made available to the public so that the work product may be protected. An updated PDF version of these spreadsheets is also included in the enclosed CD.

25. *On page 5-18 of the application, Table 5-7 details the results of the PSD Class II Increment PM10 analysis. According to the text above the table, the modeling results for the 24-hour averaging period are based on the High, Fourth-High concentrations. The Increment should be based on the High, Second-High concentrations for the 24-hour averaging period. Please correct the table/Increment analysis.*

We have modified the modeling runs and report to reflect the usage of High, Second-High for the 24-hour period. Provided in Attachment 6 is a copy of the revised Modeling Report. An electronic copy of the Modeling Report is also included along with the modeling files on the enclosed CD.

26. *Please update Tables in Appendix A to reflect the "Source ID" or "Source Description" for all sources in the modeling or vice versa.*

Provided in Attachment 5 is an updated Appendix A or PTE Inventory which now includes a column labeled "Modeling Source ID" to identify the Source ID used in the modeling input and output files for each emission source. As mentioned in the response above, the PTE Inventory is also provided on the enclosed CD in both PDF and Excel format.

27. *Please explain how the Initial Lateral Dimension and Initial Vertical Dimension were determined for the Volume Sources.*

Initial lateral dimensions for volume sources, such as buildings, were defined as the length of a side (square) divided by 4.3 which is consistent with EPA modeling guidance. Rectangular buildings were assumed to be a square with the same area as the actual building. Initial vertical dimensions for volume sources were determined for elevated sources not on or adjacent to a building by taking the vertical dimensions of the source and dividing it by 4.3. Initial vertical dimensions for volume sources were determined for elevated sources on or adjacent to a building by taking the building height and dividing it by 2.15. This approach is consistent with EPA modeling guidance.[2]

[2] U.S. EPA 1995 – "User's Guide for the Industrial Source Complex (ISC3) Dispersion Models, Volume I – User Instructions", U. S. Environemntal Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, September 1995.

28. *Please explain how the Initial Vertical Dimension of the Plume of 1.86m was determined for the Road Sources in the modeling.*

The initial vertical dimension of 1.86 meters represents an estimated value of approximately six feet which represents the average physical tire height and attending turbulent vertical dispersion initially produced by the truck tire traveling over plant road surfaces.

29. *Although Building Downwash is included in the modeling, please provide the actual BPIP input and output files.*

BPIP input and output files are included on the enclosed CD.

30. *Please ask your professional engineer to review the seal used for compliance with the latest requirements of the Florida Board of Professional Engineers. It may be necessary to resubmit the P.E. certification. These are given at: http://www.engineerseals.com/order/floridape.php*

Contact was made with the Florida Board of Professional Engineers regarding the validity of the Florida P.E. Seal used for the SCC PTC Application. The Florida P.E. Seal used for the SCC PTC Application and this response is still valid until December 31, 2005. Beginning January 1, 2006, the new Florida P.E. Seal referenced in the RAI is required to be used.

Attachment 1

Revised Table 3-1 and Table 5-1 from the BACT Analysis (Appendix B)

TABLE 3-1. SUMMARY OF RECENT SO_2 BACT DETERMINATIONS FOR CEMENT KILNS (2000-PRESENT)

Company	Location	Kiln Type	Permit Date	Technology Applied and $/Ton	Removal (%)	In Operation (Yes/No)	Limit (lb/ton clinker)	Rejected Technology and $/Ton
CEMEX	Demopolis, AL	PC (mod)	09/13/02	Low S Coal	NA	Yes	1.14	WS - $10,327
Florida Rock Industries	Newberry, FL	PC (mod)	2002	Process – NA	NA	Yes	0.16	
Florida Rock Industries	Newberry, FL	PC (new)	App. 11/8/04	Process – NA	NA	No	0.28 (proposed)	WS - $20,453
GCC Dacotah	Rapid City, SD	PC (mod)	04/10/03	Process – NA	NA	Yes	2.16	Fuel or raw mix S limits
Holcim	Holly Hill, SC	PC (new)	12/22/99	Process - NA	NA	Yes	3.26	
Holcim	Artesia, MS	WET (mod)	See Note 1	No BACT limit for SO2		Yes		
Holcim (Devil's Slide)	Morgan, UT	PC (mod)	11/20/02	No BACT limit for SO2		Yes		
Holcim	Theodore, AL	PC (mod)	02/04/03	Limit not based on BACT	NA	Yes	0.13	
Holcim	Lee Island, MO	PC (new)	06/08/04	Lime spray drying – mill off	93	No	1.26	WS - $13,225
Lafarge	Davenport, IA	PC (mod)	11/09/99	Process	NA	Yes	1.01	
Lehigh Portland Cement	Mason City, IA	PC (mod)	12/11/03	Wet Scrubbing	90	Yes	7.26	
Lone Star Industries	Cape Girardeau, MO	PC (new)	See Note 1		NA	No		
Monarch Cement	Humboldt, KS	2PC (mod)	01/27/00	Process – NA	NA	Yes	1.10	WS - $10,345 Lo S Fuel, WAA, DAA
North Texas Cement	Whitewright, TX	PC (new)	03/04/99	Wet Scrubbing	85	No[2]	2.75	
St. Lawrence Cement	Hudson, NY	PC (new)	See Note 1	Dry & Wet Scrubbing		No	0.65	
Suwannee American Cement	Branford, FL	PC (new)	06/01/00	Process	NA	Yes	0.27	WS - $29,700 DAA - $7,400
Rinker/Florida Crushed Stone	Brooksville, FL	PC (new)	App. 12/04	Process – NA	NA	No	0.23 (proposed)	

Notes:
1. Permit under negotiation
2. May never be built

TABLE 5-1. CARBON MONOXIDE (CO) LIMITS FOR PRECALCINER KILNS

Facility Name	Plant Name	Facility Location	Facility Status	Annual average emissions (lb/h)	Annual average emissions (lb/ton clinker)	Control Technology*
Alamo Cement Company	1604	San Antonio, TX	Existing	460.00	4.14	GC
Ash Grove Cement Company	Chaunte	Chaunte, KS	Existing	321.69	1.66	GC
Ash Grove Cement Company	Durkee	Durkee, OR	Existing	490.00	4.34	GC
Ash Grove Cement Company	Louisville	Louisville, NE	Existing	NL	NL	GC
Ash Grove Cement Company	Leamington	Nephi, UT	Existing	502.27	4.88	GC
Ash Grove Cement Company	Seattle	Seattle, WA	Existing	537.21	6.27	GC
Blue Circle Cement, Inc.	Harleyville	Harleyville, SC	Existing	1209.59	9.68	GC
Calaveras Cement Company	Redding	Redding, CA	Existing	1156.85	15.83	GC
Calaveras Cement Company	Tehachapi	Tehachapi, CA	Existing	900.00	11.86	GC
California Portland Cement	Mojave	Mojave, CA	Existing	183.50	2.85	GC
California Portland Cement	Arizona Portland	Rillito, AZ	Existing	1157.31	4.41	GC
Capitol Aggregates, Inc.	Capitol Cement Division	San Antonio, TX	Existing	622.50	7.47	GC
Capitol Cement Corporation	Capitol Cement Corporation	Martinsburg, WV	Withdrawn	468.75	2.50	GC
Capitol Cement Corporation	Capitol Cement Corporation	Martinsburg, WV	Existing – Modification	3960.00	4.00	GC
Sunbelt Cement, Inc. (prev Cemex USA)	Balcones	New Braunfels, TX	Existing	497.72	4.52	GC
Continental Cement Co., Inc.	Continental Cement Co., Inc.	Hannibal, MO	Withdrawn	ND	ND	
CSR/Rinker Materials, Inc.		Miami, FL	Existing	412.40	3.01	GC
ESSROC	Nazareth	Nazareth, PA	New – Not Constructed	1364.06	4.50	GC
Florida Crushed Stone – Kiln 1		Brooksville, FL	Existing	208.33	2.00	GC
Florida Rock Industries, Inc.		Brooksville, FL	Proposed	292.92	3.60	GC
Florida Rock Industries, Inc.	Thompson S. Baker Plant	Newberry, FL	Existing	294.20	3.62	GC
Florida Rock Industries, Inc.	Thompson S. Baker Plant	Newberry, FL	Proposed	450.00	3.60	GC
Hanson Permanente Cement	Permanente	Cupertino, CA	Existing	1008.72	4.72	GC
Holcim (US)	Portland	Florence, CA	Existing	1940.64	6.80	GC
Holcim (US)	Holly Hill	Holly Hill, SC	Constructed		8.00	GC
Holcim (US)		Lee Island, MO	Proposed	2739.73	6.00	GC
Holcim (US)	Fort Collins	Laport, CO	Existing	26.48	0.40	GC
Holcim (TEXAS)LP	Holcim (TEXAS)LP	Midlothian, TX	Existing – Modification	811.99	5.33	GC
Holcim (TEXAS)LP	Holcim (TEXAS)LP	Midlothian, TX	Existing – Modification	811.99	5.33	GC
Holcim (US)	Devil's Slide	Morgan, UT	Existing	620.00	5.05	GC
Holcim (US)	Theodore	Theodore, AL	Existing	NL	NL	GC
Kosmos Cement Company	Kosmosdale	Louisville, KY	Existing	1325.00	10.60	GC
Lafarge Corporation	Davenport	Buffalo, IA	Existing	313.00	2.15	GC
Lafarge Corporation	Sugar Creek	Sugar Creek, MO	Existing	192.24	1.64	GC
Lehigh Portland Cement	Union Bridge	Union Bridge, MD	Existing	ND	ND	
Lehigh Portland Cement	Mason City	Mason City, IA	Existing – Prop. Mod.	NL	NL	GC
Lone Star Industries	Cape Girardeau	Cape Girardeau, MO	Existing	NL	NL	GC
Lone Star Industries	Cape Girardeau	Cape Girardeau, MO	New – Not Constructed	ND	ND	
Lone Star Industries	Greencastle	Greencastle, IN	Existing	552.97	3.02	GC

TABLE 5-1. CARBON MONOXIDE (CO) LIMITS FOR PRECALCINER KILNS (CONTINUED)

Facility Name	Plant Name	Facility Location	Facility Status	Annual average emissions (lb/h)	Annual average emissions (lb/ton clinker)	Control Technology*
Mitsubishi Cement Corporation	Cushenbury	Lucerne Valley, CA	Existing			
National Cement Company of Alabama	Ragland	Ragland, AL	Existing			
National Cement Company of California	Lebec	Lebec, CA	Existing	384.00	2.71	GC
North Texas Cement Company		Whitewright, TX	New – Not Constructed	ND	ND	
Phoenix Cement	Clarkdale	Clarkdale, AZ	New – Not Constructed	ND	2.00	GC
RC Cement Company, Inc.	Hercules Cement Company	Stockertown, PA	New – Not Constructed	ND	ND	GC
Rio Grande Portland Cement		Pueblo, CO	New – Not Constructed	254.06	2.11	GC
RMC Pacific Materials	Santa Cruz	Davenport, CA	Existing	NL	NL	GC
Roanoke Cement Company	Roanoke Cement Company	Cloverdale, VA	Existing – Modification	494.67	3.00	GC
St. Lawrence Cement		Hudson, NY	Proposed	783.48	2.59	GC
Signal Mountain Cement		Chattanoga, TN	Existing	248.00	2.77	GC
Southdown, Inc.	Charlevoix	Charlevoix, MI	Existing	179.91	2.14	GC
Southdown, Inc.	Clinchfield	Clinchfield, GA	Existing	1187.50	12.42	GC
Southdown, Inc.	Knoxville Plant	Knoxville, TN	Existing	NL	NL	GC
Southdown, Inc.	Lyons	Lyons, CO	Existing	98.21	1.32	GC
Southdown, Inc.	Victorville Cement	Victorville, CA	Existing	ND	ND	
Suwannee American Cement		Branford, FL	Existing	378.00	3.60	GC
Tarmac America, Inc.	Pennsuco Cement	Medley, FL	Existing	369.61	1.77	GC
Texas Industries	Hunter Plant	New Braunfels, TX	Existing	ND	ND	GC
Texas Industries (Riverside Cement)	Oro Grande	Oro Grande, CA	New – Not Constructed	375.00	1.50	GC
Texas-Lehigh Cement Company	Buda	Buda, TX	Existing	1262.10	9.37	GC
TXI Operations, L.P.	Midlothian	Midlothian, TX	Existing	84.42	0.34	RTO

* GC = Good Combustion, RTO = Regenerative Thermal Oxidizer

Attachment 2

Revised Application Section 3 Emission Unit Form Page 3-70

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control: **N/A**
3. Potential Emissions: **23.95** lb/hour **98.64** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.115 lb/ton clinker** Reference: **Proposed BACT**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See Section 4 and Appendix A**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

Attachment 3

Road Segment Emission Parameter Table and Road Segment Chart

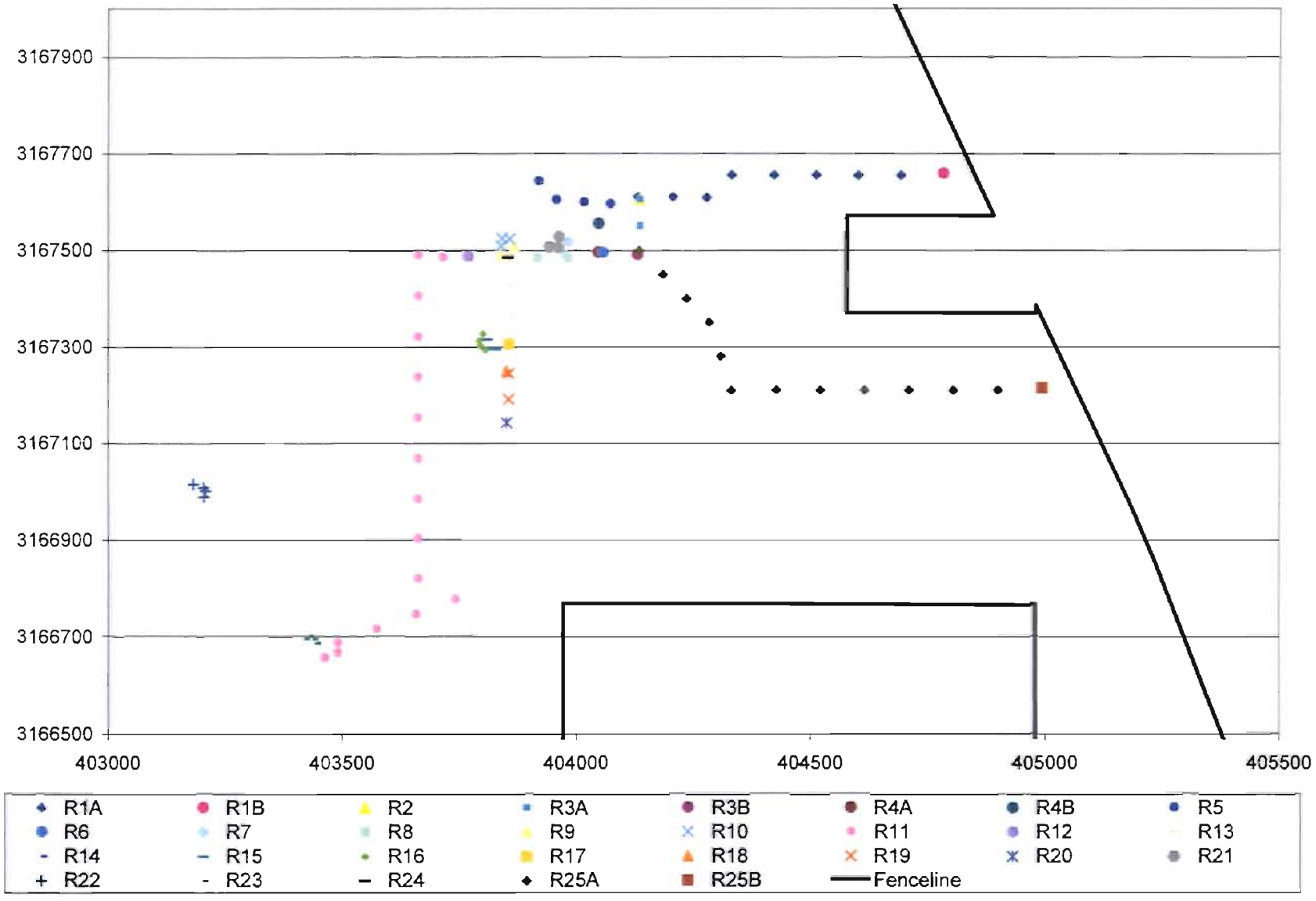
SCC Road Segment and Emission Parameter Table

Road Segment	UTM X	UTM Y	Q (g/s)	Release Height (m)	Width (m)	Length (m)	Angle	Szinit (m)
R1A_1	404130.4	3167611	1.32E-05	4	9.91	75	90	1.86
R1A_2	404205.4	3167611	1.32E-05	4	9.91	75	90	1.86
R1A_3	404276.9	3167610	1.32E-05	4	9.91	70.71	45	1.86
R1A_4	404330.4	3167656	1.32E-05	4	9.91	90	90	1.86
R1A_5	404420.4	3167656	1.32E-05	4	9.91	90	90	1.86
R1A_6	404510.4	3167656	1.32E-05	4	9.91	90	90	1.86
R1A_7	404600.4	3167656	1.32E-05	4	9.91	90	90	1.86
R1A_8	404690.4	3167656	1.32E-05	4	9.91	90	90	1.86
R1B_1	404780.4	3167661	7.15E-06	4	18.29	70	90	1.86
R2_1	404135	3167606	6.56E-06	4	9.14	58.19	-175.32	1.86
R3A_1	404135	3167606	6.53E-06	4	9.14	54.75	180	1.86
R3A_2	404135	3167552	6.53E-06	4	9.14	54.75	180	1.86
R3B_1	404130.4	3167492	2.25E-05	4	9.14	78.53	-89.82	1.86
R4A_1	404047.3	3167497	7.86E-06	4	9.14	57.5	-0.4	1.86
R4B_1	404047.3	3167556	7.86E-06	4	9.14	51.45	24.01	1.86
R5_1	404072.1	3167597	5.00E-08	4	9.14	56.22	-86.18	1.86
R5_2	404016	3167601	5.00E-08	4	9.14	56.22	-86.18	1.86
R5_3	403957.1	3167606	5.00E-08	4	9.14	57.1	-45.53	1.86
R5_4	403919.5	3167645	5.00E-08	4	9.14	73.47	-90	1.86
R6_1	404056.5	3167497	1.46E-05	4	9.14	69.86	-174.46	1.86
R7_1	403977.4	3167490	1.05E-06	4	9.14	33.5	0.37	1.86
R7_2	403982.2	3167519	1.05E-06	4	9.14	20.62	-90	1.86
R8_1	403981.9	3167486	1.35E-05	4	9.14	64.81	-90	1.86
R8_2	403917.1	3167486	1.35E-05	4	9.14	64.81	-90	1.86
R9_1	403836.8	3167490	1.26E-06	4	9.14	19.75	0	1.86
R9_2	403841.3	3167514	1.26E-06	4	9.14	20.34	90	1.86
R9_3	403866.3	3167510	1.26E-06	4	9.14	19.75	180	1.86
R10_1	403837.4	3167509	2.02E-06	4	3.05	14.25	0	1.86
R10_2	403839	3167525	2.02E-06	4	3.05	14.75	90	1.86
R10_3	403855.3	3167523	2.02E-06	4	3.05	14.25	180	1.86
R11_1	403770.9	3167486	3.66E-06	4	9.14	57.08	-90	1.86
R11_2	403713.8	3167486	3.66E-06	4	9.14	57.08	-90	1.86
R11_3	403661.3	3167490	3.66E-06	4	9.14	84	180	1.86
R11_4	403661.3	3167406	3.66E-06	4	9.14	84	180	1.86
R11_5	403661.3	3167322	3.66E-06	4	9.14	84	180	1.86
R11_6	403661.3	3167238	3.66E-06	4	9.14	84	180	1.86
R11_7	403661.3	3167154	3.66E-06	4	9.14	84	180	1.86
R11_8	403661.3	3167070	3.66E-06	4	9.14	84	180	1.86
R11_9	403661.3	3166986	3.66E-06	4	9.14	84	180	1.86
R11_10	403661.3	3166902	3.66E-06	4	9.14	84	180	1.86
R11_11	403660.8	3166820	3.66E-06	4	9.14	88.05	153.53	1.86
R11_12	403739.8	3166777	3.66E-06	4	9.14	88.94	-159.89	1.86
R11_13	403656.3	3166747	3.66E-06	4	9.14	88.94	-159.89	1.86
R11_14	403572.8	3166716	3.66E-06	4	9.14	88.94	-159.89	1.86
R11_15	403489.5	3166687	3.66E-06	4	9.14	18	180	1.86
R11_16	403489.2	3166667	3.66E-06	4	9.14	22.13	-156	1.86
R11_17	403461.3	3166657	3.66E-06	4	9.14	32.68	-40.77	1.86
R12_1	403767	3167488	1.66E-06	4	9.14	40.24	-31.67	1.86
R13_1	403856.9	3167490	7.01E-06	4	9.14	61.17	180	1.86
R13_2	403856.9	3167429	7.01E-06	4	9.14	61.17	180	1.86

SCC Road Segment and Emission Parameter Table

Road Segment	UTM X	UTM Y	Q (g/s)	Release Height (m)	Width (m)	Length (m)	Angle	Szinit (m)
R13_3	403856.9	3167368	7.01E-06	4	9.14	61.17	180	1.86
R14_1	403850.1	3167302	2.62E-06	4	9.14	24.44	-90	1.86
R15_1	403825.6	3167295	1.46E-05	4	3.05	17.5	-90	1.86
R15_2	403806.6	3167297	1.46E-05	4	3.05	18.25	0	1.86
R15_3	403808.1	3167316	1.46E-05	4	3.05	17.5	90	1.86
R16_1	403804.7	3167294	3.61E-06	4	3.05	13.39	-50.59	1.86
R16_2	403793.8	3167304	3.61E-06	4	3.05	9.02	-14.04	1.86
R16_3	403791.7	3167313	3.61E-06	4	3.05	15.38	24.48	1.86
R16_4	403799.2	3167328	3.61E-06	4	3.05	17.02	79.85	1.86
R17_1	403854.6	3167307	4.39E-06	4	9.14	61	180	1.86
R18_1	403850	3167250	2.30E-06	4	9.14	67.06	90	1.86
R19_1	403854.6	3167246	2.10E-06	4	9.14	53.12	180	1.86
R19_2	403854.6	3167193	2.10E-06	4	9.14	53.12	180	1.86
R20_1	403850	3167144	2.10E-06	4	9.14	66.84	90	1.86
R21_1	403962.7	3167529	1.13E-05	4	3.05	21	180	1.86
R21_2	403961.2	3167507	1.13E-05	4	3.05	17.53	-90	1.86
R21_3	403942.1	3167508	1.13E-05	4	3.05	21	0	1.86
R22_1	403182.1	3167015	1.57E-04	4	3.05	20.98	-164.8	1.86
R22_2	403203.3	3167009	1.57E-04	4	3.05	9.61	-110.56	1.86
R22_3	403207	3167003	1.57E-04	4	3.05	12.45	100.41	1.86
R22_4	403203.8	3166990	1.57E-04	4	3.05	8.87	139.57	1.86
R23_1	403441.9	3166686	9.28E-06	4	3.05	10.6	-31.86	1.86
R23_2	403437	3166695	9.28E-06	4	3.05	12.03	-69.3	1.86
R23_3	403427.7	3166700	9.28E-06	4	3.05	9.95	-154.72	1.86
R23_4	403418.4	3166695	9.28E-06	4	3.05	12.71	-134.9	1.86
R24_1	403852.3	3167486	5.30E-06	4	9.14	81.44	-90	1.86
R25A_1	404133.9	3167500	1.32E-05	4	9.91	70.65	135.05	1.86
R25A_2	404183.9	3167450	1.32E-05	4	9.91	70.65	135.05	1.86
R25A_3	404233.9	3167401	1.32E-05	4	9.91	70.65	135.05	1.86
R25A_4	404282.1	3167352	1.32E-05	4	9.91	74.8	109.53	1.86
R25A_5	404307.1	3167281	1.32E-05	4	9.91	74.8	109.53	1.86
R25A_6	404330.4	3167211	1.32E-05	4	9.91	94.6	90	1.86
R25A_7	404425	3167211	1.32E-05	4	9.91	94.6	90	1.86
R25A_8	404519.6	3167211	1.32E-05	4	9.91	94.6	90	1.86
R25A_9	404614.2	3167211	1.32E-05	4	9.91	94.6	90	1.86
R25A_10	404708.8	3167211	1.32E-05	4	9.91	94.6	90	1.86
R25A_11	404803.4	3167211	1.32E-05	4	9.91	94.6	90	1.86
R25A_12	404898	3167211	1.32E-05	4	9.91	94.6	90	1.86
R25B_1	404992.6	3167215	7.15E-06	4	18.29	70	90	1.86

SCC Road Segment Chart



Attachment 4
Class II PSD Increment and NAAQS Modeling Source Tables

Emission Units Excluded from the Class II PSD Increment Modeling based on the 20D Rule

Facility ID	Source	Distance (km)	20D Value (1)
0690046	Covanta Lake	15.0	1.33
0690014	Sliver Springs Citrus	22.5	2.56
0690002	Cutrale Citrus Juices	23.0	1.40
1010060	Helena Chemical Co.	37.7	1.09
0950053	Louis Dreyfus Citrus	40.8	4.50
0530021	Florida Crushed Stone - Brooksville	42.8	1.29
0570005	CF Industries	53.9	1.53

Note 1 - (Distance from Sumter Stack - 10)*20 divided by Emissions in tons/yr . A value of greater than 1 leads to exclusion.
Note 2 - The emission units of Progress Energy - Intercession (59.3 km distant) were primarily operating in 1974, prior to the PM PSD baseline date.

Key Emission Units Excluded From Modeling Outside of the 60 km Range

Facility ID	Source	Distance (km)
0970043	Kissimmee Utility Authority - Kua Cane Power	60.7
1050004	Lakeland Electric - CD McIntosh	61.5
1010056	Pasco RRF	62.1
1050003	Lakeland Electric - CD McIntosh	65.2
1050221	Calpine - Auburndale Power	66.4
1050352	Lakeland Electric - Winston Peaking	67.0
0970001	Kissimmee Utility Authority - Roy B Hansel	68.0
1270009	Florida Power and Light - Sanford	68.4
1270028	Progress Energy - Debary	70.3

Emission Units Included in the Class II PSD Increment and NAAQS Modeling

Facility ID	Owner / Site Name	EU ID	Distance from Stack (km)	Annual Emission Rate (g/s)	Hourly Emission Rate (g/s)
1190018	CONSOLIDATED MINERALS, INC. - CENTER HILL MINE	2	3.05	1.11E+00	1.11E+00
1190018	CONSOLIDATED MINERALS, INC. - CENTER HILL MINE	4	3.05	1.90E-01	1.89E-01
1190018	CONSOLIDATED MINERALS, INC. - CENTER HILL MINE	5	3.05	2.18E-01	2.18E-01
1190018	CONSOLIDATED MINERALS, INC. - CENTER HILL MINE	6	3.05	1.03E-01	1.03E-01
0530010	CEMEX	2	46.37	1.29E-01	1.29E-01
0530010	CEMEX	3	46.37	3.39E+00	3.74E+00
0530010	CEMEX	4	46.37	1.71E+00	1.88E+00
0530010	CEMEX	5	46.37	4.54E+00	4.54E+00
0530010	CEMEX	6	46.37	1.65E-01	1.83E-01
0530010	CEMEX	8	46.37	4.69E-01	4.71E-01
0530010	CEMEX	9	46.37	7.19E-01	4.54E+00
0530010	CEMEX	11	46.37	2.71E-01	2.71E-01
0530010	CEMEX	12	46.37	2.17E-01	2.47E-01
0530010	CEMEX	13	46.37	1.59E+00	1.70E+00
0530010	CEMEX	14	46.37	3.39E+00	3.74E+00
0530010	CEMEX	15	46.37	1.71E+00	1.88E+00
0530010	CEMEX	16	46.37	1.71E-01	1.83E-01
0530010	CEMEX	17	46.37	6.01E-02	6.43E-02
0530010	CEMEX	18	46.37	1.71E-01	1.83E-01
0530010	CEMEX	19	46.37	4.72E-01	5.04E-01
0530010	CEMEX	21	46.37	1.18E-01	1.26E-01
0530010	CEMEX	22	46.37	1.08E-01	1.26E-01
0530010	CEMEX	23	46.37	5.41E-02	6.30E-02
0530010	CEMEX	24	46.37	7.31E-02	7.56E-02
0530010	CEMEX	25	46.37	8.05E-04	1.08E-03
0530010	CEMEX	26	46.37	5.38E-02	7.56E-02
0530010	CEMEX	27	46.37	1.14E+00	1.60E+00
1190011	ROBBINS MANUFACTURING CO.	1	11.16	5.30E-01	5.30E-01
1190011	ROBBINS MANUFACTURING CO.	2	11.16	5.30E-01	5.30E-01
1190011	ROBBINS MANUFACTURING CO.	5	11.16	2.50E-01	2.50E-01

Attachment 5

Revised PTE Inventory (Appendix A)

TABLE A-1
Potential Plant-Wide Emission Totals

October 2005

EU No.	EU Description	PM tons/yr	PM_{10} tons/yr	SO_2 tons/yr	NO_x tons/yr	CO tons/yr	VOC tons/yr	HCl tons/yr	Lead tons/yr	Mercury tons/yr	Beryllium tons/yr	Dioxin/Furans tons/yr	Fluorides tons/yr
CH-1	Primary Crushing & Associated Conveyors	1.48	0.69										
CH-2	Raw Material Conveying	1.74	0.82										
CH-3	Raw Material Processing and Storage	12.10	10.28										
CH-4	Kiln System with In-Line Raw Mill and Clinker Cooler	180.98	153.14	231.59	1,672.61	3,087.90	98.64	120.09	0.064	0.092	0.0002	2.49E-07	0.772
CH-5	Clinker Storage and Conveying	24.97	21.23										
CH-6	Finish Mills and Cement Processing	119.55	101.62										
CH-7	Coal Mill System	20.70	17.60										
CH-8	Coal Conveying	0.08	0.04										
CH-9	Emergency Generator (See Note 1)	0.07	0.06	0.55	2.31	0.43	0.08						
CH-10	Storage Piles	10.51	5.26										
CH-11	Paved and Unpaved Roads	68.69	13.64										
	Pollutant Totals	**437.67**	**322.87**	**232.14**	**1,674.93**	**3,088.33**	**98.72**	**120.085**	**0.064**	**0.092**	**0.0002**	**2.49E-07**	**0.772**

Point Sources
Fugitive Sources

NOTE 1 : Emergency Generator is exempt from being included in the Permit to Construct Application as it will use less than 32,000 gallons of diesel per year (Per Rule 62-210.300(3)(a)20

TABLE A-2
Potential Throughput Data for Center Hill Plant

Material	Center Hill Throughput (tons/yr)	Center Hill Hourly Rates (tons/hr)	Comments
Limestone crushed	3,798,428	2142.5	
Base Rock	500,000	NA	
Limestone - raw material	3,298,428	443.0	
Bauxite/Alumina Source	352,662	47.4	
Sand/Clay/Silica Source	385,854	51.8	
Steel Slag/Iron Source	87,128	11.7	
Wet Fly Ash Storage	352,662	47.4	
Coal Mill	211,160	28.4	
Raw Mill Feed (Wet)	3,607,797	484.5	
Kiln Feed from Raw Mill (Dry) to Blend Silo	2,958,393	397.3	
Kiln Preheater Feed from Blend Silo	2,553,019	323.8	
Kiln Baghouse Dust Recirculation	231,351	28.3	
Kiln Feed Total	2,784,370	353.2	Preheater Feed + Baghouse Dust Recirculation
Clinker Produced by Kiln	1,715,500	208.3	
Total Clinker Needed for Cement	2,354,425	316	
Gypsum/Synthetic Gypsum/Limestor	177,215	23.8	Assume 7% Gypsum
Finish Mill #1 (Clinker)	1,177,213	158.10	
Finish Mill #2 (Clinker)	1,177,213	158.10	
FM #1 (Cement Feed)	1,265,820	170	
FM #2 (Cement Feed)	1,265,820	170	
Cement Total	2,531,640	340.0	
Dry Fly Ash	278,437	35.3	

TABLE A-3
Potential Particulate Emissions from Point sources

October 2005

																	Stack Parameters >>			
EU No.	EP No.	Modeling Source ID	Description	Annual Throughput	Hourly Throughput	Flow ACFM	Temp. deg F	Moisture % (Note 1)	Flow DSCFM	Operating Hours	PM gr/dscf	PM-10 gr/dscf	PM lb/hr	PM tons/yr	PM-10 lb/hr	PM-10 tons/yr	Height ft	Diam. ft	Velocity fpm	Orientation
CH-3	NDC-01	CH_P_001	Raw Material Transport	2,958,393.3	397.3	3,000	200	2%	2,352	8,760	0.01	0.0085	0.20	0.88	0.17	0.75	30	1.0	3820	H
	NDC-02	CH_P_002	Baghouse Dust Bin	231,351.4	26.25	4,500	450	2%	2,559	8,760	0.01	0.0085	0.22	0.96	0.19	0.82	60	1.0	5730	H
	NDC-03	CH_P_003	Raw Material Transport	2,958,393.3	397.3	3,000	200	2%	2,352	8,760	0.01	0.0085	0.20	0.88	0.17	0.75	15	1.0	3820	H
	NDC-04	CH_P_004	Blend Silo Inlet	2,958,393.3	397.3	8,500	200	2%	6,664	8,760	0.01	0.0085	0.57	2.50	0.49	2.13	240	1.4	5522	H
	NDC-05	CH_P_005	Blend Silo	2,553,018.8	323.8	5,000	200	2%	3,920	8,760	0.01	0.0085	0.34	1.47	0.29	1.25	45	1.0	6366	H
	NDC-06	CH_P_006	Blend Silo Outlet	2,553,018.8	323.8	3,000	200	2%	2,352	8,760	0.01	0.0085	0.20	0.88	0.17	0.75	15	1.0	3820	H
	NDC-07	CH_P_007	Kiln Feed Transport	2,784,370.2	353.2	5,500	200	2%	4,312	8,760	0.01	0.0085	0.37	1.62	0.31	1.38	345	1.1	5787	H
	NDC-08	CH_P_008	Fly Ash Silo	278,437.0	35.30	6,000	110	2%	5,447	8,760	0.01	0.0085	0.47	2.04	0.40	1.74	180	1.1	6314	H
	NDC-09	CH_P_009	Fly Ash Transport	278,437.0	35.30	2,500	110	2%	2,269	8,760	0.01	0.0085	0.19	0.85	0.17	0.72	20	1.0	3183	H
CH-4	DC-01	Kiln	Preheater/Precaliner Kiln with In-Line Raw Mill Up(Compound)	1,715,500.0	208.30	679,600	203	16.5%	451,919	8,760	Assumes 85% runtime for kiln in compound condition and 15% runtime for direct condition.									
	DC-01		Preheater/Precaliner Kiln with In-Line Raw Mill Down (Direct)	1,715,500.0	208.30	630,350	400	7.5%	357,980	8,760										
	DC-01		Kiln System with In-Line Raw Mill and Clinker Cooler (Total)	1,715,500.0	208.3	672,213	233	15%	434,852	8,760	N/A	N/A	45.9	180.96	38.8	153.14	427	16.5	3144	V
CH-5	NDC-10	CH_P_010	Clinker Transport From Kiln	1,715,500.0	208.3	4,000	300	2%	2,723	8,760	0.01	0.0085	0.23	1.02	0.20	0.87	40	1	5093	H
	NDC-11	CH_P_011	Clinker Silo #1	1,715,500.0	208.3	16,000	300	2%	10,893	8,760	0.01	0.0085	0.93	4.09	0.79	3.48	186	2	5093	H
	NDC-12	CH_P_012	Clinker Silo #2	1,715,500.0	208.3	15,000	300	2%	10,213	8,760	0.01	0.0085	0.88	3.83	0.74	3.26	186	2	4775	H
	NDC-13	CH_P_013	Off-Spec Clinker Silo	85,775.0	208.3	11,000	300	2%	7,489	8,760	0.01	0.0085	0.64	2.81	0.55	2.39	100	1.5	6225	H
	NDC-14	CH_P_014	FM #1 Clinker Silo Outlet Conveyor	1,177,212.6	158.1	10,000	250	2%	7,288	8,760	0.01	0.0085	0.62	2.74	0.53	2.33	20	1.5	5659	H
	NDC-15	CH_P_015	FM #2 Clinker Silo Outlet Conveyor	1,177,212.6	158.1	10,000	250	2%	7,288	8,760	0.01	0.0085	0.62	2.74	0.53	2.33	20	1.5	5659	H
	NDC-16	CH_P_016	Gypsum & Limestone Silos	177,214.8	23.8	6,000	70	2%	5,858	8,760	0.01	0.0085	0.50	2.20	0.43	1.87	70	1.1	6314	H
	NDC-17	CH_P_017	Conveying to Finish Mills (2 Feed Belts)	2,531,640.0	340.0	24,000	250	2%	17,491	8,760	0.01	0.0085	1.50	6.57	1.27	5.58	20	3	3395	H
CH-6	NDC-18	CH_P_018	FM #1 Clinker Conveying	1,265,820.0	170	6,000	250	2%	4,373	8,760	0.01	0.0085	0.37	1.64	0.32	1.40	40	1.1	6314	H
	DC-02	FM1Sep	Finish Mill #1 Separator BH	1,265,820.0	170	128,000	175	3%	103,239	8,760	0.01	0.0085	8.85	38.76	7.52	32.94	131	7.5	2897	V
	DC-03	FM1Sw	Finish Mill #1 Sweep BH	1,265,820.0	170	35,000	230	4.6%	25,551	8,760	0.01	0.0085	2.19	9.59	1.86	8.15	131	4	2785	V
	NDC-21	CH_P_021	Fringe Cement Bin	25,316.4	170.0	5,000	230	2%	3,750	8,760	0.01	0.0085	0.32	1.41	0.27	1.20	75	1	6366	H
	NDC-19	CH_P_019	Finish Mill #1 Baghouse No. 3	1,265,820.0	170	8,500	230	2%	6,374	8,760	0.01	0.0085	0.55	2.39	0.46	2.03	45	1.4	5522	H
	DC-04	FM2Sep	Finish Mill #2 Separator BH	1,265,820.0	170	128,000	175	3%	103,239	8,760	0.01	0.0085	8.85	38.76	7.52	32.94	131	7.5	2897	V
	DC-05	FM2Sw	Finish Mill #2 Sweep BH	1,265,820.0	170	35,000	230	4.6%	25,551	8,760	0.01	0.0085	2.19	9.59	1.86	8.15	131	4	2785	V
	NDC-20	CH_P_020	Finish Mill #2 Baghouse No. 3	1,265,820.0	170	8,500	230	2%	6,374	8,760	0.01	0.0085	0.55	2.39	0.46	2.03	45	1.4	5522	H
	NDC-22	CH_P_022	Cement Silos	2,531,640	170	6,000	160	2%	5,007	8,760	0.01	0.0085	0.43	1.88	0.36	1.60	187	1.1	6314	H
	NDC-23	CH_P_023	Cement Silos	2,531,640	170	5,000	160	2%	4,173	8,760	0.01	0.0085	0.36	1.57	0.30	1.33	187	1	6366	H
	NDC-24	CH_P_024	Cement Silos	2,531,640	170	7,500	160	2%	6,259	8,760	0.01	0.0085	0.54	2.35	0.46	2.00	187	1.2	6631	H
	NDC-25	CH_P_025	Truck Loadout #1	2,531,640	170	4,000	130	2%	3,508	8,760	0.01	0.0085	0.30	1.32	0.26	1.12	35	1	5093	H
	NDC-26	CH_P_026	Truck Loadout #2	2,531,640	170	4,000	130	2%	3,508	8,760	0.01	0.0085	0.30	1.32	0.26	1.12	35	1	5093	H
	NDC-27	CH_P_027	Truck Loadout #3	2,531,640	170	4,000	130	2%	3,508	8,760	0.01	0.0085	0.30	1.32	0.26	1.12	35	1	5093	H
	NDC-28	CH_P_028	Packaging Plant	506,328	170	16,000	130	2%	14,032	8,760	0.01	0.0085	1.20	5.27	1.02	4.48	35	2	5093	H
CH-7	DC-06	CoalMill	Coal Mill No. 1 BH	211,160	28.36	32,000	150	6.5%	25,898	8,760	0.01	0.0085	2.22	9.72	1.89	8.26	135	5.5	2691	V
	DC-07		Coal Mill No. 2 BH	211,160	28.36	31,937	150	6.5%	25,847	8,760	0.01	0.0085	2.22	9.70	1.88	8.25				
	NDC-29	CH_P_029	Pulverized Coal Bin	105,580	14.18	2,000	150	2%	1,697	8,760	0.01	0.0085	0.15	0.64	0.12	0.54	85	1	2546	H
	NDC-30	CHP_P039	Pulverized Coal Bin	105,580	14.18	2,000	150	2%	1,697	8,760	0.01	0.0085	0.15	0.64	0.12	0.54	85	1	2546	H
												TOTAL	86.63	359.33	73.46	304.74				

Note 1 : The moisture content of the nuisance dust collectors is excepted to be higher than 2%, however to conservatively estimate potential emissions 2% was used.

TABLE A-4
Potential Emissions from the Kiln System, Clinker Cooler, and Emergency Generator

Hourly Emissions:

EU No.	EU Description	Kiln Feed lbs/hr	Clinker lbs/hr	PM lbs/hr	PM_{10} lbs/hr	SO2 lbs/hr	NO_X lbs/hr	CO lbs/hr	VOC lbs/hr	HCl lbs/hr	Lead lbs/hr	Mercury lbs/hr	Dioxin/Furan lbs/hr	Beryllium lbs/hr	Fluorides lbs/hr
CH-4	New Kiln System	353	208.3	45.91	38.85	56.24	406.19	749.88	23.95	29.16	0.016	0.022	3.02E-11	0.00	0.00

EU No.	EU Description	Size	Fuel Rate gal/hr	Heat Input MMBtu/hr	Output hp-hr	PM lbs/hr	PM_{10} lbs/hr	SO2 lbs/hr	NO_X lbs/hr	CO lbs/hr	VOC lbs/hr
CH-9	Emergency Generator	750 kW	54.8	7.51	1,006	0.48	0.43	3.79	15.90	2.97	0.55

Annual Emissions:

EU No.	EU Description	Kiln Feed tons/yr	Clinker tons/yr	PM tons/yr	PM_{10} tons/yr	SO2 tons/yr	NO_X tons/yr	CO tons/yr	VOC tons/yr	HCl tons/yr	Lead tons/yr	Mercury tons/yr	Dioxin/Furan (tons/yr)	Beryllium tons/yr	Fluorides tons/yr
CH-4	New Kiln System	2,784,370	1,715,500	180.98	153.14	231.59	1,672.61	3,087.90	98.64	120.09	0.064	0.092	2.49E-07	0.0002	0.772

EU No.	EU Description	Operating Hours	Fuel Rate gal/yr	Heat Input MMBtu/yr	Output hp-hr/yr	PM tons/yr	PM_{10} tons/yr	SO2 tons/yr	NO_X tons/yr	CO tons/yr	VOC tons/yr
CH-9	Emergency Generator	291	15,947	2,185	292,673	0.07	0.06	0.55	2.31	0.43	0.08

Notes: The emergency generators operate during testing and power outages only.
In the event of a power outage, fuel to the kiln is cut off and the generator is the only combustion source operating.
Generators are diesel fuel-fired. Assume 137,000 Btu/gal heat value of fuel and sulfur content of 0.5 percent.
Total diesel fuel consumed by both emergency generators will not exceed 32,000 gal/yr (permit exemption level).

Emissions Basis:

Proposed Kiln

Pollutant	Emission Factor	Emission Factor Units	Source of Emission Factor
PM	0.13	lb/ton dry feed	Proposed BACT
PM_{10}	0.11	lb/ton dry feed	Proposed BACT
SO_2	0.27	lb/ton clinker	Proposed BACT
NO_X	1.95	lb/ton clinker	Proposed BACT
CO	3.60	lb/ton clinker	Proposed BACT
VOC	0.115	lb/ton clinker	Proposed BACT
HCl (annual)	0.1400	lb/ton clinker	AP-42 Table 11.6-9
Lead	7.50E-05	lb/ton clinker	AP-42 Table 11.6-9
Mercury	1.078E-04	lb/ton clinker	Based on Stack Test Data from similar SAC Plant in Brandford, FL
Beryllium	2.41E-07	lb/ton clinker	Similar PH/PC Plant Stack Test Dec. 9-12, 2003
Fluorides	9.00E-04	lb/ton clinker	AP-42 Table 11.6-9
Dioxin/ Furans	2.90E-10	lb/ton clinker	AP-42 Table 11.6-9

Emergency Generator

Pollutant	Emission Factor	EF Units	Source of EF
PM	0.215	lb/hp-hr	Generator specifications
PM_{10}	0.0573	lb/MMBtu	AP-42 Table 3.4-2
SO_2	0.505	lb/MMBtu	AP-42 Table 3.4-1
NO_X	7.17	lb/hp-hr	Generator specifications
CO	1.34	lb/hp-hr	Generator specifications
VOC	0.25	lb/hp-hr	Generator specifications

Mercury Emissions from the Center Hill plant will be estimated based on a calculated emission factor of 1.078E-04 lb of mercury per ton of clinker. This emission factor is based on data on two years worth of data on Raw Material Mercury Input from Suwannee American Cement in Branford, Fl. Provided below is an analysis of how this emission factor was derived:

Based on two plus years of raw material and feed samples from Suwannee American Cement (SAC) in Branford, Fl which use limestone from the same formation as SCC and proposes use of similar other raw materials and fuels, a average mercury concentration was developed for each input. Additionally, an extensive two day mercury mass balance test was conducted at SAC which involved hourly samples of raw materials, intermediate process outputs, final clinker outputs and stack testing. Based on results from these data sources and the proposed dry mass input of materials needed at SCC an emission factor was developed for total mercury input, then divided by the total clinker output. The estimated total mercury input was approximately 185 pounds of mercury per year which divided by a total maximum clinker output of 1,715,500 tons per year equals a mercury factor of 0.00010784 lbs of mercury per ton of clinker. When compared to two separate stack tests conducted at SAC the results matched closely the mercury factors from the stack testing when evaluating mill on and mill off conditions.

To insure that mercury emissions will not exceed the estimated potential emissions, the SCC Center Hill Plant will conduct mercury monitoring through sampling and analysis of raw materials and feeds. To determine the total mass input of mercury into the kiln system all inputs have to be identified and then sampled. The following figure shows all the mercury input locations into the kiln system.

The inputs shown include the combined raw material feed to the Raw Mill which includes the pre-determined amounts of calcium carbonate, silica, alumina, and iron from the raw materials. The fuel from the fuel storage is also accounted as an input for the system which may contain coal or petcoke blended together. Finally the dry fly ash which is injected into the calciner is identified as an input. Overall these represent the total mass inputs into the kiln system for which mercury may be introduced.

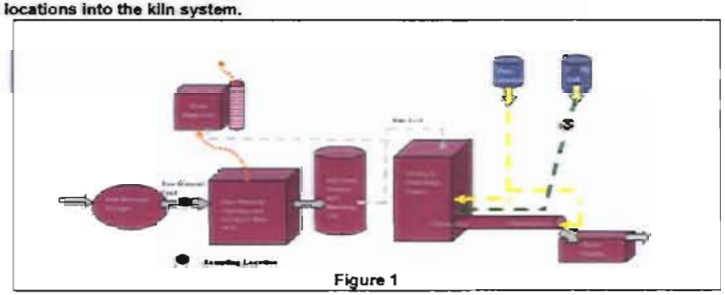


Figure 1

Also identified in Figure 1 are the sampling locations for all the inputs. The raw materials sampling location represents the total of all raw materials into the kiln system prior to being ground and dried in the raw mill. Samples for raw material feed, fuel fed to the kiln system, and dry fly ash injected into the calciner are taken at appropriate intervals through out the day. These samples are combined into daily composites and at the end of the month the daily composites are combined into a monthly composite. As appropriate the monthly composites will be combined to form quarterly composites and semi-annual composites. For purposes of the example the monthly calculation will be shown.

These monthly composites are then sent to an appropriate offsite lab for analysis to determine the mercury concentration using the currently approved EPA Method 7471A Mercury In Solid or Semisolid Waste (Manual Cold Vapor Technique) or other approved or appropriate methods that may be developed in the future.

The analytical results are then used with the total dry feed rates of the component to determine a mass input of mercury into the system for the month, this could just as easily be quarterly or semi-annually. The mass input for the raw material feed is a total mass of all of the material fed into the raw material for the corresponding month on a dry basis. The overall calculation for mercury input for all of the components is shown in below.

Equation 1: Monthly Composite of Material (unit of weight dry) * Concentration of Mercury (ppb) = Mass of Mercury (unit of weight)

This formula is repeated for all three inputs (Raw Material Feed, Fuel Feed, and Dry Fly Ash) and the total sum of these three inputs equals the total monthly input of mercury. This is shown in Equation 2.

Equation 2:

Monthly Mass of Mercury from Raw Material (dry)_
Monthly Mass of Mercury from Fuel (dry)
+ Monthly Mass of Mercury from Dry Fly Ash
Total Monthly Mercury Input into Kiln System

This is repeated for every month, quarter or semi-annual period and then a yearly mass input for mercury can be determined and compared to the yearly emission limit.

This estimate for mercury emissions is overly conservative for demonstration of compliance with the Mercury Emission Limit proposed in the permit because it first assumes that all the mercury entering the kiln systems exits through the main stack. Through the testing conducted at SAC and studies conducted by Portland Cement Association (PCA), small amounts of mercury have been shown to exit through the clinker.

Additionally, analytical results for the samples of raw material are typically below detection limits when utilizing the currently approved EPA Method 7471A Mercury In Solid or Semisolid Waste (Manual Cold Vapor Technique). SCC considers the detection limit as the amount of mercury present in that material despite the fact that the actual mercury concentration maybe well below this. This intern effectively overestimates the entire input of mercury into the system due to limitations of the currently analytical technology which routinely measure down to parts per billion (ppb) of mercury.

TABLE A-6

Potential Particulate Emissions from Fugitive Sources

October 2005

Modeling Source ID	Segment Number	Description	Material	Material Information: Annual Qty (ton/yr)	Material Information: Hourly Rate (ton/hr)	Material Information: Moisture Content (%)[3]	Emission Factor (lb/ton)	Emission Factor Reference	Number of Transfer Points	Building Control Efficiency (%)[3]	Enclosed Conveyor Control Efficiency (%)[3]	Annual PM Emissions (tons/year)	PM10 Fraction	Annual PM10 Emissions (tons/year)	Hourly PM Emissions (lb/hr)	Hourly PM10 Emissions (lb/hr)
CH-1 Primary Crushing and Associated Conveyors																
	CH-1-1	**Primary Crushing and Conveying**														
CH_V_020	A	Loader to Primary Crusher	Limestone	3,798,428	2,143	25	1.05E-04	AP-42 Section 13.2.4, 1/95	1			0.200	0.47	0.094	0.23	0.11
		Primary Crusher Operation	Limestone	3,798,428	2,143	25	3.00E-04	AP-42 Table 11.19.2-2, 8/04[4]	1			0.570	0.45	0.256	0.64	0.29
		Conveyors B01 thru B08	Limestone	3,798,428	2,143	25	1.05E-04	AP-42 Section 13.2.4, 1/95	8		90%	0.160	0.47	0.075	0.18	0.08
CH_V_021	B	Conveying B08 to B20	Limestone	3,798,428	2,143	25	1.05E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.020	0.47	0.009	0.02	0.01
CH_V_022	C	Conveying B20 to B21	Limestone	3,798,428	2,143	25	1.05E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.020	0.47	0.009	0.02	0.01
CH_V_023	D	Conveying B21 to B22	Limestone	3,798,428	2,143	25	1.05E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.020	0.47	0.009	0.02	0.01
											Sub Total	**0.990**		**0.454**	**1.117**	**0.512**
CH_V_024	**CH-1-2**	**Base Rock Conveying**														
	A	Belt B22 to B24[2]	Base Rock	500,000	2,143	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1			0.045	0.47	0.021	0.39	0.18
CH_V_025	B	Belt B24 to B27[2]	Base Rock	500,000	2,143	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1			0.045	0.47	0.021	0.39	0.18
CH_V_026	C	Belt B27 to Radial Stacker[2]	Base Rock	500,000	2,143	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1			0.045	0.47	0.021	0.39	0.18
											Sub Total	**0.136**		**0.064**	**1.163**	**0.547**
CH_V_027	**CH-1-3**	**Limestone Conveying**														
	A	Belt B22 to B40	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1			0.298	0.47	0.140	0.08	0.04
CH_V_028	B	Belt B40 to C01	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.030	0.47	0.014	0.01	0.00
CH_V_029	C	Belt C01 to C02	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.030	0.47	0.014	0.01	0.00
											Sub Total	**0.358**		**0.168**	**0.096**	**0.045**
										CH-1 TOTAL EMISSIONS		**1.484**		**0.686**	**2.376**	**1.104**
CH-2 Raw Material Conveying																
	CH-2-1	**Limestone Pile Handling**														
CH_V_001		C02 Transfer to Limestone Conveyor	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1	60%	90%	0.012	0.47	0.006	0.00	0.00
		Transfer to Pile	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	2	60%		0.239	0.47	0.112	0.06	0.03
		Piles to reclaim belts	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	2	60%		0.239	0.47	0.112	0.06	0.03
											Sub Total	**0.489**		**0.230**	**0.131**	**0.062**
	CH-2-2	**Wet Fly Ash Hopper Building**														
CH_V_003		Truck Dump to Hopper	Wet Fly Ash	352,662	47	27	9.47E-05	AP-42 Section 13.2.4, 1/95	1	75%		0.004	0.47	0.002	0.00	0.00
		Hopper Transfer to Belt	Wet Fly Ash	352,662	47	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1	75%	90%	0.001	0.47	0.000	0.00	0.00
											Sub Total	**0.005**		**0.002**	**0.001**	**0.001**
	CH-2-3	**Wet Fly Ash Pile Handling**														
CH_V_002		Belt to Belt Transfer	Wet Fly Ash	352,662	47	27	9.47E-05	AP-42 Section 13.2.4, 1/95	1	60%	90%	0.001	0.47	0.000	0.00	0.00
		Transfer to Pile	Wet Fly Ash	352,662	47	27	9.47E-05	AP-42 Section 13.2.4, 1/95	1	60%		0.007	0.47	0.003	0.00	0.00
		Pile Transfer to Reclaim Belt	Wet Fly Ash	352,662	47	27	9.47E-05	AP-42 Section 13.2.4, 1/95	1	60%		0.007	0.47	0.003	0.00	0.00
											Sub Total	**0.014**		**0.007**	**0.004**	**0.002**
	CH-2-4	**Clay/Sand Hopper Building**														
CH_V_004		Truck Dump to Hopper	Clay/Sand	385,854	52	13.01	2.63E-04	AP-42 Section 13.2.4, 1/95	1	75%		0.013	0.47	0.006	0.00	0.00
		Hopper Transfer to Belt	Clay/Sand	385,854	52	27	9.47E-05	AP-42 Section 13.2.4, 1/95	1	75%	90%	0.000	0.47	0.000	0.00	0.00
											Sub Total	**0.013**		**0.006**	**0.004**	**0.002**

TABLE A-6

October 2005

Potential Particulate Emissions from Fugitive Sources

Modeling Source ID	Segment Number	Description	Material	Material Information			Emission Factor (lb/ton)	Emission Factor Reference	Number of Transfer Points	Building Control Efficiency (%)[3]	Enclosed Conveyor Control Efficiency (%)[3]	Annual PM Emissions (tons/year)	PM10 Fraction	Annual PM10 Emissions (tons/year)	Hourly PM Emissions (lb/hr)	Hourly PM10 Emissions (lb/hr)
				Annual Qty (ton/yr)	Hourly Rate (ton/hr)	Moisture Content (%)[3]										
CH_V_002	CH-2-5	**Clay/Sand Pile Handling**														
		Belt to Belt Transfer	Clay/Sand	385,854	52	13.01	2.63E-04	AP-42 Section 13.2.4, 1/95	1	60%	90%	0.002	0.47	0.001	0.00	0.00
		Transfer to Pile	Clay/Sand	385,854	52	13.01	2.63E-04	AP-42 Section 13.2.4, 1/95	1	60%		0.020	0.47	0.010	0.01	0.00
		Pile Transfer to Reclaim Belt	Clay/Sand	385,854	52	13.01	2.63E-04	AP-42 Section 13.2.4, 1/95	1	60%		0.020	0.47	0.010	0.01	0.00
											Sub Total	**0.043**		**0.020**	**0.011**	**0.005**
CH_V_002	CH-2-6	**Steel Slag Pile Handling**														
		Truck Dump to Pile	Steel Slag	87,128	12	0.92	1.07E-02	AP-42 Section 13.2.4, 1/95	1	60%		0.187	0.47	0.088	0.05	0.02
		FEL Reclaim	Steel Slag	87,128	12	0.92	1.07E-02	AP-42 Section 13.2.4, 1/95	2	60%		0.374	0.47	0.176	0.10	0.05
		Transfer to Reclaim Belt	Steel Slag	87,128	12	0.92	1.07E-02	AP-42 Section 13.2.4, 1/95	1	60%	90%	0.019	0.47	0.009	0.01	0.00
											Sub Total	**0.580**		**0.273**	**0.156**	**0.073**
CH_V_002	CH-2-7	**Bauxite Pile Handling**														
		Truck Dump to Pile	Bauxite	352,662	47	10	3.80E-04	AP-42 Section 13.2.4, 1/95	1	60%		0.027	0.47	0.013	0.01	0.00
		FEL Reclaim	Bauxite	352,662	47	10	3.80E-04	AP-42 Section 13.2.4, 1/95	2	60%		0.054	0.47	0.025	0.01	0.01
		Transfer to Reclaim Belt	Bauxite	352,662	47	10	3.80E-04	AP-42 Section 13.2.4, 1/95	1	60%	90%	0.003	0.47	0.001	0.00	0.00
											Sub Total	**0.083**		**0.039**	**0.022**	**0.010**
CH_V_008	CH-2-8	**Limestone Conveying**														
	A	Transfer to Limestone Bin	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.030	0.47	0.014	0.01	0.00
CH_V_009	B	Limestone Bin Discharge	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.030	0.47	0.014	0.01	0.00
		Limestone Conveying	Limestone	3,298,428	443	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.030	0.47	0.014	0.01	0.00
											Sub Total	**0.090**		**0.042**	**0.024**	**0.011**
CH_V_010	CH-2-9	**Wet Fly Ash Conveying**														
	A	Transfer to Fly Ash Bin	Wet Fly Ash	352,662	47	27	9.47E-05	AP-42 Section 13.2.4, 1/95	2		90%	0.003	0.47	0.002	0.00	0.00
CH_V_011	B	Fly Ash Bin Discharge	Wet Fly Ash	352,662	47	27	9.47E-05	AP-42 Section 13.2.4, 1/95	1		90%	0.002	0.47	0.001	0.00	0.00
		Fly Ash Conveying	Wet Fly Ash	352,662	47	27	9.47E-05	AP-42 Section 13.2.4, 1/95	1		90%	0.002	0.47	0.001	0.00	0.00
											Sub Total	**0.007**		**0.003**	**0.002**	**0.001**
CH_V_012	CH-2-10	**Clay/Sand Conveying**														
	A	Transfer to Clay/Sand Bin	Clay/Sand	385,854	52	13.01	2.63E-04	AP-42 Section 13.2.4, 1/95	3		90%	0.015	0.47	0.007	0.00	0.00
CH_V_013	B	Clay/Sand Bin Discharge	Clay/Sand	385,854	52	13.01	2.63E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.005	0.47	0.002	0.00	0.00
		Clay/Sand Conveying	Clay/Sand	385,854	52	13.01	2.63E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.005	0.47	0.002	0.00	0.00
											Sub Total	**0.025**		**0.012**	**0.007**	**0.003**
CH_V_014	CH-2-11	**Bauxite Conveying**														
	A	Transfer to Bauxite Bin	Bauxite	352,662	47	10	3.80E-04	AP-42 Section 13.2.4, 1/95	3		90%	0.020	0.47	0.009	0.01	0.00
CH_V_015	B	Bauxite Bin Discharge	Bauxite	352,662	47	10	3.80E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.007	0.47	0.003	0.00	0.00
		Bauxite Conveying	Bauxite	352,662	47	10	3.80E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.007	0.47	0.003	0.00	0.00
											Sub Total	**0.034**		**0.016**	**0.009**	**0.004**
CH_V_016	CH-2-12	**Steel Slag Conveying**														
	A	Transfer to Slag Bin	Steel Slag	87,128	12	0.92	1.07E-02	AP-42 Section 13.2.4, 1/95	3		90%	0.140	0.47	0.066	0.04	0.02
CH_V_017	B	Slag Bin Discharge	Steel Slag	87,128	12	0.92	1.07E-02	AP-42 Section 13.2.4, 1/95	1		90%	0.047	0.47	0.022	0.01	0.01
		Slag Conveying	Steel Slag	87,128	12	0.92	1.07E-02	AP-42 Section 13.2.4, 1/95	1		90%	0.047	0.47	0.022	0.01	0.01
											Sub Total	**0.234**		**0.110**	**0.063**	**0.030**

TABLE A-6

Potential Particulate Emissions from Fugitive Sources

October 2005

Modeling Source ID	Segment Number	Description	Material	Material Information: Annual Qty (ton/yr)[1]	Material Information: Hourly Rate (ton/hr)	Material Information: Moisture Content (%)[3]	Emission Factor (lb/ton)	Emission Factor Reference	Number of Transfer Points	Building Control Efficiency (%)[1]	Enclosed Conveyor Control Efficiency (%)[2]	Annual PM Emissions (tons/year)	PM10 Fraction	Annual PM10 Emissions (tons/year)	Hourly PM Emissions (lb/hr)	Hourly PM10 Emissions (lb/hr)
CH_V_018	CH-2-13	**Crossbelt Analyzer**														
		Crossbelt Analyzer	Raw Mill Feed	3,607,797	485	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1		90%	0.033	0.47	0.015	0.01	0.00
											Sub Total	**0.033**		**0.015**	**0.009**	**0.004**
CH_V_005	CH-2-14	**Raw Mill Feed Conveying**														
		Belt Transfer to Reject Bin	Raw Mill Feed	25,000	200	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1	60%	90%	0.000	0.47	0.000	0.00	0.00
		Elevator Transfer to Reject Bin	Raw Mill Feed	25,000	200	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1	60%	90%	0.000	0.47	0.000	0.00	0.00
		Reject Bin Discharge to Truck	Raw Mill Feed	25,000	200	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1	60%		0.001	0.47	0.000	0.01	0.01
											Sub Total	**0.001**		**0.001**	**0.017**	**0.008**
CH_V_006	CH-2-15	**Gypsum/Limestone Conveying**														
		Gypsum Unloading	Gypsum	88,607	11.90	2.1	3.38E-03	AP-42 Section 13.2.4, 1/95	1	60%		0.060	0.47	0.028	0.02	0.01
		Limestone Unloading	Limestone	88,607	11.90	17	1.81E-04	AP-42 Section 13.2.4, 1/95	1	60%		0.003	0.47	0.002	0.00	0.00
		FEL Gypsum/Limestone Reclaim	Gypsum/ Limestone	177,215	23.80	9.55	4.06E-04	AP-42 Section 13.2.4, 1/95	1	60%		0.014	0.47	0.007	0.00	0.00
		FEL Unloading	Gypsum/ Limestone	177,215	23.80	9.55	4.06E-04	AP-42 Section 13.2.4, 1/95	1	75%		0.009	0.47	0.004	0.00	0.00
		Gypsum/Limestone Belt transfer to Elevator	Gypsum/ Limestone	177,215	23.80	9.55	4.06E-04	AP-42 Section 13.2.4, 1/95	1	75%	90%	0.001	0.47	0.000	0.00	0.00
										Sub Total		**0.087**		**0.041**	**0.023**	**0.011**
										CH-2 TOTAL EMISSIONS		**1.737**		**0.816**	**0.484**	**0.227**
CH-8 Coal Conveying																
CH_V_007	CH-8-1	**Coal/Petcoke Pile Handling**														
		Coal/Pet Coke Unloading	Coal/Petcoke	31,674	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	1	60%		0.007	0.47	0.003	0.01	0.01
		FEL Reclaim	Coal/Petcoke	31,674	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	1	60%		0.007	0.47	0.003	0.01	0.01
		FEL Transfer to Hopper	Coal/Petcoke	31,674	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	1	75%		0.004	0.47	0.002	0.01	0.00
											Sub Total	**0.018**		**0.008**	**0.032**	**0.015**
CH_V_007	CH-8-2	**Coal/Petcoke Conveying**														
	A	Belt Transfer to Elevator	Coal/Petcoke	31,674	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	1	60%	90%	0.001	0.47	0.000	0.00	0.00
		Transfer to Scrap Metal Box	Coal/Petcoke	1,056	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	2	60%		0.000	0.47	0.000	0.02	0.01
		Coal Conveyor transfer to Piles	Coal/Petcoke	31,674	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	1	60%		0.007	0.47	0.003	0.01	0.01
		Truck Dump to Hopper	Coal/Petcoke	211,160	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	1	75%		0.026	0.47	0.013	0.01	0.00
		Hopper transfer to Elevator	Coal/Petcoke	211,160	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	1	75%	90%	0.003	0.47	0.001	0.00	0.00
CH_V_019	B	Elevator to Coal Conveyor	Coal/Petcoke	31,674	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	1		90%	0.002	0.47	0.001	0.00	0.00
		Elevator to Coal Bins	Coal/Petcoke	211,160	28.4	5	1.06E-03	AP-42 Section 13.2.4, 1/95	2		90%	0.022	0.47	0.011	0.01	0.00
											Sub Total	**0.063**		**0.030**	**0.055**	**0.026**
										CH-8 TOTAL EMISSIONS		**0.080**		**0.038**	**0.086**	**0.041**
										Total		**3.302**		**1.540**	**2.946**	**1.372**

Note 1 A control efficiency of 60% was used to account for reduction of fugitives due to a partial building enclosure, this control efficiency is based on engineering calculations of the amount of wind that would be blocked by the building enclosure. A control efficiency of 75% was use to account for reduction of fugitives due to a building enclosure of three connecting walls and a roof.

Note 2 A control efficiency of 90% was used to account for reduction of fugitives due to enclosed conveyor transfer points, enclosed bins, and below ground transfer.

Note 3 Moisture Content for limestone, clay, and sand based on the Raw Material Analysis provided in Appendix G, all others based on AP-42 Table 13.2.4-1.

Note 4 AP-42 lists a "controlled emission factor" for Primary Crushing representing a range of moisture content from 0.55% to 2.88%. The moisture content of the SCC Plant limestone is minimally 25%. Therefore, an additional 75% control efficiency was applied to the AP-42 "controlled" emission factor of 1.2E-03 to conservatively account for the significant additional moisture contained in the limestone.

TABLE A-7
Potential Particulate Emissions from Storage Piles

ID NO.	Modeling Source ID	Description	Material	Surface Area (Acres)	Active Days (n) (days/yr)	Silt Content (s) percent	Material Moisture (%)	Material Throughput (T/yr)	Average Wind Speed (mph)	Wind Speed > 12 mph (f) percent	Rain Days (p) (days/yr)	Enclosure Control Efficiency (%)	TSP Wind Emissions (T/yr)	PM10 Wind Emissions (T/yr)	TSP Hourly Emissions (lb/hr)	PM10 Hourly Emissions (lb/hr)
CH-10-1	CH_A_001	Crushed Limestone Pile	Limestone	3.0	365	3.9	17	3,798,428	6.9	9.74	105	0	1.74	0.87	0.397	0.198
CH-10-2	CH_A_002	Base Rock Pile	Limestone	1.5	365	3.9	17	500,000	6.9	9.74	105	0	0.87	0.43	0.198	0.099
CH-10-3A	CH_V_001	Raw Limestone Storage	Limestone	1.8	365	3.9	17	3,298,428	6.9	9.74	0	50	0.59	0.29	0.134	0.067
CH-10-3B	CH_V_001	Raw Limestone Storage	Limestone	1.8	365	3.9	17	3,298,428	6.9	9.74	0	50	0.59	0.29	0.134	0.067
CH-10-4	CH_V_002	Sand/Clay/Silica Components Storage	Sand/Clay	0.9	365	4.3	13.0	385,854	6.9	9.74	0	50	0.32	0.16	0.074	0.037
CH-10-5	CH_V_002	Bauxite/Alumina Components Storage	Bauxite	0.2	365	6	10.0	352,662	6.9	9.74	0	50	0.10	0.05	0.023	0.011
CH-10-6	CH_V_002	Steel Slag/Iron Components Storage	Steel Slag	0.2	365	5.3	0.9	87,128	6.9	9.74	0	50	0.09	0.04	0.020	0.010
CH-10-7	CH_V_002	Wet Fly Ash Storage	Fly Ash	0.9	365	80.0	27.0	352,662	6.9	9.74	0	50	6.01	3.00	1.372	0.686
CH-10-8	CH_V_006	Gypsum/Synthetic Gypsum Storage	Gypsum	0.2	365	3.9	2.1	88,607	6.9	9.74	0	50	0.07	0.03	0.015	0.007
CH-10-9	CH_V_006	Limestone Storage	Limestone	0.05	365	3.9	17.0	88,607	6.9	9.74	0	50	0.02	0.01	0.004	0.002
CH-10-10	CH_V_007	Coal Storage	Coal	0.3	365	4.6	5	22,172	6.9	9.74	0	50	0.12	0.06	0.026	0.013
CH-10-11	CH_V_007	Pet Coke Storage	Pet Coke	0.05	365	4.6	5	9,502	6.9	9.74	0	50	0.02	0.01	0.004	0.002
												TOTALS	10.51	5.26	2.40	1.20

NOTES: Above emissions include only wind erosion emissions from the piles, all emissions from material transfer are accounted for in the Material Handling emissions.

Material transfer to piles
TSP transfer factors from AP-42 Section 13.2.4-3 (Aggregate Handling and Storage Piles, 1/95).

$E = k * 0.0032 * (U/5)^{1.3} / (M/2)^{1.4}$

E = transfer emission factor (lb/ton)
k = particle size multiplier — k (<30 um) = 0.74; k (<10 um) = 0.35
U = mean wind speed (mph)
M = material moisture content (%)

Wind Erosion
Reference: Control of Open Fugitive Dust Sources, EPA-450/3-88-008, p. 4-17

Ef = 1.7*(s/1.5)*(f/15)*((365-p)/235)*(1-(C/100)) — TSP (lbs/acre/day) — PM10 fraction = 0.5
E = A*n*Ef/2000 — TSP (tons/yr)

s = Silt content of the aggregate (%)
f = Percent of time that the unobstructed wind speed exceeds 12 mph at the mean pile height
p = Number of days with >= 0.01 in. of precipitation per year
C = Overall control efficiency (%)
A = Size of the pile (acres)
n = Number of days per year the pile is continuously active

Typical silt contents of materials from AP-42 Table 13.2.4-1.
Typical moisture of limestone, sand, and clay are from the raw material analysis provided in Appendix G
All other moisture values are from AP-42 Table 13.2.4-1.

TABLE A-8
Potential Particulate Emissions from Paved and Unpaved Roads

Paved Road Emission Summary

Segment No.	Modeling Source ID	Description	Segment Length (mi)	Silt Loading (g/m2)	Maximum Annual Emissions						Hourly Emissions	
					Material Trips (#/yr)	Total Mileage (Mi/yr)	TSP E Factor lb/VMT	PM10 E Factor lb/VMT	TSP Emissions (Ton/yr)	PM10 Emissions (Ton/yr)	TSP Emissions (lb/hr)	PM10 Emissions (lb/hr)
CH-11-1A	R1A	Main Entrance Road Out	0.42	0.15	256,888	107,122	0.29	0.06	15.73	3.05	3.592	0.697
CH-11-1B	R1B	Main Entrance Road Out - Gate	0.04	0.15	256,888	11,175	0.29	0.06	1.64	0.32	0.375	0.073
CH-11-2	R2	Cement Silos to Main Road	0.04	0.15	149,750	6,676	0.19	0.04	0.63	0.12	0.143	0.028
CH-11-3A	R3A	Main Road to Cement silos A	0.07	0.15	141,813	9,652	0.24	0.05	1.17	0.23	0.268	0.052
CH-11-3B	R3B	Main Road to Cement silos B	0.05	0.15	222,213	16,075	0.36	0.07	2.89	0.56	0.659	0.128
CH-11-4A	R4A	Trucks Entering Cement Silos	0.04	0.15	115,075	4,108	0.36	0.07	0.74	0.14	0.169	0.033
CH-11-4B	R4B	Trucks Leaving Cement Silos	0.03	0.15	115,075	3,671	0.36	0.07	0.66	0.13	0.151	0.029
CH-11-5	R5	Admin Building Road	0.15	0.15	34,675	10,479	0.01	0.00	0.03	0.00	0.007	0.001
CH-11-6	R6	Main Road to Gypsum Building	0.04	0.15	107,138	9,300	0.36	0.07	1.67	0.32	0.381	0.074
CH-11-7	R7	Gyspum Building Road	0.03	0.15	7,089	478	0.39	0.08	0.09	0.02	0.021	0.004
CH-11-8	R8	Main Road to Coal Building	0.08	0.15	100,049	16,128	0.36	0.07	2.88	0.56	0.657	0.127
CH-11-9	R9	Coal Truck Loop	0.04	0.15	8,446	630	0.39	0.08	0.12	0.02	0.028	0.005
CH-11-10	R10	FEL - Coal/Petcoke	0.03	0.15	4,223	228	0.42	0.08	0.05	0.01	0.011	0.002
CH-11-11	R11	Base Rock Road	0.75	0.15	33,333	50,280	0.29	0.06	7.29	1.41	1.663	0.323
CH-11-12	R12	Dry Fly Ash Road	0.03	0.15	11,137	559	0.39	0.08	0.11	0.02	0.025	0.005
CH-11-13	R13	Main Road to Raw Material Storage	0.11	0.15	47,132	10,746	0.39	0.08	2.10	0.41	0.481	0.093
CH-11-14	R14	Truck Dump for Bauxite and Steel Slag	0.02	0.15	17,592	535	0.39	0.08	0.10	0.02	0.024	0.005
CH-11-17	R17	Main Road to Sand/Clay Unloading	0.04	0.15	29,541	2,233	0.39	0.08	0.44	0.08	0.100	0.019
CH-11-18	R18	Sand/Clay Unloading Road	0.04	0.15	15,434	1,267	0.39	0.08	0.25	0.05	0.058	0.011
CH-11-19	R19	Main Road to Wet Fly Ash Unloading	0.07	0.15	14,106	1,862	0.39	0.08	0.36	0.07	0.083	0.016
CH-11-20	R20	Wet Fly Ash Unloading Road	0.04	0.15	14,106	1,171	0.39	0.08	0.23	0.04	0.052	0.010
CH-11-21	R21	FEL - Gypsum/Limestone	0.04	0.15	23,629	1,739	0.42	0.08	0.36	0.07	0.083	0.016
CH-11-24	R24	Main Road to Dry Fly Ash	0.05	0.15	44,471	4,500	0.31	0.06	0.71	0.14	0.162	0.031
CH-11-25A	R25A	Main Entrance Road In	0.62	0.15	256,888	158,024	0.29	0.06	23.21	4.50	5.299	1.028
CH-11-25B	R25B	Main Entrance Road In - Gate	0.04	0.15	256,888	11,175	0.29	0.06	1.64	0.32	0.375	0.073
TOTAL			2.90			439,832.32			65.12	12.63	14.87	2.88

Unpaved Road Emission Summary

Segment No.	Modeling Source ID	Description	Trip Length (mi)	Silt Content (%)	Maximum Annual Emissions						Hourly Emissions	
					Material Trips (#/yr)	Total Mileage (Mi/yr)	TSP E Factor lb/VMT	PM10 E Factor lb/VMT	TSP Emissions (Ton/yr)	PM10 Emissions (Ton/yr)	TSP Emissions (lb/hr)	PM10 Emissions (lb/hr)
CH-11-15	R15	FEL - Bauxite	0.03	8.3	47,022	1,556	7.46	2.12	0.29	0.08	0.066	0.019
CH-11-16	R16	FEL - Steel Slag	0.03	8.3	11,617	395	7.46	2.12	0.07	0.02	0.017	0.005
CH-11-22	R22	FEL - Limestone	0.03	8.3	506,457	16,359	7.46	2.12	3.05	0.87	0.696	0.198
CH-11-23	R23	FEL - Base Rock	0.03	8.3	33,333	940	6.68	1.90	0.16	0.04	0.036	0.010
TOTAL			0.13			19,249.96			3.57	1.02	0.82	0.23

TOTAL PAVED AND UNPAVED EMISSIONS

TSP Emissions (Ton/yr)	PM10 Emissions (Ton/yr)	TSP Emissions (lb/hr)	PM10 Emissions (lb/hr)
68.69	13.64	15.68	3.12

TABLE A-9
Paved Roads Emission Worksheet

Segment No. CH-11-1A **Main Entrance Road Out**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.42	Cement	0.15	15	22	37	26		X	26.0	22	2,531,640	115,075	0	47,986	47,986	1,247,638				
0.42	Wet Flyash	0.15	15	25	40	27.5	X		27.5	25	352,662	14,106	5,882	0	5,882	161,766				
0.42	Sand/Clay	0.15	15	25	40	27.5	X		27.5	25	385,854	15,434	6,436	0	6,436	176,991				
0.42	Bauxite	0.15	15	25	40	27.5	X		27.5	25	352,662	14,106	5,882	0	5,882	161,766				
0.42	Steel Slag	0.15	15	25	40	27.5	X		27.5	25	87,128	3,485	1,453	0	1,453	39,966				
0.42	Coal/Fuels	0.15	15	25	40	27.5	X		27.5	25	211,160	8,446	3,522	0	3,522	96,859				
0.42	Gypsum/Limestone Shed	0.15	15	25	40	27.5	X		27.5	25	177,215	7,089	2,956	0	2,956	81,288				
0.42	Dry Fly Ash	0.15	15	25	40	27.5	X		27.5	25	278,437	11,137	4,644	0	4,644	127,719				
0.42	Employee Vehicles	0.15	1.75	0	1.75	1.75		X	1.8	0	34,675	34,675	0	14,459	14,459	25,304				
0.42	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.42	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.42	Base Rock (Limestone)	0.15	15	15	30	22.5		X	22.5	15	500,000	33,333	0	13,900	13,900	312,750				
0.42	SUBTOTAL	0.15							22.7			256,888	30,777	76,346	107,122	2,432,048	0.29	0.06	15.73	3.05

Segment No. CH-11-1B **Main Entrance Road Out - Gate**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor	PM10 Emission Factor	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26		X	26.0	22	2,531,640	115,075	0	5,006	5,006	130,149				
0.04	Wet Flyash	0.15	15	25	40	27.5	X		27.5	25	352,662	14,106	614	0	614	16,875				
0.04	Sand/Clay	0.15	15	25	40	27.5	X		27.5	25	385,854	15,434	671	0	671	18,463				
0.04	Bauxite	0.15	15	25	40	27.5	X		27.5	25	352,662	14,106	614	0	614	16,875				
0.04	Steel Slag	0.15	15	25	40	27.5	X		27.5	25	87,128	3,485	152	0	152	4,169				
0.04	Coal/Fuels	0.15	15	25	40	27.5	X		27.5	25	211,160	8,446	367	0	367	10,104				
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5	X		27.5	25	177,215	7,089	308	0	308	8,480				
0.04	Dry Fly Ash	0.15	15	25	40	27.5	X		27.5	25	278,437	11,137	484	0	484	13,323				
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75		X	1.8	0	34,675	34,675	0	1,508	1,508	2,640				
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5		X	22.5	15	500,000	33,333	0	1,450	1,450	32,625				
0.04	SUBTOTAL	0.15							22.7			256,888	3,211	7,964	11,175	253,703	0.29	0.06	1.64	0.32

Segment No. CH-11-2 **Cement Silos to Main Road**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26		X	26.0	22	2,531,640	115,075	0	4,166	4,166	108,308				
0.04	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.04	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.04	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.04	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75	X	X	1.8	0	34,675	34,675	1,255	1,255	2,510	4,393				
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.04	SUBTOTAL	0.15							16.9			149,750	1,255	5,421	6,676	112,701	0.19	0.04	0.83	0.12

TABLE A-9
Paved Roads Emission Worksheet

Segment No. CH-11-3A **Main Road to Cement silos A**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.07	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.07	Wet Flyash	0.15	15	25	40	27.5	X		27.5	25	352,662	14,106	960	0	960	26,402				
0.07	Sand/Clay	0.15	15	25	40	27.5	X		27.5	25	385,854	15,434	1,050	0	1,050	28,886				
0.07	Bauxite	0.15	15	25	40	27.5	X		27.5	25	352,662	14,106	960	0	960	26,402				
0.07	Steel Slag	0.15	15	25	40	27.5	X		27.5	25	87,128	3,485	237	0	237	6,523				
0.07	Coal/Fuels	0.15	15	25	40	27.5	X		27.5	25	211,160	8,446	575	0	575	15,808				
0.07	Gypsum/Limestone Shed	0.15	15	25	40	27.5	X		27.5	25	177,215	7,089	482	0	482	13,267				
0.07	Dry Fly Ash	0.15	15	25	40	27.5	X		27.5	25	278,437	11,137	758	0	758	20,845				
0.07	Employee Vehicles	0.15	1.75	0	1.75	1.75	X		1.8	0	34,675	34,675	2,360	0	2,360	4,130				
0.07	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.07	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.07	Base Rock (Limestone)	0.15	15	15	30	22.5		X	22.5	15	500,000	33,333	0	2,269	2,269	51,044				
0.07	SUBTOTAL	0.15							20.0			141,813	7,383	2,269	9,652	193,306	0.24	0.05	1.17	0.23

Segment No. CH-11-3B **Main Road to Cement silos B**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.05	Cement	0.15	15	22	37	26	X		26.0	22	2,531,640	115,075	5,616	0	5,616	146,028				
0.05	Wet Flyash	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	688	688	1,377	37,867				
0.05	Sand/Clay	0.15	15	25	40	27.5	X	X	27.5	25	385,854	15,434	753	753	1,507	41,431				
0.05	Bauxite	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	688	688	1,377	37,867				
0.05	Steel Slag	0.15	15	25	40	27.5	X	X	27.5	25	87,128	3,485	170	170	340	9,355				
0.05	Coal/Fuels	0.15	15	25	40	27.5	X	X	27.5	25	211,160	8,446	412	412	824	22,673				
0.05	Gypsum/Limestone Shed	0.15	15	25	40	27.5	X	X	27.5	25	177,215	7,089	346	346	692	19,029				
0.05	Dry Fly Ash	0.15	15	25	40	27.5	X	X	27.5	25	278,437	11,137	544	544	1,087	29,897				
0.05	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.05	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.05	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.05	Base Rock (Limestone)	0.15	15	15	30	22.5	X	X	22.5	15	500,000	33,333	1,627	1,627	3,254	73,211				
0.05	SUBTOTAL	0.15							26.0			222,213	10,846	5,229	16,075	417,358	0.36	0.07	2.89	0.56

Segment No. CH-11-4A **Trucks Entering Cement Silos**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26	X		26.0	22	2,531,640	115,075	4,108	0	4,108	106,812				
0.04	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.04	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.04	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.04	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.04	SUBTOTAL	0.15							26.0			115,075	4,108	0	4,108	106,812	0.36	0.07	0.74	0.14

TABLE A-9
Paved Roads Emission Worksheet

Segment No. CH-11-4B — **Trucks Leaving Cement Silos**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.03	Cement	0.15	15	22	37	26		X	26.0	22	2,531,640	115,075	0	3,671	3,671	95,443				
0.03	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.03	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.03	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.03	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.03	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.03	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.03	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.03	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.03	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.03	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.03	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.03	SUBTOTAL	0.15							26.0			115,075	0	3,671	3,671	95,443	0.36	0.07	0.66	0.13

Segment No. CH-11-5 — **Admin Building Road**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.15	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.15	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.15	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.15	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.15	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.15	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.15	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.15	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.15	Employee Vehicles	0.15	1.75	0	1.75	1.75	X	X	1.8	0	34,675	34,675	5,239	5,239	10,479	18,338				
0.15	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.15	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.15	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.15	SUBTOTAL	0.15							1.8			34,675	5,239	5,239	10,479	18,338	0.01	0.00	0.03	0.00

Segment No. CH-11-6 — **Main Road to Gypsum Building**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.04	Wet Flyash	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	612	612	1,224	33,672				
0.04	Sand/Clay	0.15	15	25	40	27.5	X	X	27.5	25	385,854	15,434	670	670	1,340	36,841				
0.04	Bauxite	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	612	612	1,224	33,672				
0.04	Steel Slag	0.15	15	25	40	27.5	X	X	27.5	25	87,128	3,485	151	151	303	8,319				
0.04	Coal/Fuels	0.15	15	25	40	27.5	X	X	27.5	25	211,160	8,446	367	367	733	20,162				
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5	X	X	27.5	25	177,215	7,089	308	308	615	16,920				
0.04	Dry Fly Ash	0.15	15	25	40	27.5	X	X	27.5	25	278,437	11,137	483	483	967	26,585				
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5	X	X	22.5	15	500,000	33,333	1,447	1,447	2,893	65,100				
0.04	SUBTOTAL	0.15							25.9			107,138	4,650	4,650	9,300	241,272	0.36	0.07	1.67	0.32

TABLE A-9
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Segment No. CH-11-7 **Gypsum Building Road**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.03	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.03	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.03	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.03	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.03	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.03	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.03	Gypsum/Limestone Shed	0.15	15	25	40	27.5	X	X	27.5	25	177,215	7,089	239	239	478	13,139				
0.03	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.03	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.03	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.03	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.03	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.03	SUBTOTAL	0.15							27.5			7,089	239	239	478	13,139	0.39	0.08	0.09	0.02

Segment No. CH-11-8 **Main Road to Coal Building**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.08	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.08	Wet Flyash	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	1,137	1,137	2,274	62,534				
0.08	Sand/Clay	0.15	15	25	40	27.5	X	X	27.5	25	385,854	15,434	1,244	1,244	2,488	68,420				
0.08	Bauxite	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	1,137	1,137	2,274	62,534				
0.08	Steel Slag	0.15	15	25	40	27.5	X	X	27.5	25	87,128	3,485	281	281	562	15,450				
0.08	Coal/Fuels	0.15	15	25	40	27.5	X	X	27.5	25	211,160	8,446	681	681	1,362	37,443				
0.08	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.08	Dry Fly Ash	0.15	15	25	40	27.5	X	X	27.5	25	278,437	11,137	898	898	1,795	49,372				
0.08	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.08	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.08	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.08	Base Rock (Limestone)	0.15	15	15	30	22.5	X	X	22.5	15	500,000	33,333	2,687	2,687	5,373	120,900				
0.08	SUBTOTAL	0.15							25.8			100,049	8,064	8,064	16,128	416,653	0.36	0.07	2.88	0.56

Segment No. CH-11-9 **Coal Truck Loop**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.04	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.04	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.0373	Coal/Fuels	0.15	15	25	40	27.5	X	X	27.5	25	211,160	8,446	315	315	630	17,328				
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.04	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.04	SUBTOTAL	0.15							27.5			8,446	315	315	630	17,328	0.39	0.08	0.12	0.02

TABLE A-9
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Segment No. CH-11-10 FEL - Coal/Petcoke

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.03	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.03	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.03	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.03	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.03	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.03	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.03	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.03	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.03	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.03	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.03	Front End Loader 4 Coal/Petcoke	0.15	25	7.5	32.5	28.75	X	X	28.8	7.5	31,674	4,223	114	114	228	6,557				
0.03	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.03	SUBTOTAL	0.15							28.8			4,223	114	114	228	6,557	0.42	0.08	0.05	0.01

Segment No. CH-11-11 Base Rock Road

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.75	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.75	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.75	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.75	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.75	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.75	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.75	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.75	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.75	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.75	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.75	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.75	Base Rock (Limestone)	0.15	15	15	30	22.5	X	X	22.5	15	500,000	33,333	25,140	25,140	50,280	1,131,300				
0.75	SUBTOTAL	0.15							22.5			33,333	25,140	25,140	50,280	1,131,300	0.29	0.06	7.29	1.41

Segment No. CH-11-12 Dry Fly Ash Road

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.03	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.03	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.03	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.03	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.03	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.03	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.03	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.03	Dry Fly Ash	0.15	15	25	40	27.5	X	X	27.5	25	278,437	11,137	280	280	559	15,375				
0.03	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.03	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.03	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.03	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.03	SUBTOTAL	0.15							27.5			11,137	280	280	559	15,375	0.39	0.08	0.11	0.02

TABLE A-9
Paved Roads Emission Worksheet

Segment No. CH-11-13 **Main Road to Raw Material Storage**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.11	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.11	Wet Flyash	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	1,608	1,608	3,216	88,448				
0.11	Sand/Clay	0.15	15	25	40	27.5	X	X	27.5	25	385,854	15,434	1,759	1,759	3,519	96,772				
0.11	Bauxite	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	1,608	1,608	3,216	88,448				
0.11	Steel Slag	0.15	15	25	40	27.5	X	X	27.5	25	87,128	3,485	397	397	795	21,852				
0.11	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.11	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.11	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.11	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.11	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.11	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.11	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.11	SUBTOTAL	0.15							27.5			47,132	5,373	5,373	10,746	295,519	0.39	0.08	2.10	0.41

Segment No. CH-11-14 **Truck Dump for Bauxite and Steel Slag**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.02	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.02	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.02	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.02	Bauxite	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	214	214	429	11,793				
0.02	Steel Slag	0.15	15	25	40	27.5	X	X	27.5	25	87,128	3,485	53	53	106	2,914				
0.02	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.02	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.02	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.02	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.02	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.02	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.02	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.02	SUBTOTAL	0.15							27.5			17,592	267	267	535	14,707	0.39	0.08	0.10	0.02

Segment No. CH-11-17 **Main Road to Sand/Clay Unloading**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.04	Wet Flyash	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	533	533	1,066	29,327				
0.04	Sand/Clay	0.15	15	25	40	27.5	X	X	27.5	25	385,854	15,434	583	583	1,167	32,088				
0.04	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.04	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.04	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.04	SUBTOTAL	0.15							27.5			29,541	1,117	1,117	2,233	61,415	0.39	0.08	0.44	0.08

TABLE A-9
Paved Roads Emission Worksheet

Segment No. CH-11-18 **Sand/Clay Unloading Road**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.04	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Sand/Clay	0.15	15	25	40	27.5	X	X	27.5	25	385,854	15,434	644	644	1,287	35,398				
0.04	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.04	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.04	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.04	SUBTOTAL	0.15							27.5			15,434	644	644	1,287	35,398	0.39	0.08	0.25	0.05

Segment No. CH-11-19 **Main Road to Wet Fly Ash Unloading**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.07	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.07	Wet Flyash	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	931	931	1,862	51,207				
0.07	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.07	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.07	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.07	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.07	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.07	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.07	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.07	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.07	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.07	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.07	SUBTOTAL	0.15							27.5			14,106	931	931	1,862	51,207	0.39	0.08	0.36	0.07

Segment No. CH-11-20 **Wet Fly Ash Unloading Road**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.04	Wet Flyash	0.15	15	25	40	27.5	X	X	27.5	25	352,662	14,106	585	585	1,171	32,198				
0.04	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.04	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.04	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.04	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.04	SUBTOTAL	0.15							27.5			14,106	585	585	1,171	32,198	0.39	0.08	0.23	0.04

TABLE A-9
Paved Roads Emission Worksheet

Segment No. CH-11-21 FEL - Gypsum/Limestone

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.04	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.04	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.04	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.04	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.04	Dry Fly Ash	0.15	15	25	40	27.5					278,437	0	0	0	0					
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75	X	X	28.8	7.5	177,215	23,629	870	870	1,739	49,998				
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5					500,000	0	0	0	0					
0.04	SUBTOTAL	0.15							28.8			23,629	870	870	1,739	49,998	0.42	0.08	0.38	0.07

Segment No. CH-11-24 Main Road to Dry Fly Ash

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.05	Cement	0.15	15	22	37	26					2,531,640	0	0	0	0					
0.05	Wet Flyash	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.05	Sand/Clay	0.15	15	25	40	27.5					385,854	0	0	0	0					
0.05	Bauxite	0.15	15	25	40	27.5					352,662	0	0	0	0					
0.05	Steel Slag	0.15	15	25	40	27.5					87,128	0	0	0	0					
0.05	Coal/Fuels	0.15	15	25	40	27.5					211,160	0	0	0	0					
0.05	Gypsum/Limestone Shed	0.15	15	25	40	27.5					177,215	0	0	0	0					
0.05	Dry Fly Ash	0.15	15	25	40	27.5	X	X	27.5	25	278,437	11,137	564	564	1,127	30,996				
0.05	Employee Vehicles	0.15	1.75	0	1.75	1.75					34,675	0	0	0	0					
0.05	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.05	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.05	Base Rock (Limestone)	0.15	15	15	30	22.5	X	X	22.5	15	500,000	33,333	1,687	1,687	3,373	75,900				
0.05	SUBTOTAL	0.15							23.8			44,471	2,250	2,250	4,500	106,896	0.31	0.06	0.71	0.14

Segment No. CH-11-25A Main Entrance Road In

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.62	Cement	0.15	15	22	37	26	X		26.0	22	2,531,640	115,075	70,788	0	70,788	1,840,491				
0.62	Wet Flyash	0.15	15	25	40	27.5		X	27.5	25	352,662	14,106	0	8,678	8,678	238,634				
0.62	Sand/Clay	0.15	15	25	40	27.5		X	27.5	25	385,854	15,434	0	9,494	9,494	261,094				
0.62	Bauxite	0.15	15	25	40	27.5		X	27.5	25	352,662	14,106	0	8,678	8,678	238,634				
0.62	Steel Slag	0.15	15	25	40	27.5		X	27.5	25	87,128	3,485	0	2,144	2,144	58,957				
0.62	Coal/Fuels	0.15	15	25	40	27.5		X	27.5	25	211,160	8,446	0	5,196	5,196	142,885				
0.62	Gypsum/Limestone Shed	0.15	15	25	40	27.5		X	27.5	25	177,215	7,089	0	4,361	4,361	119,915				
0.62	Dry Fly Ash	0.15	15	25	40	27.5		X	27.5	25	278,437	11,137	0	6,851	6,851	188,409				
0.62	Employee Vehicles	0.15	1.75	0	1.75	1.75	X		1.8	0	34,675	34,675	21,330	0	21,330	37,328				
0.62	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.62	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.62	Base Rock (Limestone)	0.15	15	15	30	22.5	X		22.5	15	500,000	33,333	20,505	0	20,505	461,363				
0.62	SUBTOTAL	0.15							22.7			256,888	112,623	45,401	158,024	3,587,708	0.29	0.06	23.21	4.50

TABLE A-9
Paved Roads Emission Worksheet

Segment No. CH-11-25B **Main Entrance Road In - Gate**

Segment Length (mi)	Material	Silt Loading (g/m2)	Truck Weights				Truck Trips		Truck Weight (Tons)	Material Net (Tons)	Material (Tons/Yr)	Material Trips (#/Yr)	Empty Mileage (Mi/Yr)	Loaded Mileage (Mi/Yr)	Total Mileage (Mi/Yr)	Weight x Mileage	TSP Emission Factor lb/VMT	PM10 Emission Factor lb/VMT	TSP Emissions (Tons/Yr)	PM10 Emissions (Tons/Yr)
			Empty (Tons)	Capacity (Tons)	Loaded (Tons)	Avgerage (Tons)	Empty	Loaded												
0.04	Cement	0.15	15	22	37	26	X		26.0	22	2,531,640	115,075	5,006	0	5,006	130,149				
0.04	Wet Flyash	0.15	15	25	40	27.5		X	27.5	25	352,662	14,106	0	614	614	16,875				
0.04	Sand/Clay	0.15	15	25	40	27.5		X	27.5	25	385,854	15,434	0	671	671	18,463				
0.04	Bauxite	0.15	15	25	40	27.5		X	27.5	25	352,662	14,106	0	614	614	16,875				
0.04	Steel Slag	0.15	15	25	40	27.5		X	27.5	25	87,128	3,485	0	152	152	4,169				
0.04	Coal/Fuels	0.15	15	25	40	27.5		X	27.5	25	211,160	8,446	0	367	367	10,104				
0.04	Gypsum/Limestone Shed	0.15	15	25	40	27.5		X	27.5	25	177,215	7,089	0	308	308	8,480				
0.04	Dry Fly Ash	0.15	15	25	40	27.5		X	27.5	25	278,437	11,137	0	484	484	13,323				
0.04	Employee Vehicles	0.15	1.75	0	1.75	1.75	X		1.8	0	34,675	34,675	1,508	0	1,508	2,640				
0.04	Front End Loader 3 Gypsum/Limestone	0.15	25	7.5	32.5	28.75					177,215	0	0	0	0					
0.04	Front End Loader 4 Coal	0.15	25	7.5	32.5	28.75					31,674	0	0	0	0					
0.04	Base Rock (Limestone)	0.15	15	15	30	22.5	X		22.5	15	500,000	33,333	1,450	0	1,450	32,625				
0.04	SUBTOTAL	0.15							22.7			256,888	7,964	3,211	11,175	253,703	0.29	0.06	1.64	0.32
	GRAND TOTAL																		65.12	12.63

Notes:

Emissions based on AP-42 Section 13.2.1 (12/03), Equation (2).

$E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] * (1 - P/4N)$

where E = emission factor, lb/VMT
k = particle size multiplier
sL = road surface silt loading, g/m^2
W = average vehicle weight, tons
C = 1980's vehicle exhaust, brake & tire wear, lb/VMT
P = number of days with >= 0.01 in precipitation
N = number of days in the averaging period (365)

k (PM-30) = 0.082 lb/VMT
k (PM-10) = 0.016 lb/VMT
C (PM-30) = 0.00047 lb/VMT
C (PM-10) = 0.00047 lb/VMT
P = 105 days (Tampa average)

Silt loading of 0.15 g/m2 or less will be maintained by use of vacuum sweeping

TABLE A-10
Unpaved Roads Emission Worksheet

Segment No.	Material Hauled	Annual Material Throughput (tons)	Total Miles (Round Trip)	Average Load per Vehicle (tons)	Unloaded Vehicle Weight (tons)	Mean Vehicle Weight (tons) (W)	Surface Material Silt Content (%) (s)	VMT (miles/ year)	PM Emission Factor (lb/VMT)[1]	PM10 Emission Factor (lb/VMT)[1]	Control Efficiency (%)[2]	PM Emissions (tons/year)	PM10 Emissions (tons/year)
15	Front End Loader-Bauxite	352,662	0.03	7.5	25	28.75	8.3	1,556	7.46	2.12	95%	0.29	0.08
16	Front End Loaders-Steel Slag	87,128	0.03	7.5	25	28.75	8.3	395	7.46	2.12	95%	0.07	0.02
22	Front End Loaders-Limestone	3,798,428	0.03	7.5	25	28.75	8.3	16,359	7.46	2.12	95%	3.05	0.87
23	Front End Loader-Base Rock	500,000	0.03	15	15	22.5	8.3	940	6.68	1.90	95%	0.16	0.04
										Total Emissions		0.07	0.02

Notes:

$E = k * (s/12)^a * (W/3)^b * (365 - P)/365$ for industrial unpaved roads

where E = emission factor, lb/VMT
k = particle size multiplier
s = surface material silt content, %
W = average vehicle weight, tons
P = number of days with >= 0.01 in precipitation
a, b = constants for specific partical size

Constant	PM-30	PM-10
k	4.9	1.5
a	0.7	0.9
b	0.45	0.45

P = 105 days (Tampa average)

[1] Based on AP-42 Section 13.2.2 (12/03), Equations (1a) & (2). Silt content based on default stone quarrying haul road (Table 13.2.2-1).

[2] A control efficiency of 95% was used to account for high natural surface moisture in the quarry and/or watering at an equivalent moisture ratio of 5 (Figure 13.2.2-2). This control efficiency also reflects the slow travel speed of the loaders (<10 mph).

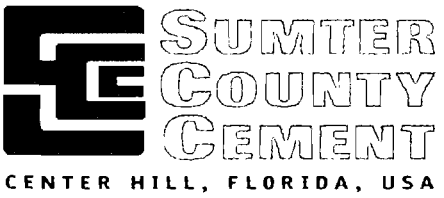
Assumes average round trip distance for limestone loader is 600 ft and for base rock loader is 400 ft.

TABLE A-11
Traffic Inputs for Paved and Unpaved Roads

Material	Amount of Material		Truck/Loader Weight (Empty)		Truck/Loader Capacity		Total Trips	Type of Road
Cement	2,531,640	tons/year	15	tons	22	tons	115,075	Paved
Fly Ash	352,662	tons/year	15	tons	25	tons	14,106	Paved
Sand/Clay	385,854	tons/year	15	tons	25	tons	15,434	Paved
Bauxite	352,662	tons/year	15	tons	25	tons	14,106	Paved
Steel Slag	87,128	tons/year	15	tons	25	tons	3,485	Paved
Coal	211,160	tons/year	15	tons	25	tons	8,446	Paved
Gypsum	177,215	tons/year	15	tons	25	tons	7,089	Paved
Dry Fly Ash	278,437	tons/year	15	tons	25	tons	11,137	Paved
Employee Traffic	95	employees/day	3,500	lbs	1	employee	34,675	Paved
Front End Loader 1 Steel Slag	87,128	tons/year	25	tons	7.5	tons	11,617	Unpaved (Packed Limestone)
Front End Loader 2 Bauxite	352,662	tons/year	25	tons	7.5	tons	47,022	Unpaved (Packed Limestone)
Front End Loader 3 Gypsum/Limestone	177,215	tons/year	25	tons	7.5	tons	23,629	Paved
Front End Loader 4 Coal/Petcoke (Note 1)	31,674	tons/year	25	tons	7.5	tons	4,223	Paved
Quarry								
Front End Loaders Limestone	3,798,428	tons/year	25	tons	7.5	tons	506,457	Unpaved
Front End Loaders Base Rock (Limestone)	500,000	tons/year	15	tons	15.0	tons	33,333	Unpaved
Base Rock (Limestone)	500,000	tons/year	15	tons	25.0	tons	20,000	Paved

Note 1 : Only 15% of Coal/Pet Coke is moved by front end loader, the remainer will be handled directly from the truck.

Attachment 6
Revised Modeling Report



Modeling Report
For the Sumter Cement Company
Center Hill, Florida

Submitted By:

Sumter Cement Company, LLC

P.O. Box 410

Branford, Florida 32008

Submitted To:

Florida Department of Environmental Protection
2600 Blair Stone Road MS# 5500
Tallahassee, Florida 32399-2400

October 2005

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1. INTRODUCTION

Sumter Cement Company, LLC Company (SCC) is proposing to build a new Portland cement plant in the town of Center Hill located in Sumter County, Florida. SCC will be operated by Votorantim Cementos. Votorantim Cementos also operates Suwannee American Cement (SAC) which has a cement plant in Branford, Florida. The operations of the new SCC Center Hill Plant (Plant) and the SAC Branford Plant will be both fully controlled by Votorantim Cementos. The two cement plants, although with different names, will share the valuable resources, information, and the vast experience and knowledge provided by Votorantim Cementos. The Plant will perform quarrying and crushing of raw materials and processing of these materials into Portland cement. The Plant will operate with a state-of-the-art in-line raw mill and preheater/precalciner (PH/PC) kiln system and include the latest technologies for emission controls.

The proposed project will be subject to the New Source Review (NSR) Prevention of Significant Deterioration (PSD) regulations because the proposed site of the SCC Plant is located in an attainment area for all applicable criteria air pollutants. Since the proposed SCC Plant is expected to have potential-to-emit (PTE) emissions greater than 100 tons per year of regulated NSR pollutants, it will be considered a major emission source under 40 CFR Part 52.21(2)(i). Therefore, for those regulated air pollutant emissions that exceed applicable significant net emission increase threshold levels, an air quality modeling impact analysis is required.

2. PROCESS AND FACILITY DESCRIPTIONS

SCC plans to construct a new dry process Portland cement plant capable of producing approximately 1.7 million short tons of clinker per year. The Plant will be located approximately one mile east of Center Hill, Florida. The Plant will perform quarrying and crushing of raw materials, and processing of these materials into Portland cement. The Plant will operate with a single cement production system which includes a preheater/precalciner kiln with an in-line raw mill. The components of this system are described in detail below and consist of equipment to quarry and crush limestone (Quarry Crushing), prepare raw material into pyro-process kiln feed (Raw Grinding), process kiln feed into clinker (Clinker Burning), cool the clinker (Clinker Cooling), process clinker into cement (Finish Grinding), cement load out (Cement Distribution), and prepare raw fuel for combustion (Fuel Grinding). SCC will use reasonable precautions to control unconfined emissions. For a listing of these precautions see Appendix A.

- **Quarry Crushing**

Limestone will be quarried on the Plant property; other raw materials, such as sand (or other silica sources), steel slag (or other iron sources), and fly ash (or other alumina sources) will be received from off-site sources and stored within the enclosed Raw Material Storage Building. The limestone will be processed by a primary crusher and then conveyed to a Limestone Storage Building.

- **Raw Grinding**

The raw materials will be conveyed from their storage areas mentioned above by completely enclosed conveyors to Pre-Blending Silos and then into an In-Line Raw Mill system, where the combined materials are dried and pulverized. The powdery material, referred to as kiln feed, will then be conveyed to a Blending Silo for temporary storage. Process air from the raw mill will be vented out through the main stack, which is also used by the preheater/precalciner kiln system.

- **Clinker Burning**

From the Blend Silo, the kiln feed will be conveyed into a dry process preheater/precalciner and rotary kiln for pyro-processing into cement clinker nodules. The kiln feed will then be introduced at the upper stages of the preheater and travel through the preheater and calciner, finally entering

the end of the kiln where it will travel downhill via the kiln rotation and gravity. Fuel will be fired in the calciner and at the lower end of the kiln. The resulting combustion gases will travel countercurrent to the feed via an induced draft fan. Kiln gases will be vented to the main stack shared with the Raw Mill system.

Fuels to be used in the pyroprocessing system include fuel oil, natural gas, coal, petroleum coke, and whole or chipped tires. The system will also be designed to accommodate the use of non-hazardous liquids and non-hazardous solids in the future. The non-hazardous liquids (e.g., on-spec used oil; up to 50 percent of total heat input) will be burned in the kiln and/or precalciner. Non-hazardous solids (e.g., plastic, filter fluff, wood waste; up to 50 percent of total heat input) will be burned in the precalciner. The Plant may include a whole tire system and a tire gasification system that will use heat from the pyroprocessing system to decompose tires to gas, coke, and wire, which will be used in the kiln and pyroprocessing system in an enclosed process.

As the kiln feed is gravity-conveyed through the preheater and calciner it will be progressively heated and undergo calcination. As the kiln feed enters the kiln it will travel through the sintering zone of the process. When the material reaches the hot end of the kiln it will have completed its chemical transformation into Portland cement clinker nodules, typically sized between ½-inch and 2-inches in diameter. The clinker nodules will be deposited directly from the hot-end of the kiln into the Clinker Cooler system. The kiln system will have a preliminary capacity of 353.2 tons/hour of material fed to the preheater (dry basis) and 208.3 tons/hour of clinker production.

- **Clinker Cooling**

Clinker discharged from the kiln passes to a Clinker Cooler system, which will vent to the main stack used by the Kiln and Raw Mill systems. The cooled clinker will be conveyed to Clinker Storage Silos that will feed the Finish Grinding process.

- **Finish Grinding**

In the Finish Grinding process, gypsum and limestone will be inter-ground with clinker to produce cement. The gypsum and limestone will be received at the plant by truck and stored in a Gypsum/Limestone Storage Building. The gypsum and limestone will then be conveyed by enclosed conveyors to separate storage silos. Clinker, gypsum, and limestone extracted from

their respective storage silos, will be fed in predetermined amounts into one of two Finish Mills. The Finish Mills will have a combined preliminary capacity of 340 tons/hour of Portland cement production. The ground clinker, gypsum, and limestone particles mix, or Portland cement, produced by the Finish Mills will then be conveyed to Cement Storage Silos.

- **Cement Distribution**

All cement produced at the plant will be distributed by truck. The Cement Storage Silos will feed the Portland cement to one of three truck load outs or to a packaging plant. The packaging plant will also distribute cement by truck. SCC will have no access to rail at the Plant, and since the vast majority of SCC's potential customers can only receive cement via bulk trucks there will be no rail load out.

- **Fuel Grinding**

The Plant will also include a coal processing operation that will crush approximately 211,160 tons of coal and petroleum coke annually. The coal/coke will be delivered by truck and stored in a Coal Storage Building and fed by front end loaders and enclosed conveyors to the Coal Mill for drying and grinding. The Coal Mill will use cooler gas for the drying process and will not be a source of combustion. Ground fuel will be stored in the Pulverized Coal Storage Silos and conveyed from there to the Kiln system.

Emissions units addressed by this permitting action are:

Table 2-1
SCC Emission Units

EU ID	Description
CH-1	Primary Crushing and Associated Conveyors
CH-2	Raw Material Conveying – conveyor transfer points
CH-3	Raw Material Processing and Storage – controlled by baghouses
CH-4	Kiln System with In-Line Raw Mill and Clinker Cooler
CH-5	Clinker Storage and Conveying – controlled by baghouses
CH-6	Finish Mills and Cement Processing – controlled by baghouses
CH-7	Coal Mill System
CH-8	Coal Conveying – conveyor transfer points
CH-10	Storage Piles
CH-11	Paved and Unpaved Roads

Additionally, there will be a diesel emergency generator (CH-9). The total amount of diesel fuel to be burned in the new emergency generator will not exceed 32,000 gal/yr and thus it is exempt from permitting pursuant to F.A.C 62-210.300(3)(a)20.

Preliminary flow diagrams are included in the application in Appendix F. However, the vendors for the new equipment have not yet been selected, so the application does not include information on process and control equipment manufacturers or continuous emission monitoring systems (CEMS). To the extent requested by the FDEP, this information will be provided to the FDEP once the equipment bids have been approved. The CEMS and stack sampling facilities will meet all the applicable requirements in 40 CFR Parts 60 and 63.

2.1 FACILITY LOCATION

The Plant is located approximately 1 mile southeast of Center Hill, Florida, and is situated on an approximately 1,473-acre parcel of land. The location of the Plant is shown in Figure 2-1. The geographic coordinates for the new precalciner kiln system stack are approximately:

- Longitude: 81° 58' 49" W Latitude: 28° 37' 50" N
- UTM Easting: 404,171 meters Northing: 3,167,472 meters
- UTM Zone: 17

(UTM = Universal Traverse Mercator) WGS-84 Ellipsoid

The proposed project is located in a region which is classified as in attainment of the NAAQS for all criteria pollutants.

The topography of the area surrounding the proposed project site is generally flat. There are no major distinctive terrain features in the surrounding area. Since the highest terrain in the vicinity of the plant site does not exceed the elevation of the projected main kiln stack elevation, the air dispersion modeling analysis will not include terrain elevations.

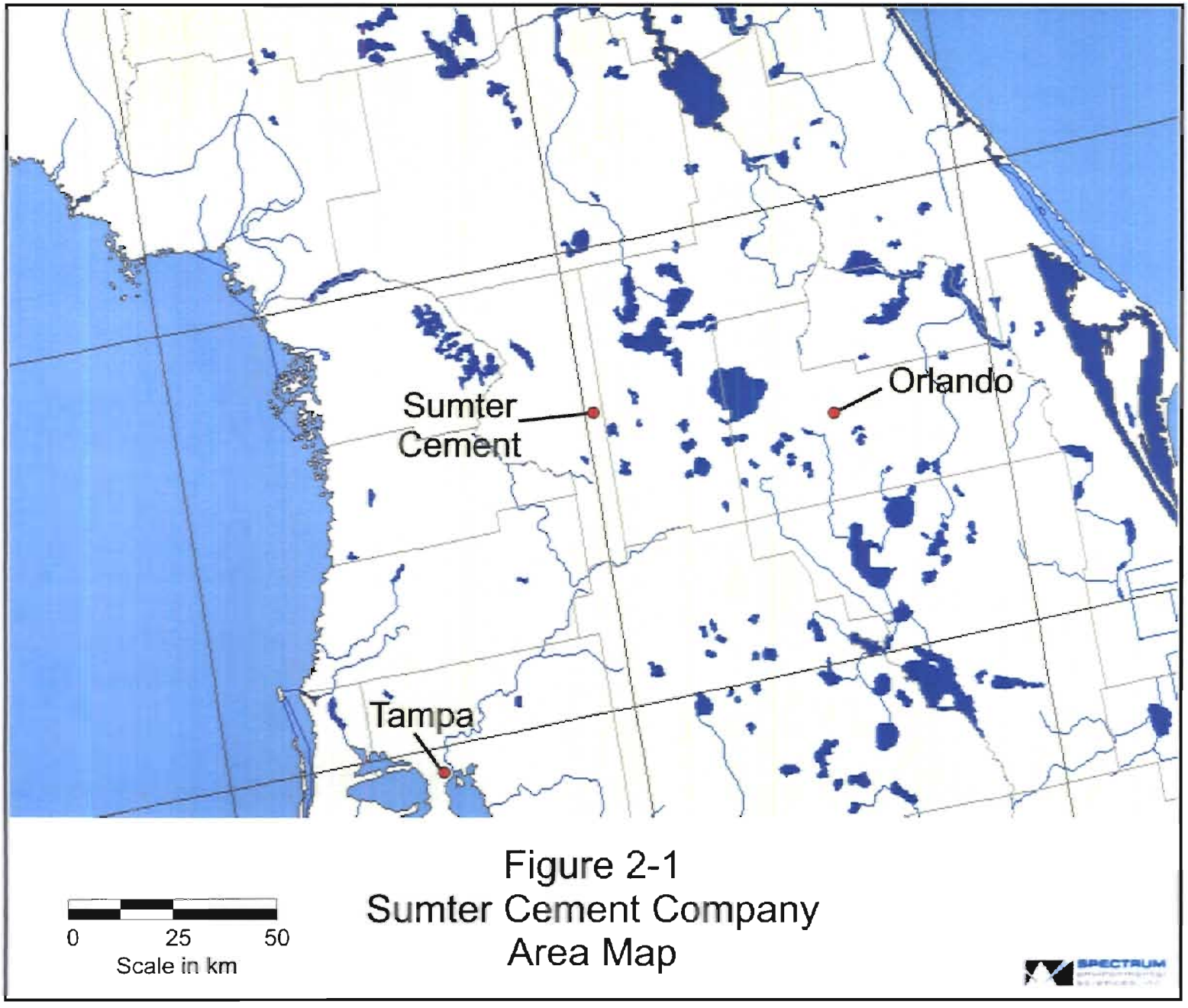


Figure 2-1
Sumter Cement Company
Area Map

3. FACILITY EMISSION INVENTORY

Appendix A, PTE Air Emissions Inventory, of this Permit Application describes the potential-to-emit (PTE) emission inventory associated with the PM_{10}, TSP, SO_2, NO_x, CO, and VOC emissions sources at the Plant.

As shown by Table 5-1 in the Application, "Facility-Wide New Source Review Applicability Analysis", there will be an expected significant net emission increase of PM_{10}, TSP, SO_2, NO_x, CO, and VOC. Therefore, these pollutants will require major source PSD review and including the conduct of applicable air quality impact analyses.

4. AIR QUALITY MODEL SELECTION AND INPUT DATA

The dispersion models used for the air quality modeling analysis of the SCC Plant are U.S. EPA approved air quality dispersion models. The procedures used in conducting the modeling analysis follow the requirements outlined in 40 CFR Part 51 Appendix W "Guideline on Air Quality Models" (U.S. EPA 1999) and other applicable EPA and FLM guidance.

4.1 AIR DISPERSION MODEL SELECTION

The air quality modeling analysis uses air dispersion models to predict ambient air impacts from the proposed project. The Industrial Source Complex Short-Term 3 (ISCST3) model has been used for refined modeling. The CALPUFF air dispersion model has been used in a screening mode (CALPUFF-Lite) to evaluate the potential for long-range transport air quality and visibility impairment impacts at the surrounding Federal Class I areas within 300 kilometers of the SCC Plant. Descriptions of these models are provided in the following subsections.

4.1.1 Industrial Source Complex Model

The U.S. EPA ISCST3 (ISCST3, Version 02035) air dispersion model has been used to demonstrate compliance with applicable Florida AAQS and PSD Class II increments. The ISCST3 model can predict short-term and long-term concentrations from multiple stacks in rural or urban areas. The ISCST3 air dispersion model can also account for the effects of aerodynamic downwash of a stack's plume by nearby structures. The ISCST3 air dispersion model accepts hourly meteorological data to define the conditions for plume rise, transport, and dispersion. The model estimates the concentration for each source and receptor combination for each hour.

The ISCST3 air dispersion model has various options to simulate a variety of dispersion conditions for emissions from a stack or non-stack source. The U.S. EPA has recommended various default options to be used in dispersion modeling for regulatory purposes. These recommended regulatory default options have been used in the air quality impact analysis as follows:

- Stack-tip downwash,

- Final plume rise,
- Buoyancy-induced dispersion (BID),
- Vertical potential temperature gradients of 0.0, 0.0, 0.0, 0.0, 0.02 and 0.035 for stability classes A through F, respectively,
- Automatic treatment of calms,
- Wind profile exponents of 0.07, 0.07, 0.10, 0.15, 0.35, and 0.55 for stability classes A through F, respectively,
- Infinite pollutant half-life,
- Upper bound value for "supersquat" buildings,
- Missing data processing not used.

4.1.2 CALPUFF Model

The CALPUFF air dispersion modeling system (Version 5.76) was used to predict the air quality impacts at four Federal Class I areas located within 300 kilometers of the SCC Plant. The CALPUFF model has been used in a screening mode (known as CALPUFF Lite) in a manner that is consistent with the guidance contained in the "Inter-Agency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts" (U.S. EPA 1998) and the Federal Land Managers' Air Quality Related Values Workgroup (FLAG), Phase I Report (U.S. FS, NPS, U.S. FWS, 2000). The CALPUFF model is a non-steady state puff dispersion model. The CALPOST program post-processes the CALPUFF model outputs, calculating and summarizing visibility impacts, concentration levels, and deposition amounts. Given the nature of terrain in Florida, the flat terrain option has been used. Other specific CALPUFF model options have been selected in accordance with regulatory guidance (U.S. EPA 1998).

All stipulated CALPUFF "regulatory default" options were chosen. However, SCC has utilized the following CALPUFF modeling options:

- Based on recent guidance from the "Initial Draft of the BART Modeling Protocol for VISTAS," dated January 31, 2005, a Rayleigh scattering coefficient of 12 Mm^{-1} for clean air was selected for use instead of the default value of 10 Mm^{-1}. This 12 Mm^{-1} value was chosen because the default value is appropriate for an elevation of 1,600 meters (approximately

5,000 feet). The corrected value at sea level, representative of the elevation of the SCC Plant (approximately 100 feet above sea level) is about 12 Mm^{-1}. The default value could never be realized at a low altitude site and the relative impact of a source on haze would be overstated using the default Rayleigh value.

- Hourly ozone for 2004 from the EPA SLAMS ozone monitor located in Pasco County was obtained from the EPA. These data were post-processed into monthly average ozone values and used as input to the CALPUFF model. The ozone data from this monitoring site is the closest and most representative of existing ambient ozone concentrations in the vicinity of the SCC Plant. These data were used in lieu of the CALPUFF monthly default value of 80 ppb.

- An Ammonia background of 0.5 ppb was selected for use in the Class I modeling analyses since it represents forested areas per the IWAQM/FLAG and Earth Tech guidance. The land use classification from the SCC Plant to, and including the four Class I areas, is most representative of a forested area, as opposed to the default CALPUFF value of 10 ppb for Ammonia which represent grasslands.

4.2 EMISSION CHARACTERISTICS

The stack characteristics for the SCC Plant sources that have been used as inputs to all dispersion models are those reflecting the final engineering design of the SCC Plant.

Per guidance provided by the National Stone, Sand and Gravel Association, SCC has used the height of the haul trucks as the release height, which was four meters for the calculation of fugitive emissions. The actual dimensions of the haul trucks range from 3.5 to 4.75 meters and from 75 to 100 feet in length.

4.3 LAND USE

The land use classification for the area was based on a quantitative review of land use patterns surrounding the SCC Plant. For the quantitative review, 1:250,000 scale USGS Level 2 digital land use data were used. The land use analysis followed the procedures recommended by the U.S. EPA (U.S. EPA 1999) and the typing scheme developed by Auer (Auer 1978). The Auer technique established four primary land use types: industrial, commercial, residential, and

agricultural. Industrial, commercial, and compact residential areas are classified as urban, while agricultural and common residential areas are considered rural. For air quality modeling purposes, an area is defined as urban if more than 50 percent of the surface within three kilometers of the source falls under an urban land use type. Otherwise, the area is determined to be rural.

As shown in Figures 4-1 through 4-4, the quantitative land use analysis indicated that the area surrounding the SCC Plant is largely rural. The residential areas shown in Figure 4-1 are classified as urban according to the Level 2 gridded digital land use data. Figure 4-2 hows the rural land use of the surrounding area using aerial photography. Figure 4-3 is an aerial out view of the surround area consistent with forested areas. Figure 4-4 provides an aerial view of the surround area in relation to Class I Areas. Based on the rural land use designation, rural dispersion coefficients will be used to predict the ambient air concentrations due to emissions from the stacks.

Figure 4-1 Land Use Analysis

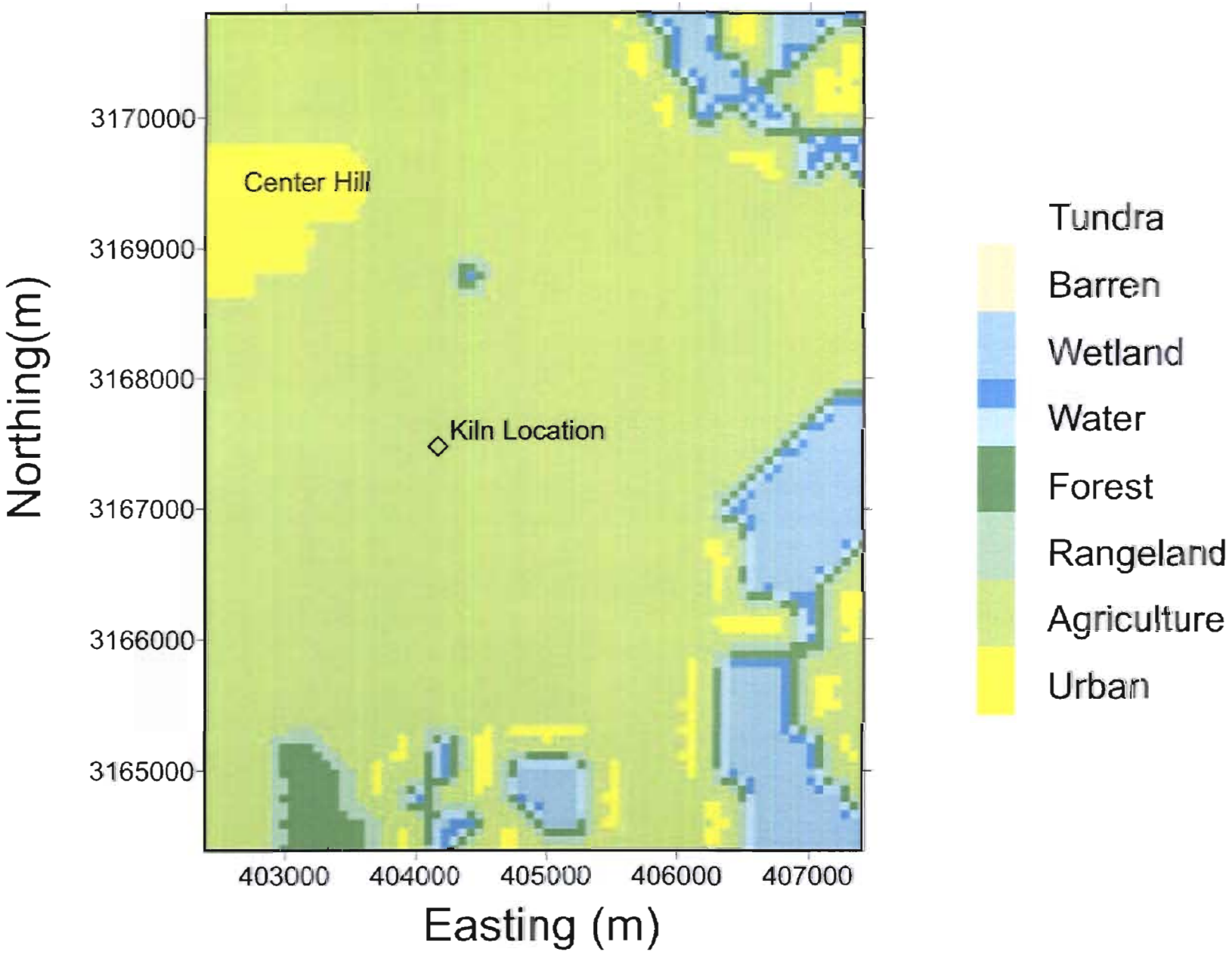


Figure 4-2 Aerial photograph depicting surrounding land use in the immediate vicinity of SCC

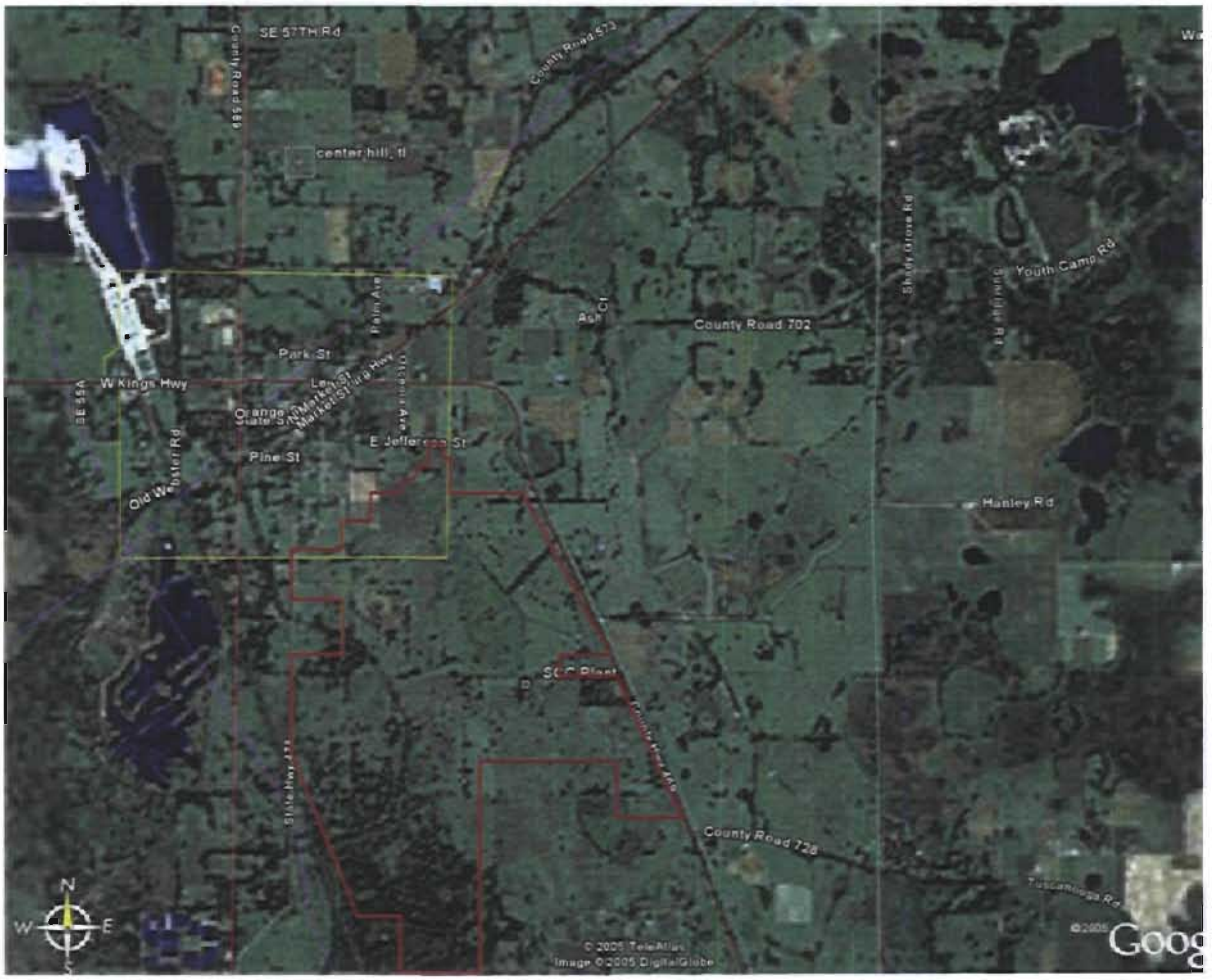
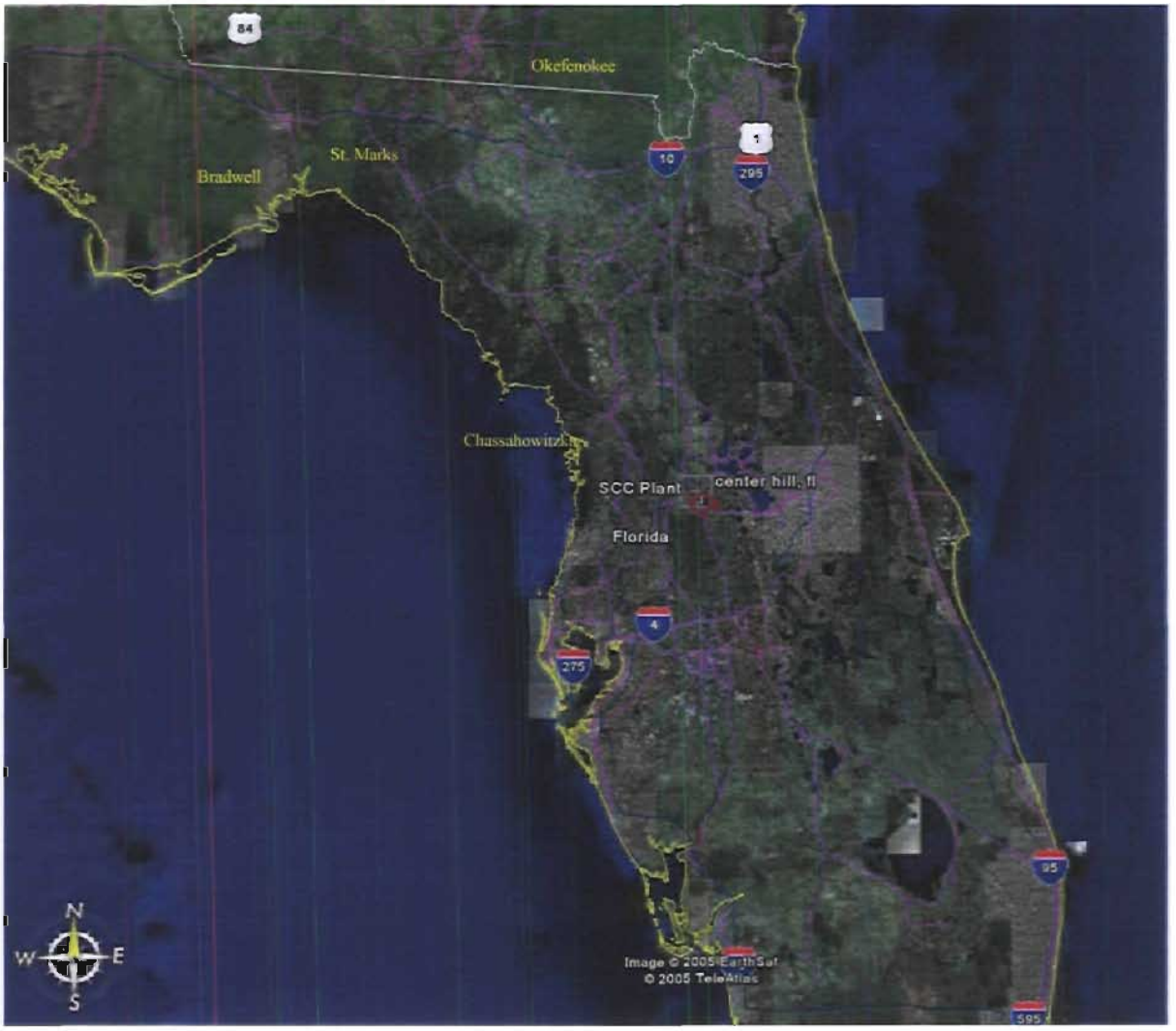


Figure 4-3 Zoomed out view of aerial photograph depicting surrounding land use in the vicinity of SCC - *(consistent with forested areas)*

Figure 4-4 Aerial photograph showing predominant land use between SCC and Class I Areas - *(consistent with forested areas)*



4.4 RECEPTOR GRID

4.4.1 ISCST3 Model Receptors

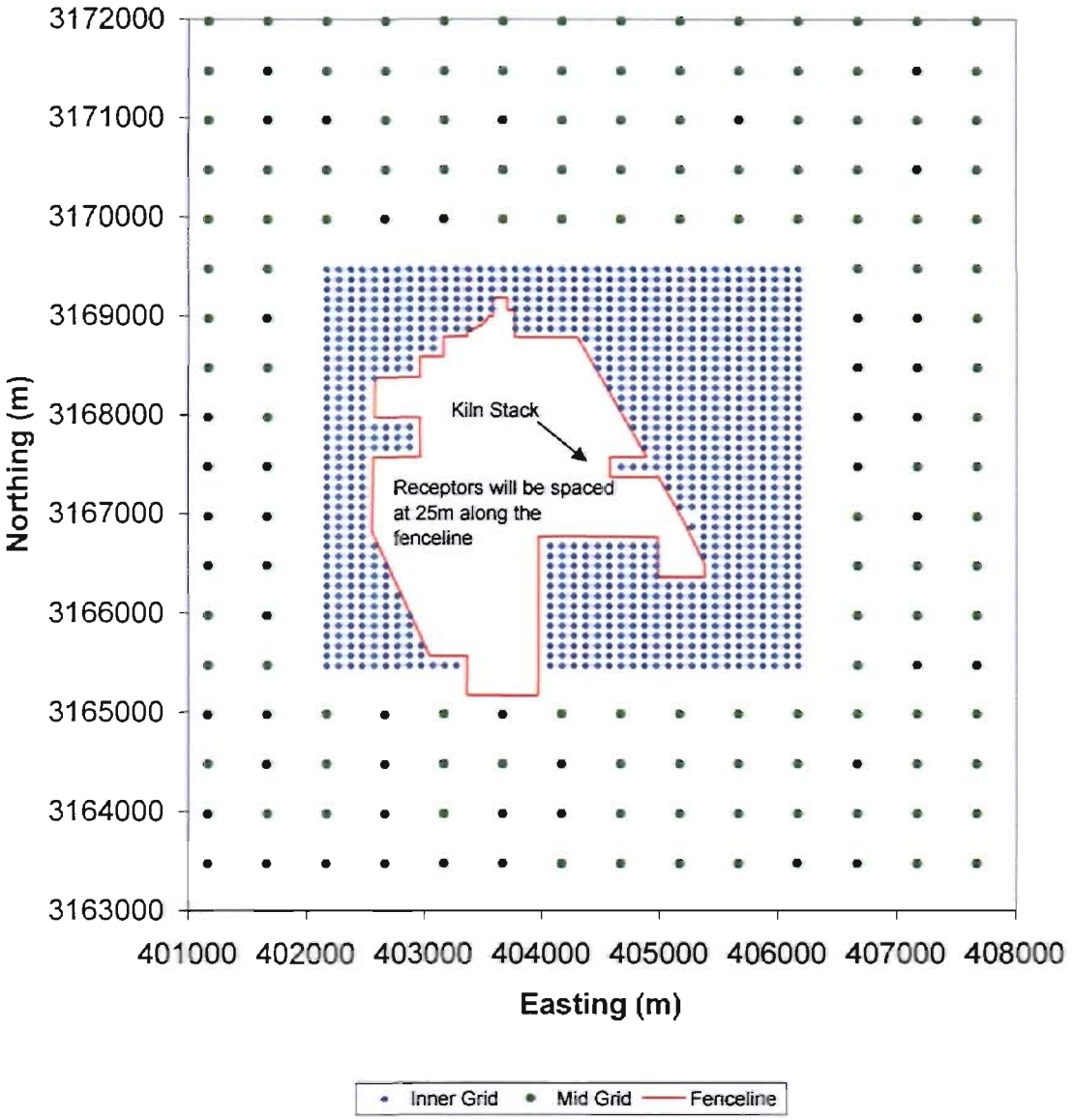
The receptor network for the ISCST3 analysis, at a minimum, covers a square region 20 kilometer on a side, centered on the SCC Plant. All receptors have been referenced to the UTM coordinate system (Zone 17), using the WGS-84 Ellipsoid. A rectangular Cartesian coordinate receptor grid has been used as the main receptor grid. The main receptor grid has been centered on the new kiln stack (origin). The following grid spacing has been used:

- 100 meters from the origin out to 2 kilometers (km)
- 500 meters from 2 km out to 5 km; and
- 1,000 meters from 5 km out to 10 km.

In addition to the rectangular Cartesian coordinate receptor grid, a set of property line receptors have been prepared to represent the boundary of the SCC Plant property. The property line receptors have been placed at 25 meter intervals along the boundary. Cartesian receptors that are inside the facility property have been excluded from the full receptor grid. Figure 4-2 shows an approximation of the inner portion of the full Cartesian grid, with the receptor spacing. Also, if at any receptors which are not part of the 100-meter grid spacing results in a predicted concentration that is within 10 percent of the predicted maximum value for that pollutant and averaging time, a 100 meter receptor grid have been utilized around that predicted concentration to identify the highest predicted concentration with the 100-meter receptor grid.

Terrain elevations have not been assigned to receptors included in the ISCST3 air dispersion modeling analysis. Flat terrain has been assumed.

Figure 4-5
Inner Portion of Receptor Grid



4.4.2 CALPUFF Model Receptors

For CALPUFF run in the screening mode, FLM guidance recommends that a polar grid receptor network be used. As a result, a polar grid with distances from the SCC Plant that match the closest and furthest distances from the SCC Plant to the four surrounding Federal Class I areas has been used. This has resulted in eight rings of receptors at downwind distances of 61, 72, 216, 252, 272, 289, 298, and 309 kilometers. These eight rings have a receptor located at every degree resulting in 360 receptors per ring. Per FLM guidance using CALPUFF in the screening mode, the maximum impact on any given ring has been evaluated, regardless of direction.

4.5 METEOROLOGICAL DATA

4.5.1 ISCST3 Model

The hourly meteorological data for the ISCST3 analysis consists of five years (1991-1995) of surface data from the National Weather Service (NWS) station located at the Tampa International Airport (Station No. 12842). The source of the five years of upper air data (1991-1995) to be used in mixing height calculations is from the National Weather Service (NWS) station at Tampa International Airport, Florida (Station No. 72210). Tampa is the nearest upper air station to the SCC Plant. The surface meteorological data has been combined with coincident mixing heights derived by merging surface temperatures with the concurrent twice-daily rawinsonde data obtained from the Tampa International Airport.

Missing wind speed or wind direction data has been replaced with calm data (i.e., 1 meter/second wind speed and the same wind direction as the preceding hour). Missing temperature data has been replaced with an average of the previous valid hour and the next, non-missing hour. Multiple hours of missing temperature data has been replaced by climatological average daily temperatures. A single missing mixing height has been replaced with an average of the preceding and subsequent hours. Multiple hours of missing twice-daily mixing heights has been replaced with the monthly average mixing height. The use of the monthly average mixing height helps to incorporate into the meteorological database any monthly pattern that might exist.

4.5.2 CALPUFF Model

The hourly meteorological data for the CALPUFF run in the screening mode analysis consists of five years (1986-1990) of surface data from the National Weather Service (NWS) station located at the Tampa International Airport. The source of the five years of upper air data (1986-1990) to be used in mixing height calculations is also from the National Weather Service (NWS) station at Tampa International Airport, with the addition of the parameters necessary for CALPUFF to perform deposition calculations: surface roughness, friction velocity, and Monin-Obukhov length.

5. AIR QUALITY IMPACTS ANALYSIS

5.1 SIGNIFICANT IMPACT AREA ANALYSIS

The significant impact area (SIA) is the geographical area in which a "significant" ambient impact is predicted to occur associated with the PTE emissions of SO_2, NO_x, CO, TSP, and PM_{10} emitted from the operation of the SCC Plant. Each of these pollutants, for each applicable averaging time, has been assessed to determine if a SIA exists. The SIA modeling for the SCC Plant was conducted using the ISCST3 and CALPUFF models.

Table 5-1 presents the established significance impact levels (SILs) of air quality impacts on PSD Class I areas are those proposed by EPA on July 23, 1996 at 61 FR 38292. Table 5-2 presents the established SILs of air quality impacts on PSD Class II areas as presented in the U.S. EPA New Source Review Workshop Manual, Draft, October 1990.

Table 5-1
Significance Levels for Air Quality Impacts in Class I Areas
($\mu g/m^3$)

POLLUTANT	ANNUAL	24-HOUR	3-HOUR
SO_2	0.1	0.2	1.0
TSP	-	-	-
PM_{10}	0.2	0.3	-
NO_X	0.1	-	-
CO	-	-	-

Table 5-2
Significance Levels for Air Quality Impacts in Class II Areas
($\mu g/m^3$)

POLLUTANT	ANNUAL	24-HOUR	8-HOUR	3-HOUR	1-HOUR
SO_2	1	5	-	25	-
TSP	1	5	-	-	-
PM_{10}	1	5	-	-	-
NO_X	1	-	-	-	-
CO	-	-	500	-	2,000
O_3	-	-	-	-	See Note

NOTE:
NO SIGNIFICANT AMBIENT IMPACT CONCENTRATION HAS BEEN ESTABLISHED.

5.1.1 Class I Areas

A Class I significant impact analysis assessing potential-to-emit (PTE) emissions from the SCC Plant was conducted using the CALPUFF model run in the screening mode. Tables 5-3 presents the highest predicted impacts over the five years assessed that occurred at the Chassahowitzka Class I area located within 61 kilometers of the SCC Plant. All other predicted impacts at the other three Class I areas were less than those reported in Table 5-3 for the Chassahowitzka Class I area. Specifically, Tables 5-3 provides an analysis of the 3-hour, 24-hour, and annual averaging periods, respectively. As shown by Table 5-3, the maximum predicted impacts for all applicable pollutants and averaging times are all less than their applicable SILs and no further Class I PSD increment modeling is required.

Table 5-3
Class I SIA Analysis
($\mu g/m^3$)

3-HOUR CLASS I SIA ANALYSIS			
POLLUTANT	**CALPUFF 3-HOUR**	**SIGNIFICANCE LEVEL 3- HOUR**	**SIGNIFICANCE LEVEL EXCEEDED?**
CO	N/A	NO SIGNIFICANCE LEVEL	N/A
SO_2	0.36	1.0	NO
NO_x	N/A	NO SIGNIFICANCE LEVEL	N/A
PM_{10}	N/A	NO SIGNIFICANCE LEVEL	N/A

24-HOUR CLASS I SIA ANALYSIS			
POLLUTANT	**CALPUFF 24-HOUR**	**SIGNIFICANCE LEVEL 24- HOUR**	**SIGNIFICANCE LEVEL EXCEEDED?**
CO	N/A	NO SIGNIFICANCE LEVEL	N/A
SO_2	0.16	0.2	NO
NO_x	N/A	NO SIGNIFICANCE LEVEL	N/A
PM_{10}	0.23	0.3	NO

ANNUAL CLASS I SIA ANALYSIS			
POLLUTANT	**CALPUFF ANNUAL**	**SIGNIFICANCE LEVEL ANNUAL**	**SIGNIFICANCE LEVEL EXCEEDED?**
CO	N/A	NO SIGNIFICANCE LEVEL	N/A
SO_2	0.009	0.1	NO
NO_x	0.06	0.1	NO
PM_{10}	0.02	0.2	NO

5.2 CLASS II AREAS

Table 5-4 presents a summary of the Class II SIA analysis performed for the SCC Plant.

Table 5-4
Class II SIA Analysis
(µg/m^3)

1-HOUR CLASS II SIA ANALYSIS			
POLLUTANT	**ISCST3 1-HOUR**	**SIGNIFICANCE LEVEL 1- HOUR**	**SIGNIFICANCE LEVEL EXCEEDED?**
CO	95.75	2,000	NO
SO_2	N/A	NO SIGNIFICANCE LEVEL	N/A
NO_x	N/A	NO SIGNIFICANCE LEVEL	N/A
PM_{10}	N/A	NO SIGNIFICANCE LEVEL	N/A
TSP	N/A	NO SIGNIFICANCE LEVEL	N/A

3-HOUR CLASS II SIA ANALYSIS			
POLLUTANT	**ISCST3 3-HOUR**	**SIGNIFICANCE LEVEL 3- HOUR**	**SIGNIFICANCE LEVEL EXCEEDED?**
CO	N/A	NO SIGNIFICANCE LEVEL	N/A
SO_2	3.08	25	NO
NO_x	N/A	NO SIGNIFICANCE LEVEL	N/A
PM_{10}	N/A	NO SIGNIFICANCE LEVEL	N/A
TSP	N/A	NO SIGNIFICANCE LEVEL	N/A

8-HOUR CLASS II SIA ANALYSIS			
POLLUTANT	**ISCST3 8-HOUR**	**SIGNIFICANCE LEVEL 8- HOUR**	**SIGNIFICANCE LEVEL EXCEEDED?**
CO	21.64	500	NO
SO_2	N/A	NO SIGNIFICANCE LEVEL	N/A
NO_x	N/A	NO SIGNIFICANCE LEVEL	N/A
PM_{10}	N/A	NO SIGNIFICANCE LEVEL	N/A
TSP	N/A	NO SIGNIFICANCE LEVEL	N/A

24-HOUR CLASS II SIA ANALYSIS			
POLLUTANT	**ISCST3 24-HOUR**	**SIGNIFICANCE EVEL 24- HOUR**	**SIGNIFICANCE LEVEL EXCEEDED?**
CO	N/A	NO SIGNIFICANCE LEVEL	N/A
SO_2	0.71	5	NO
NO_x	N/A	NO SIGNIFICANCE LEVEL	N/A
PM_{10}	62.07	5	YES
TSP	135.05	5	YES

ANNUAL CLASS II SIA ANALYSIS			
POLLUTANT	ISCST3 ANNUAL	SIGNIFICANCE LEVEL ANNUAL	SIGNIFICANCE LEVEL EXCEEDED?
CO	N/A	NO SIGNIFICANCE LEVEL	N/A
SO_2	0.05	1	NO
NO_x	0.35	1	NO
PM_{10}	13.00	1	YES
TSP	40.74	1	YES

As shown by Table 5-4, PM_{10} and TSP were the only pollutants to have a predicted highest concentration greater than the established corresponding significance level. A maximum annual PM_{10} concentration of 13.00 $\mu g/m^3$ was predicted to occur at a distance of one kilometer from the SCC Plant. It should be noted that this maximum value occurred within the SCC Plant boundary and does not represent the maximum predicted offsite concentration which is discussed in later sections. The annual PM_{10} concentration did not fall below the annual PM_{10} significance level of 1.0 $\mu g/m^3$ until a distance of approximately 4 kilometers was reached from the SCC Plant. A maximum annual TSP concentration of 40.74 $\mu g/m^3$was predicted to occur at a distance of 1 kilometer from the SCC Plant. The annual TSP concentration did not fall below the annual TSP significance level of 1.0 $\mu g/m^3$ until a distance of approximately 7 kilometers was reached from the SCC Plant.

A maximum 24-hour PM_{10} concentration of 62.07 $\mu g/m^3$ was predicted to occur at a distance of one kilometer from the SCC Plant. It should be noted that this maximum value occurred within the SCC Plant boundary and does not represent the maximum predicted offsite concentration which is discussed in later sections. The 24-hour PM_{10} concentration did not fall below the 24-hour PM_{10} significance level of 5.0 $\mu g/m^3$ until a distance of approximately 5.5 kilometers was reached from the SCC Plant. A maximum 24-hour TSP concentration of 135.05 $\mu g/m^3$was predicted to occur at a distance of 1 kilometer from the SCC Plant. The 24-hour TSP concentration did not fall below the 24-hour TSP significance level of 5.0 $\mu g/m^3$ until a distance

of approximately 10 kilometers was reached from the SCC Plant. As shown by Table 5-4, all other modeled pollutants (NO_x, SO_2, and CO) were below their corresponding SILs.

To determine the NAAQS and PSD Class II increment modeling domain for PM_{10} and TSP, 50 kilometers was added to the maximum PM_{10} and TSP SIA distance of 10 kilometers per U.S. EPA guidance. Therefore, a 60 kilometer SIA or modeling domain was calculated to represent the modeling domain for both PM_{10} and TSP.

Since TSP is no longer a regulated air pollutant in Florida, only PM_{10} will need to undergo a refined modeling analysis. The results of the refined modeling for PM_{10} are presented in later sections of this report.

5.3 PRE-CONSTRUCTION MONITORING ANALYSIS

The results of Table 5-4 were used to assess whether the SCC Plant would be subject to pre-construction monitoring requirements. Table C-3 of the New Source Review Workshop Manual, Draft 1990, was used to determine significant monitoring concentrations. Specifically, for SO_2, the maximum 24-hour concentration was predicted to be 0.71 $\mu g/m^3$ which is less than the EPA and FDEP significant 24-hour monitoring concentration of 13 $\mu g/m^3$. For PM_{10} the maximum modeled 24-hour concentration was 29.77 $\mu g/m^3$. This value is greater than the EPA and FDEP significant 24-hour monitoring concentration of 10 $\mu g/m^3$ for PM_{10}. For NO_x, the maximum annual concentration was predicted to be 0.35 $\mu g/m^3$ which is less than the EPA and FDEP significant annual monitoring concentration of 14 $\mu g/m^3$. For CO, the maximum modeled 8-hour CO concentration was predicted to be 21.64 $\mu g/m^3$ which is less than the EPA and FDEP significant 8-hour monitoring concentration of 575 $\mu g/m^3$.

Only PM_{10} exceeded the significant monitoring concentrations. Only PM_{10} would be potentially subject to pre-construction monitoring requirements if the 24-hour background PM_{10} concentration was also above the monitoring de minimus 24-hour value of 10 $\mu g/m^3$. A summary of background PM_{10} data is provided in Table 5-5. As shown by Table 5-5, the 24-hour PM_{10} background value used in the NAAQS analysis presented in Section 5.3 is 50.4 $\mu g/m^3$

which is above the 10 $\mu g/m^3$ 24-hour significant monitoring concentration. As a result, PM_{10} pre-construction monitoring is expected by SCC to be potentially required by the FDEP.

5.4 NAAQS COMPLIANCE ANALYSIS

The NSR regulations require that a NAAQS Compliance demonstration be provided. The demonstration requires that the PTE PM_{10} SCC Plant emissions when modeled with other applicable PM_{10} sources in the SIA and then adding a representative background concentration to the predicted modeling results do not exceed the 24-hour and annual PM_{10} NAAQS. For other applicable sources, PM_{10} PTE air emission inventories were provided by Florida DEP for the 13 counties surrounding the SCC Plant. The air emission sources contained in the PM_{10} SIA were then screened using the FDEP approved "*20D Rule*". Each "source" defined in the PM_{10} NAAQS inventory was assessed using a facility-wide summary of emissions from all of the individual facility air emission sources. If the facility total annual PTE PM_{10} emissions were greater than 20 times the distance in kilometers from the facility to the SCC Plant, the total facility emissions were included as part of the NAAQS modeling emissions inventory.

Representative background PM_{10} data was obtained from the Florida Air Monitoring Report – 2003. Five years (1999 – 2003) of PM_{10} ambient monitoring data collected within the 13 counties surrounding the SCC Plant were used to develop a 24-hour PM_{10} background value of 50.4 $\mu g/m^3$ and an annual PM_{10} background value of 23.1 $\mu g/m^3$. These data are presented in Table 5-5 on the following page.

Table 5-5
Summary of Representative PM_{10} Ambient Air Quality Monitoring Data

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	TAMPA	057-0030	URBAN	2003	25.0	20.0
					2002	32.0	20.0
					2001	45.0	24.0
					2000	44.0	24.0
					1999	45.0	24.0
AVERAGE						**38.2**	**22.4**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	GIBSONTON	057-0066	NEIGHBORHOOD	2003	64.0	27.0
					2002	55.0	25.0
					2001	59.0	30.0
					2000	73.0	33.0
					1999	81.0	35.0
AVERAGE						**66.4**	**30.0**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT TH HIGHEST ANNUAL AVERAGE CONCENTRATION

Table 5-5 continued
Summary of Representative PM_{10} Ambient Air Quality Monitoring Data

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	NO CITY	057-0083	MIDDLE	2003	58.0	25.0
					2002	38.0	22.0
					2001	44.0	25.0
					2000	38.0	25.0
					1999	39.0	24.0
AVERAGE						**43.4**	**24.2**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	NO CITY	057-0085	NEIGHBORHOOD	2003	37.0	20.0
					2002	33.0	19.0
					2001	53.0	24.0
					2000	35.0	23.0
					1999	35.0	20.0
AVERAGE						**38.6**	**21.2**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

Table 5-5 continued
Summary of Representative PM_{10} Ambient Air Quality Monitoring Data

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	GANNON	057-0095	NEIGHBORHOOD	2003	61.0	26.0
					2002	39.0	22.0
					2001	45.0	26.0
					2000	44.0	27.0
					1999	49.0	27.0
AVERAGE						**47.6**	**25.6**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	TAMPA	057-1002	NEIGHBORHOOD	2003	44.0	25.0
					2002	40.0	24.0
					2001	56.0	29.0
					2000	145.0	29.0
					1999	47.0	26.0
AVERAGE						**66.4**	**26.6**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

Table 5-5 continued
Summary of Representative PM_{10} Ambient Air Quality Monitoring Data

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	TAMPA	057-1035	NEIGHBORHOOD	2003	52.0	23.0
					2002	56.0	24.0
					2001	52.0	25.0
					2000	66.0	26.0
					1999	51.0	25.0
AVERAGE						**55.4**	**24.6**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	TAMPA	057-1068	NEIGHBORHOOD	2003	19.0	15.0
					2002	29.0	17.0
					2001	40.0	20.0
					2000	32.0	20.0
					1999	39.0	20.0
AVERAGE						**31.8**	**18.4**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

Table 5-5 continued
Summary of Representative PM_{10} Ambient Air Quality Monitoring Data

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	TAMPA	057-1069	NEIGHBORHOOD	2003	42.0	23.0
					2002	38.0	22.0
					2001	54.0	28.0
					2000	47.0	28.0
					1999	51.0	28.0
AVERAGE						**46.4**	**25.8**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	TAMPA	057-1070	MIDDLE	2003	56.0	27.0
					2002	47.0	27.0
					2001	59.0	28.0
					2000	50.0	30.0
					1999	47.0	28.0
AVERAGE						**51.8**	**28.0**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

Table 5-5 continued
Summary of Representative PM_{10} Ambient Air Quality Monitoring Data

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	HILLSBOROUGH	BRANDON	057-2002	NEIGHBORHOOD	2003	41.0	22.0
					2002	35.0	20.0
					2001	103.0	29.0
					2000	43.0	25.0
					1999	37.0	22.0
AVERAGE						**51.8**	**23.6**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	LAKE	ASTOR PARK	069-0001	URBAN	2003	39.0	17.0
					2002	33.0	16.0
					2001	57.0	18.0
					2000	53.0	20.0
					1999	49.0	19.0
AVERAGE						**46.2**	**18.0**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

Table 5-5 continued
Summary of Representative PM_{10} Ambient Air Quality Monitoring Data

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	POLK	MULBERRY	105-0010	NEIGHBORHOOD	2003	42.0	20.0
					2002	38.0	18.0
					2001	121.0	23.0
					2000	121.0	22.0
					1999	42.0	22.0
AVERAGE						**72.8**	**21.0**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	POLK	MULBERRY	105-2006	NEIGHBORHOOD	2003	49.0	20.0
					2002	78.0	21.0
					2001	59.0	21.0
					2000	45.0	23.0
					1999	50.0	22.0
AVERAGE						**56.2**	**21.4**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

Table 5-5 continued
Summary of Representative PM_{10} Ambient Air Quality Monitoring Data

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	SEMINOLE	SANFORD	117-1002	NEIGHBORHOOD	2003	47.0	18.0
					2002	38.0	18.0
					2001	52.0	20.0
					2000	32.0	18.0
					1999	34.0	18.0
AVERAGE						**40.6**	**18.4**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

POLLUTANT	COUNTY	MONITOR LOCATION	MONITOR NAME	MONITOR TYPE	YEAR	CONCENTRATION ($\mu g/m^3$)	
						24-HOUR[1]	ANNUAL[2]
PM_{10}	VOLUSIA	DAYTONA BEACH	127-5002	NEIGHBORHOOD	2003	53.0	19.0
					2002	39.0	18.0
					2001	67.0	22.0
					2000	53.0	21.0
					1999	54.0	21.0
AVERAGE						**53.2**	**20.2**

1. REPRESENT THE HIGHEST 2ND HIGHEST 24-HOUR AVERAGE CONCENTRATION
2. REPRESENT THE HIGHEST ANNUAL AVERAGE CONCENTRATION

TOTAL PM_{10} AVERAGE FROM ALL MONITORING LOCATIONS	**50.4**	**23.1**

Table 5-6 shows a summary of the highest annual and highest second-highest 24-hour impacts combined with the background concentrations for PM_{10}. As shown by Table 5-6, the predicted impacts for each applicable averaging period for PM_{10} are less than the applicable NAAQS. Therefore, it is concluded that compliance with the 24-hour and annual PM_{10} NAAQS is demonstrated.

Table 5-6
PM_{10} NAAQS Analysis ($\mu g/m^3$)

Averaging Period	ISCST3 Results	Background	Total (Results + Background)	PM_{10} NAAQS	PM_{10} NAAQS Exceeded?
Annual – 1991	6.29	23.10	29.39	50.0	No
Annual – 1992	6.81	23.10	29.91	50.0	No
Annual – 1993	6.91	23.10	30.01	50.0	No
Annual – 1994	6.47	23.10	29.57	50.0	No
Annual – 1995	7.02	23.10	30.12	50.0	No
24 hour – 1991	24.77	50.40	75.17	150.0	No
24 hour – 1992	29.69	50.40	80.09	150.0	No
24 hour – 1993	29.77	50.40	80.17	150.0	No
24 hour – 1994	24.89	50.40	75.29	150.0	No
24 hour – 1995	25.53	50.40	75.93	150.0	No

5.5 PSD INCREMENT ANALYSIS

ISCST3 was used to model near field (within 50 kilometers of the SCC Plant) and CALPUFF in the screening mode was used to model for distances greater than 50 kilometers of the SCC Plant. To be conservative, the same PM_{10} emission sources used in the NAAQS analysis was used in the PSD PM_{10} increment analysis.

5.5.1 CLASS I AREAS

As shown by Table 5-3, the impacts from the PTE emissions of the SCC Plant are less than the applicable proposed EPA SILs and thus, no further Class I PSD increment modeling is required.

5.5.2 CLASS II AREAS

This analysis included all SCC Plant PM_{10} emission and those PM_{10} increment consuming emission sources identified in the 20D analysis used for the PM_{10} NAAQS analysis. By using the PM_{10} NAAQS 20D emissions inventory, the PM_{10} increment analysis is considered conservative in nature.

The increment analysis was performed using the modeling techniques of the ISCST3 Model described earlier in this report. Table 5-7 presents the Class II PM_{10} increment analysis for each applicable averaging period at the highest annual and the highest second-highest 24-hour concentrations for each year of meteorological data. As shown by Table 5-7, the SCC Plant has demonstrated compliance with meeting the PSD PM_{10} Class II increment requirements.

Table 5-7
PSD Class II Increment PM_{10} Analysis ($\mu g/m^3$)

Averaging Period	ISCST3 Results	PSD Class II Increment	PSD Class II Increment Exceeded?	Location in UTM (km)
Annual – 1991	6.29	17.00	No	404.589, 3167.572
Annual – 1992	6.81	17.00	No	404.589, 3167.572
Annual – 1993	6.91	17.00	No	404.589, 3167.572
Annual – 1994	6.47	17.00	No	404.589, 3167.572
Annual – 1995	7.02	17.00	No	404.589, 3167.572
24 hour – 1991	24.77	30.00	No	404.575, 3167.547
24 hour – 1992	29.69	30.00	No	404.575, 3167.547
24 hour – 1993	29.77	30.00	No	404.814, 3167.727
24 hour – 1994	24.89	30.00	No	404.575, 3167.522
24 hour – 1995	25.53	30.00	No	402.626, 3166.636

5.6 VISIBILITY IMPACT ANALYSIS

An assessment of potential project impacts on visibility and other air quality related values (AQRV) in Federal Class I areas is a requirement for PSD projects. Air quality impacts at Federal Class I areas must be assessed under recent FLM guidance if they are within 300 kilometers of the PSD source.

The Federal Class I area closest to the SCC Plant is the Chassahowitzka National Wildlife Refuge located approximately 61 km to the west of the SCC Plant. Three other Federal Class I areas are within 300 kilometers of the SCC Plant. These include the Okefenokee National Wildlife Refuge (NWR) (219 km), Saint Marks NWR (250 km), and the Bradwell Bay Wilderness Area (297 km). The location of these four areas relative to the SCC Plant is depicted in Figure 5-1. As shown in Figure 5-1, there are no other Class I areas within 300 kilometers of the SCC Plant.

Additionally, a change of extinction (delta b_{ext}) of five percent is proposed to be used as a threshold value to determine whether the SCC Plant (modeled as a single source using CALPUFF-Lite) has a significant impact to visibility impairment at the four surrounding Class I areas. The five percent change of extinction value is consistent with recent FLM reviews of major source permit-to-construct applications from other cement plants projects located in Florida and Arizona.

Table 5-8 presents the results of the visibility analysis performed for the SCC Plant on the four Class I areas within 300 kilometers of the SCC Plant. As shown by Table 5-8, the SCC is predicted to produce a change in extinction coefficient (i.e., visibility impairment) of less than five percent over a 24-hour period for each year of the five years modeled at each of the four Class I areas assessed. As a result, the proposed SCC Plant is predicted to have an acceptable level of visibility impairment to the surrounding four Class I areas.

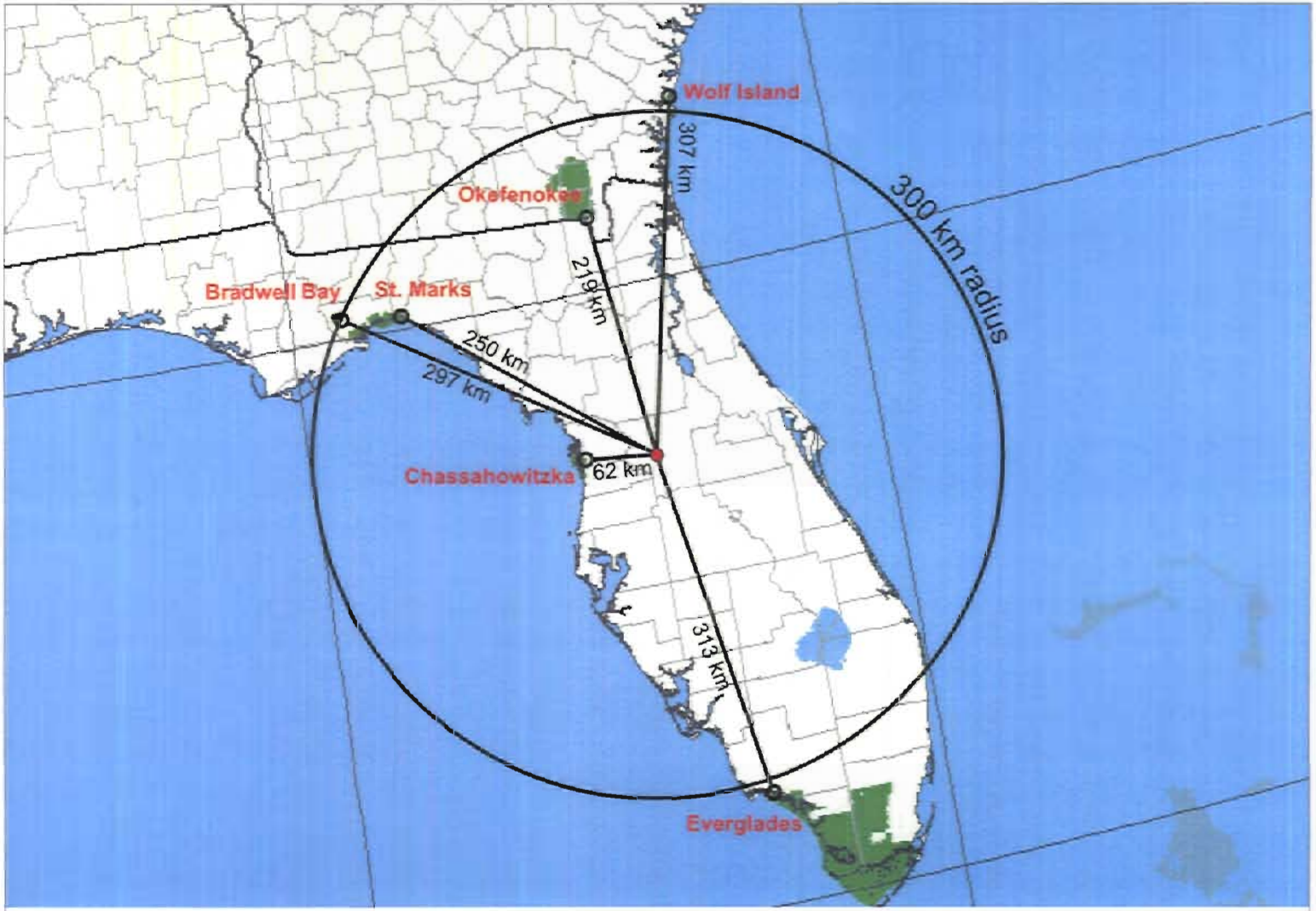


Figure 5-1
Surrounding
Class I Areas

Table 5-8
Class I Area Visibility Impairment Analysis –
Maximum Percent Change in Extinction Coefficient

Class I Area	Year of Meteorological Data				
	1986	1987	1988	1989	1990
Bradwell Bay	1.47%	1.23%	2.17%	1.07%	1.26%
Chassbowitka	4.05%	2.07%	3.26%	4.10%	2.08%
Okefenokee	2.71%	1.21%	2.59%	1.61%	1.35%
St. Marks	2.09%	2.53%	2.53%	1.72%	1.27%
Recommended Maximum Extinction Change	5%	5%	5%	5%	5%

5.7 SULFATE/NITRATE DEPOSITION ANALYSIS

For the sulfate/nitrate deposition analysis, modeling was performed for the Class I areas following using the CALPUFF model run in the screening mode. Table 5-9 presents the annual deposition values for each Class I area compared to the Deposition Analysis Threshold (DAT) for sulfur and nitrogen deposition as specified in a letter from the National Park Service and the U.S. Fish & Wildlife Service (to Mr. S. Becker, Executive Director of STAPPA/ALAPCO, January 2, 2002) and as presented in the associated *Guidance on Nitrogen And Sulfur Deposition Analysis Thresholds* (downloaded from the FLM website at www2.nature.nps.gov/air/permits/flag/flaginfo.index.htm). The DAT that was proposed in the Guidance is 0.01kg/ha/yr for both sulfur and nitrogen. These DAT values are only a guideline and not a regulatory standard. Therefore, estimates of deposition above the DAT indicate further consideration by the FLM may be warranted within the context of other influences at a particular Class I area. Estimates above the DAT do not necessarily mean that the source has failed the deposition analysis. If all deposition from the SCC Plant is less than the applicable DAT, the FLM would likely determine that the SCC Plant would not have an adverse impact on the Class I

areas. The DAT was deemed applicable to all Class I areas east of the Mississippi River and thus, to each of the four Class I areas included in this analysis.

As shown by Table 5-9, the deposition rates for all years of analysis were less than the DAT for sulfur for the all four Class I areas assessed. For nitrogen, all deposition rates were less than the DAT for all Class I areas except for the Chasshowitka Class I area. The maximum nitrogen deposition rate occurred in 1990 with a corresponding rate of 0.026 kg/ha/yr.

Table 5-9
Sulfate/Nitrate Deposition Analysis

Class I Area	Pollutant	Deposition Rate by Year of Meteorological Data (kg/ha/yr)					East U.S. DAT (kg/ha/yr)
		1986	1987	1988	1989	1990	
Bradwell Bay	Sulfur	8.30E-04	9.11E-04	8.36E-04	9.04E-04	9.83E-04	0.01
	Nitrogen	2.21E-03	2.51E-03	2.43E-03	2.24E-03	2.97E-03	0.01
Chas.	Sulfur	6.70E-03	8.04E-03	6.97E-03	7.35E-03	8.36E-03	0.01
	Nitrogen	1.85E-02	2.41-E02	2.14E-02	1.92E-02	2.60E-02	0.01
Oke.	Sulfur	1.14E-03	1.24E-03	1.19E-03	1.20E-03	1.33E-03	0.01
	Nitrogen	3.08E-03	3.70E-03	2.54E-03	2.98E-03	4.08E-03	0.01
St. Marks	Sulfur	1.48E-03	1.58E-03	1.49E-03	1.51E-03	1.81E-03	0.01
	Nitrogen	3.86E-03	4.72E-03	4.44E-03	3.69E-03	5.52E-03	0.01

5.8 MERCURY DEPOSITION ANALYSIS

As discussed in a response to the Florida DEP by Florida Rock Industries on this issue, there are several forms of mercury detected in the emissions from cement kilns. Primarily, these include elemental mercury [Hg(O)] and reactive mercury [Hg(II)]. The two types of mercury species are expected to behave quite differently once emitted from the stack. Hg(O), due to its high vapor pressure and low water solubility, is not expected to deposit close to the facility. Hg(II), because

of differences in these properties., is expected to deposit closer to the emission source. Most of the mercury an the atmosphere is elemental mercury vapor, which circulates in the atmosphere for up to a year, and hence can be widely dispersed and transported thousands of miles from likely sources of emission. The reactive form of mercury, when either bound to airborne particles or in a gaseous form, is removed from the atmosphere by precipitation and is also dry deposited.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a nationwide network of precipitation monitoring sites. The network is a cooperative effort, between many different groups, including the State Agricultural Experiment Stations, U.S. Geological Survey, U.S. Department of Agriculture, and numerous other governmental and private entities. The purpose of the network is to collect data on the chemistry of precipitation for monitoring of geographical and temporal long-term trends. The precipitation at each station is collected weekly according to strict clean-handling procedures. It is then sent to the Central Analytical Laboratory where it is analyzed.

The National Atmospheric Deposition Program has expanded its sampling to include the Mercury Deposition Network (MDN), which was formed in 1995 to collect weekly samples of precipitation which are analyzed by Frontier Geosciences for total mercury. The objective of the MDN is to monitor the amount of mercury in precipitation on a regional basis. The nearest NADP/MDN Monitoring Location is Station FLO5 at the Chassahowitzka National Wildlife Refuge in Citrus County, Florida. This station is approximately 61 kilometers from the SCC plant. The monitoring station has been in operation from 7/1/1991- present (see http://nadp.sws.uniuc.edu/nadpoverview.asp).

Data from this station were used to estimate the background wet and dry deposition of mercury in the vicinity of the SCC Plant. The annualized weekly average total mercury deposition for the period of record is 20 $\mu g/m^2/yr$.

The program used to model the transport and deposition of mercury was the ISCST3 Model, used in a similar manner to other Class II analyses in this report except that it considered deposition. The model has a gas dry deposition component as well as a gas wet deposition component and both wet and dry particle deposition components.

Hg(II) was considered in the air dispersion modeling. At the point of stack emission and during atmospheric transport, the contaminant is partitioned between two physical phases: vapor and particle-bound. These contaminants can be removed from the atmosphere by both wet deposition and dry deposition. For the present analysis, the speciation of emitted mercury was based on the Mercury Study Report to Congress RELMAP modeling. These data have speciation percentages for Portland cement manufacturing of 80 percent elemental mercury, and 10 percent each for vapor and particle Hg(II).

An aerosol particle size distribution based on data collected by Whitby (1978) was used. This distribution is split between two modes: accumulation and coarse particles. The geometric mean diameter of several hundred measurements indicates that the accumulation mode dominates particle size, and a representative particle diameter for this mode is 0.3 microns. The coarse particles are formed largely from mechanical processes that suspend dust and soil particles in the air. A representative diameter for coarse particles is 5.7 microns. The fraction of particle emissions assigned to each particle class is approximated based on the determination of the density of surface area of each representative particle size relative to total surface area of the aerosol mass. Using this method, approximately 93 percent and 7 percent of the total surface area is estimated to be in the 0.3 and 5.7 micron diameter particles, respectively. In this analysis, nitric acid vapor was used as a surrogate for Hg vapor based on their similar solubilities in water. In the ISCST3 Model, the dry deposition of divalent mercury vapor was modeled by calculating a dry deposition velocity for each hour using the assumptions made for nitric acid.

For wet deposition of vapor and particulate Hg(II), the ISCST3 wet deposition option was used. The same data on particle size distribution and particle density was used as in the dry particle deposition runs. For particles, the wet deposition scavenging ratios used were from Figure 4-4 in the EPA Mercury Report (0.8E-4 sec/mm/hr for the 0.3 micron size range and 3.8E-4 sec/mm/hr for the 5.7 micron size range). For vapor phase Hg(II) deposition, a scavenging coefficient of 1.6E-6 sec/mm/hr was also used (based on the nitric acid scavenging ratio as described in the EPA Mercury Report).

Based on the maximum proposed stack emissions of approximately 185 pounds per year of mercury for the new kiln, the maximum annual wet and dry deposition of mercury vapor and

particles is 7.08 $\mu g/m^2/yr$, is 35 percent of the background deposition rate. A mercury deposition analysis was also conducted at the four Florida State Parks surrounding the SCC Plant. The results are as follows:

Park Name	Distance (km)	Direction (Cardinal)	Predicted Total Hg Deposition ($\mu g/m^2/yr$)
Dade Battlefield	16.37	W	0.274
Lake Griffin	29.03	NNE	0.177
Lake Louisa	51.37	SE	0.155
Fort Cooper	47.64	NW	0.133

The predicted maximum total (dry plus wet) deposition value of 0.274 $\mu g/m^2/yr$ that occurred in the four Florida State Parks evaluated was 1.4 percent of the background deposition rate of the annualized weekly average total mercury deposition of 20 $\mu g/m^2/yr$.

5.9 OTHER SECONDARY IMPACTS

See Appendix C of the Permit-to-Construct Application for a discussion of other secondary air quality impacts including impact to soils, flora, fauna, including wildlife, and direct and indirect growth.

6. REFERENCES

Auer 1978, Auer, Jr., A.H., – "Correlation of Land Use and Cover with Meteorological Anomalies," Journal of Applied Meteorology, 17:636-643, 1978.

National Stone, Sand and Gravel Association 2004 – "Modeling Fugitive Dust Sources", pg. 91.

U.S. EPA 1980 – "A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals", EPA 450/2-81-078, December 12, 1980.

U.S. EPA 1985 – "Guidelines for Determination of Good Engineering Practice Stack Height (Technical Support Document for Stack Height Regulations) Revised" EPA-450:4-80-023R, June 1985.

U.S. EPA 1990 – "New Source Review Workshop Manual," DRAFT, October 1990.

U.S. EPA 1993 – "User's Guide to the Building Profile Input Program", October 1993.

U.S. EPA 1995 –"User's Guide for the Industrial Source Complex (ISC3) Dispersion Models, Volume I - User Instructions", U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, September 1995.

U.S. EPA 1998a – "Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts", EPA-454/R-98-019, December 1998.

U.S. EPA 1998b – "Users Guide for the AERMOD Terrain Preprocessor (AERMAP) Revised – Draft" November 1998.

U.S. EPA 1998c – "Consequence Analysis of Using ISC-Prime Over the Industrial Source Complex Short-Term Model – Draft" Staff Report April 1998.

U.S. EPA 1999 – 40 CFR Part 51 Appendix W "Guideline on Air Quality Models (Revised)", July 1999.

U.S. EPA 2002 –"Addendum to the User's Guide for the Industrial Source Complex (ISC3) Dispersion Models, Volume I - User Instructions", U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, February 2002.

VISTAS Technical Advisor – "Initial Draft. BART Modeling Protocol for VISTAS", January 31, 2005. Includes contributions from Pat Brewer (VISTAS Technical Coordinator), Tom Rogers of the Florida Department of Environmental Protection, and Chris Arrington of the West Virginia Department of Environmental Protection.

Attachment 7
P.E. Certification

B. P. BARBER & ASSOCIATES, INC.

ENGINEERS – PLANNERS – SURVEYORS

101 RESEARCH DRIVE (29203-9389)
P. O. BOX 1116
COLUMBIA, SOUTH CAROLINA 29202-1116
TELEPHONE 803 254-4400 FACSIMILE 803 771-6676

October 14, 2005

Mr. A.A. Linero
Bureau of Air Regulation
Department of Environmental Protection
2600 Blair Stone Road, MS # 5500
Tallahassee, Florida 32399-2400

RE: Response to Request for Additional Information (RAI) dated October 7, 2005
Sumter Cement – Center Hill Plant
DEP File No. 1190041-001-AC (PSD-FL-358)
Proposed Portland Cement Plant in
Sumter County, Florida

Dear Mr. Linero:

I, the undersigned hereby certify that:

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in the above referenced Application for Air Permit, and in this Response to the Request for Additional Information (RRAI) when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application and RRAI are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, and RRAI based solely upon the materials, information and calculations submitted with this application and RRAI.

I further certify that the engineering features of each such emissions unit described in this application and RRAI have been designed or examined by me or individuals under my direction supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

Should you have any questions, please feel free to contact the appropriate party.

PORTER RIVERS III CERTIFICATE NO. 41175 STATE OF FLORIDA REGISTERED ENGINEER

Very truly yours,

B.P. BARBER & ASSOCIATES, INC.

Porter Rivers III, P.E.
Senior Project Manager

SUMTER COUNTY CEMENT
CENTER HILL, FLORIDA, USA

RECEIVED
SEP 08 2005
BUREAU OF AIR REGULATION

September 7, 2005

Mr. Al Linero
Division of Air Resources
Department of Environmental Protection
2600 Blair Stone Road, MS # 5500
Tallahassee, Florida 32399-2400

SUBJECT: **Electronic Modeling Files and Application – New Kiln Project**
Sumter Cement Company, LLC – Center Hill Plant, Sumter County

Dear Mr. Linero:

Please find included a CD containing all input and output files as well as intermediate computer files and meteorological data files for all associated modeling for the Sumter Cement updated Permit to Construct application submitted to the Florida Department of Environmental Protection on September 8, 2005.

Additionally, a full electronic version of the Permit to Construct application including all appendices is included on a separate disk for the Department.

If you or your staff should have any questions please feel free to contact me anytime to discuss at (386) 935-5039 or at jbhorton@suwanneecement.com.

Sincerely,

Joe Horton
Environmental Manager
Sumter Cement Company

CC: Dan Fritz – SCC (w/o attachment)
Tom Iaccarino – Spectrum Environmental Scientists (w/o attachment)

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Air Permits Section
61 Forsyth Street

Atlanta, GA 30303
UNITED STATES

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Phone#: 404-562-9141

Sent By: P. Adams
Phone#: 850-921-9505

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Sumter Cement Company, LLC
P.O. Box 410
Branford, Fl 32008

July 5, 2005

Ms. Trina Vielhauer
Division of Air Resources
Department of Environmental Protection
2600 Blair Stone Road, MS # 5500
Tallahassee, Florida 32399-2400

SUBJECT: **Construction Permit Application – New Kiln Project**
Sumter Cement Company, LLC – Center Hill Plant, Sumter County

Dear Ms Vielhauer:

As discussed at our June 16th meeting, Sumter Cement Company (SCC) continues to work to finalize the information for the permit-to-construct (PTC) application. SCC has finalized engineering with Polysius Corporation for the site layout and process flow design. Due to this extensive engineering from Polysius as well as Votorantim Cimentos Technical Department several modifications to the plant layout and throughput rates have occurred since the information provided to the Department in the PTC application dated June 15, 2005.

These changes reflect improvements for plant operations and have no affect on the Best Available Control Technologies (BACT) to be used at the plant for control of emissions. However, due to these changes SCC will update its application and modeling to accurately reflect this latest engineering and facility layout. Since this information will be provided to the Department as quickly as possible, SCC would request the thirty (30) day review period as referenced in FAC 62-4.055 be delayed or waved until such time as the supplemental information can be provided to the Department for the PTC application dated June 15, 2005. Upon submission of the supplemental information for the PTC application SCC would request the reinstatement of the thirty (30) day review period for completeness as referenced in FAC 62-4.055.

If you or anyone at the Department should have any questions or require any additional information, please feel free to contact me anytime at (386) 935-5039.

Sincerely,

Joe Horton
Sumter Cement Company

CC: Al Linero – DEP
Jeff Koerner - DEP
Deborah Nelson - DEP
Cleve Holliday – DEP
Dan Fritz – SAC
Celso Martini – SAC

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

June 24, 2005

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division
P. O. Box 25287
Denver, Colorado 80225

RE: Sumter Cement Company, LLC
New Portland cement Plant
1190041-001-AC, PSD-FL-358

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by Sumter Cement Company, LLC, to construct a new Portland cement plant in Center Hill, Sumter County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact me at 850/921-9523.

Sincerely,

Patty Adams

for A. A. Linero, P.E., Administrator
South Permitting Section

AAL/pa

Enclosure

Sumter Cement Company, LLC
P.O. Box 410
Branford, Fl 32008

June 15, 2005

Ms. Trina Vielhauer
Division of Air Resources
Department of Environmental Protection
2600 Blair Stone Road, MS # 5500
Tallahassee, Florida 32399-2400

SUBJECT: **Construction Permit Application – New Kiln Project**
Sumter Cement Company, LLC – Center Hill Plant, Sumter County

Dear Ms Vielhauer:

Please find included in this package Sumter Cement Company's (SCC) Application for construction of a state-of-the-art New Kiln Line located in the city of Center Hill, Florida. SCC is operated entirely by Votorantim Cementos. Votorantim Cementos as you are aware also operates Suwannee American Cement (SAC) cement plant in Branford, Florida. The new SCC Center Hill plant and the SAC Branford plant will be both fully controlled and operated by Votorantim Cementos. Although the two cement plants will operate under different names both will share the valuable resources, information, and the vast knowledge provided by Votorantim Cementos as well as the experiences of SAC. As you are aware SAC has worked with the Department to achieve the highest environmental performance possible while producing the highest quality cement in the market at the existing facility located in Branford, FL. SAC's highest standards for environmental performance and quality will also be implemented at the SCC plant as well.

SAC has demonstrated its commitment to environmental performance by having the first and only cement plant in Florida to receive accreditation for our Environmental Management System (ISO 14000) in accordance with the International Organization of Standardization (ISO) at the Branford Plant. SAC has also voluntarily installed and tested innovative control technologies such as Selective Non-Catalytic Reduction (SNCR) for emission reductions at the Branford Plant. This knowledge and willingness to be at the forefront of environmental control technologies will be continued and expanded upon at the new SCC Center Hill Plant.

SCC looks forward to meeting and surpassing these environmental achievements and excellent performance in the future at the proposed new plant in Center Hill, Fl.

The following information is provided for the Departments review:

- Detailed Best Available Control Technology (BACT) Evaluation,

- Preliminary Modeling Report and Modeling Information for all required modeling,
- Permit Application with Supporting Information,
- Preliminary Facility Plot Plain and Process Flow Diagram, and
- Check for $7,500 for required Application Fees.

SCC welcomes the opportunity to working with the Department on this Project and if you or anyone at the Department should have any questions or require any additional information, please feel free to contact me anytime directly at (386) 935-5000 or Joe Horton at (386) 935-5039.

Sincerely,

Daniel R. Fritz

Dan Fritz
CEO/President
Sumter Cement Company

CC: Al Linero – DEP
Cleve Holliday – DEP
Celso Martini – SAC w/o Attachments
Tom Messer – SAC w/o Attachments
Joe Horton – SAC w/o Attachments

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (850) 488-0114 FAX: (850) 922-6979

Colleen M. Castille
Secretary

October 7, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Dan Fritz, CEO/President
Sumter Cement Company, LLC
P.O. Box 410
Branford, Florida 32008

Re: Request for Additional Information
DEP File No. 1190041-001-AC (PSD-FL-358)
Proposed Portland Cement Plant in Sumter County, Florida

Dear Mr. Fritz:

On September 8, 2005 we received your application for an air construction permit for a portland cement plant in the vicinity of Center Hill, Sumter County.

Pursuant to Rules 62-4.055, and 62-4.070 F.A.C., Permit Processing, the Department requests submittal of the additional information prior to processing the application. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. SCC relies on "good combustion" (GC) to control carbon monoxide (CO). SCC proposes a best available control technology (limit) by GC of 3.6 pounds of CO per ton of clinker (lb/ton) on a 30-day basis. The cost of further control by other technologies was calculated presuming that emissions without further control by GC will be 3.6 lb/ton. Please estimate the costs and cost-effectiveness of further control by GC by evaluating the following possibilities. Applicant's own possibilities are also encouraged.

   a. Given the present calciner design, estimate the CO emissions when using bauxite instead of fly ash as a raw material and only coal as fuel (except during startup).

   b. Evaluate costs of using bauxite instead of fly ash or other material high in carbon.

   c. Evaluate costs of minimizing petroleum coke and other difficult to burn fuels to maximize burnout in the calciner and ducting to the lower cyclone.

   d. Evaluate costs and benefits of increasing retention time (in increments of 0.5 seconds) in the calciner and duct work to the lower cyclone to maintain the requested fuel and raw materials options while achieving the CO emissions estimated in paragraph a. above.

   e. The Department notes that the above procedure would certainly be considered by any operator prior to assuming that a regenerative thermal oxidizer (RTO), estimated by the applicant at $47,000,000 (capital) and $17,900,000 per year, would be necessary to achieve lower CO emissions.

f. With respect to the comment on page 35 about the decommissioning of the RTO at TXI, an agreement was reached between TXI and petitioners to operate the RTO all year round.

g. Provide estimate of impacts on CO due to operation rates between the guaranteed manufacturer production rates and the expected (greater) production rates foreseen by SCC. This may be just a part of the exercise described in d. above.

[Rule 62-212.400(h)3., F.A.C. Requirement for: "A detailed description of the system of continuous emissions reduction proposed by the facility or modification as BACT, emissions estimates and any other information as necessary to determine that BACT would be applied to the facility or modification"]

2. Tarmac America, LLC, dba Titan Florida Cement, recently proposed a BACT limit for CO of 2.0 lb/ton (30-day basis) at the Pennsuco cement plant in Miami-Dade County. Please replace the "ND" value in Table 5-1 with the revised proposal. Also replace the value of 1.77 lb/ton given in the table for the Suwannee American Cement (SAC) Plant with the present BACT limit. It is possible that as many as half of the lb/ton values in the table are erroneous or possibly shifted by one row.

3. VOC control to achieve 0.12 lb/ton of clinker is also given as GC. Regardless of combustion practices, VOC emissions can be high unless raw materials (especially additives) are selected that will not evolve VOC in the preheater. Please describe the raw material procurement practices for mill scale, fly ash, etc. that can influence both VOC and CO emissions. The proposed value appears to be adequate.

   [Rule 62-4.070(1), F.A.C. (1) "A permit shall be issued to the applicant upon such conditions as the Department may direct, only if the applicant affirmatively provides the Department with reasonable assurance based on plans, test results, installation of pollution control equipment, or other information, that the construction, expansion, modification, operation, or activity of the installation will not discharge, emit, or cause pollution in contravention of Department standards or rules."]

4. Please provide a disk that includes a summary of 2005 data for 24-hr-averaged SO_2 emissions in terms of lb/ton from operation of the SAC plant. Indicate instances when injection of hydrated lime was practiced and the total amount of hydrated lime actually used for this purpose in 2005. [Rule 62-212.400(h)3., F.A.C.]

5. Please clarify whether fly ash injected into the calciner will be introduced within the area of the calciner burner as described on Section 1, page 1 or in the upper section of the calciner as apparent in the drawing referenced as Sheet 5 in Appendix F. The different locations have different implications regarding carbon monoxide burnout and emissions. [Rules 62-4.070(1) and 62-212.400(h)3., F.A.C.]

6. With reference to Table 3-1, please note that a 24-hour limit of 0.16 lb SO_2/ton applies to Florida Rock Industries pursuant to a permit issued in 2002 for a production increase at the existing FRI kiln.

7. Provide a qualitative if not quantitative discussion of the differences in sulfur and SO_2 generation potential due to raw materials differences between the quarries at SAC and SCC. [Rule 62-212.400(h)3., F.A.C.]

8. SCC relies on selective non-catalytic reduction (SNCR) to control nitrogen oxides (NO_X) carbon monoxide (CO). SCC proposes a BACT limit by SNCR of 1.95 lb NO_X/ton on a 30-day basis. The cost of further control by other technologies was calculated presuming that emissions without further control by SNCR would be 1.95 lb/ton. Please estimate the costs and cost-effectiveness of further control by SNCR by evaluating the following possibilities. Applicant's own possibilities are also encouraged.

a. Evaluate costs and NO_X reductions of further increasing ammonia injection up to a molar ratio of 1.0 (NH_3/NO_X) in increments of 0.1 moles NH_3 per mole NO_X. There would be separate cases depending upon the extent to which the calciner is operated in a reducing atmosphere for NO_X reduction prior to further control. [Rule 62-212.400(h)3., F.A.C.]

b. The Department notes that the above procedure would certainly be considered by any operator prior to assuming that a selective catalytic reduction (SCR) system, estimated by the applicant at $5,520,000 (capital) and $9,580,000 per year, would be necessary to achieve lower NO_X emissions.

c. With respect to the "experimental" nature (Section 4.4, page 23) at an SCR unit in Europe, it is noted that articles by the supplier, plant representative, and German government expert describe the system as a success. This is noteworthy because fewer of the factors claimed in the application to reduce the effectiveness of SCR are actually present in Florida compared with Germany. These include amount of sulfur and alkali in the exhaust gases.

[Rule 62-212.400(h)3., F.A.C.]

9. Please advise the meaning of the statement in Section 4, Page 22, "For the reaction to occur the ammonia must be present in excess molar ratio". If this means that the NH_3/NO_X ratio must be greater than 1.0, then the applicant is referred to the papers by the mentioned authors (Haug, Samant, and Sauter) showing that substantial reduction is possible at molar ratios much less than 1.0 (by SCR) at the Solnhofer Portland Cement Plant.

10. Please submit the information required on Page 3-61 related to the Process Fuel Segment for all fuels to be used at the facility.

11. Typical fuel specifications were provided for the proposed fuels with the exception of tires, the non-hazardous liquids including on-spec used oil, non-hazardous solids including plastics, filter fluff and wood waste. From the application, non-hazardous solids and non-hazardous liquids may account for up to 50 % of the total heat input in the kiln and calciner respectively. Provide a description and expected analysis of these additional fuels to be combusted.

12. What additives will be used to insure the correct alkali to sulfur ratio is maintained when using petroleum coke? Florida limestone is low in alkali. Use of high sulfur petroleum coke can upset the balance between alkali and sulfur that is needed to insure fuel sulfur is incorporated into the clinker rather than deposited within the internal cycle (calciner/bottom cyclone/kiln inlet). Submit a projected chemical analysis of the additives likely to be used at this plant.

13. What measures have been considered to minimize emissions of mercury entering the process or emitted from the kiln stack? Has SCC considered the possibility of inter-grinding a small portion of the dust collected in the (kiln/calciner/raw mill) air pollution control device with the clinker?

14. Has Sumter Cement Company or its affiliates had any violations (or received warning letters) in the past two years related to any Department regulations at any of their facilities? Please provide the status of any matters that have not yet been resolved.

    [Rule 62-4.070(5), F.A.C., "The Department shall take into consideration a permit applicant's violation of any Department rules at any installation when determining whether the applicant has provided reasonable assurances that Department standards will be met".

15. Has Sumter Cement Company or its cement operations affiliates (such as Votorantim and St. Mary's Cement) had any violations (or received warning letters) in the past two years related to the regulations of other states or EPA? Please provide the status of any matters that have not yet been resolved. Provide additional information in case the matters relate to actions by previous owners of the assets. [Rule 62-4.070(5), F.A.C.]

16. If the positions of plant manager and plant production manager are still to be determined, please describe the minimum requirements for this position established by your company including, but not limited to, total years experience in the cement industry, total years experience as plant operator, educational background, etc. [Rule 62-4.070(1), F.A.C.]

17. According to the application, the project has the potential to emit 103 tons per year of VOC. If a project has the potential to emit VOC over 100 tons per year, the applicant is required to perform an air quality analysis for this PSD pollutant. This includes a Pre-Construction Monitoring Analysis. Please provide a Pre-Construction Analysis for VOC and further, please explain how projected VOC emissions will not contribute to a violation of the National Ambient Air Quality Standard for ozone.

18. Although associated growth is addressed in the application, please provide an additional analysis to comply with Rule 62-212.400(5)(h)5, F.A.C.

19. The modeling submitted with the application has fugitive road emissions evaluated as "Area" sources. Please provide justification for using this type of source for the roads.

20. Please provide a table summarizing all pollutant emission rates from all sources that were included in the Class II PSD increment and NAAQS modeling. Include a list of major nearby sources that were omitted as well.

21. Since the modeling protocol was deemed sufficient, the standard for the Receptor Grid has become more refined within the Department. In order to have continuity with other cement projects in the State, it is requested that a 25 meter plant boundary receptor grid interval be used for this project. This includes 2 receptors, one on either side of each road where it intersects the plant boundary, at a minimum distance of 25 meters from the road edge. Please update modeling to reflect the new standard to ensure that this continuity is satisfied.

22. Please provide a more detailed plot plan. The Department is requesting both an electronic version (preferably a .dwg file) and an updated paper plan (preferably 2 x 3 feet). Please grid the plot plan in UTM coordinates and highlight the buildings and structures.

23. Please provide a diagram showing each road segment, its location and its emission parameters.

24. Please provide any Excel files for Tables in Appendix A to show how emission calculations were completed.

25. On page 5-18 of the application, Table 5-7 details the results of the PSD Class II Increment PM10 analysis. According to the text above the table, the modeling results for the 24-hour averaging period are based on the High, Fourth-High concentrations. The Increment should be based on the High, Second-High concentrations for the 24-hour averaging period. Please correct the table/Increment analysis.

26. Please update Tables in Appendix A to reflect the "Source ID" or "Source Description" for all sources in the modeling or vice versa.

27. Please explain how the Initial Lateral Dimension and Initial Vertical Dimension were determined for the Volume Sources.

28. Please explain how the Initial Vertical Dimension of the Plume of 1.86m was determined for the Road Sources in the modeling.

29. Although Building Downwash is included in the modeling, please provide the actual BPIP input and output files.

30. Please ask your professional engineer to review the seal used for compliance with the latest requirements of the Florida Board of Professional Engineers. It may be necessary to resubmit the P.E. certification. These are given at: http://www.engineerseals.com/order/floridape.php

We will forward any comments received from other agencies as soon as we receive them. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Please advise the professional engineer to make sure he/she uses the correct seal in compliance with the applicable requirements of the Florida Board of Professional Engineers.

Permit applicants are advised that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days. If there are any questions, please call Cindy Mulkey at 850/921-8968. Matters regarding modeling issues should be directed to Debbie Nelson at 850/921-9537.

Sincerely,

A.A. Linero, Program Administrator
Bureau of Air Regulation
New Source Review Section

AAL/cm

cc: Dan Fritz, SCC*
Joe Horton, SCC
Jim Little, EPA
John Bunyak, NPS
Jim Cleary, DEP SWD
Porter Rivers III, P.E., B.P. Barber & Associates
Chair, Sumter County Board of County Commissioners
Mayor, Center Hill
Cary Cohrs, NRCF dba AMC

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Mr. Dan Fritz
Suwannee American Cement, LLC
Post Office Box 410
Branford, Florida 32008

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X R. Foster ☐ Agent ☐ Addressee

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Mr. Dan Fritz
Suwannee American Cement, LLC
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Branford, Florida 32008

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F-850-921-8537 12 DEC 05

TO: CINDY MULKEY

FROM: HANS-H. THIEMANN

5 PAGES E-MAIL

8 PAGES HG ANALYZER

BEST REGARDS,

Hans H. Thiemann

From: hht44@comcast.net

To: cindy.mulkey@dep.state.fl.us

Subject: Cement Plants - re telecon today

Date: Mon, 05 Dec 2005 18:15:15 +0000

Hello Cindy and Al,

Thanks very much for your time to discuss the Sumter Co. cement plant with me. The article from Boulder is below.

Best regards,

Hans H Thiemann
1953 Lake Miona Dr.
Lady Lake, FL 32162

352 751 4286

Upset over Cemex plant

Facility ranks No. 6 for production "upsets" that violate emissions standards

By Todd Neff, Camera Staff Writer
December 4, 2005

On Nov. 1, a cloud of dust and exhaust billowed into the air above Cemex Inc.'s cement plant near Lyons. Kiln maintenance was the cause, company officials said.

On Aug. 25, a motor jam gave rise to a similar cloud. The jam cut power to the plant's kiln and other systems, including a massive fan that keeps air circulating through the kiln and pollution-control systems.

The kiln's coal, boiling crushed limestone and other ingredients of the 2-century-old recipe for Portland cement at 3,300 degrees didn't much care what the issue was. It burned on, pumping forth a plume of particulate matter and coal exhaust visible for miles. It was obeying physical and, as it turns out, state and federal law in the process.

Such production hiccups — known as "upset conditions" — are a part of doing heavy-industrial business, and they're recognized by state and federal regulators as an unfortunate part of complicated, high-volume production processes that create the refined petroleum, steel, electricity and other commodities upon which a modern economy depends.

Pollutants emitted in such upsets are noted on forms submitted to state regulators, but not counted against permitted emissions of particulate matter, sulfur dioxide, dioxins, heavy metals or various toxic compounds that cement-making can send into the environment.

A Daily Camera study of Mexican-owned Cemex Inc.'s upsets since 1999 shows the plant to have sent state regulators more upset reports than all but five industrial facilities in the state. Cemex reported 99 upsets between January 1999 and Oct. 13 at its Lyons plant. Yet in light of data from selected cement plants in Colorado and Texas, Cemex's rate of production upsets appears to be typical.

Of the 130 Colorado facilities reporting upsets during that period, 99 had 10 or fewer, and 51 reported just one upset. Xcel Energy's Valmont Station east of Boulder, with 35 upsets, was the 15th worst.

The state's most prolific reporter of upsets was Swiss-owned Holcim Inc.'s cement plant in Florence, which reported 375 upsets during the same period. Holcim and Cemex are the only two cement plants in Colorado.

It turns out that cement manufacturing is hard on hardware.

The business of cement

Cement is the glue in concrete. It makes up 10 percent to 15 percent of the manmade rock we drive and live on.

Making cement is a violent endeavor. At the Cemex plant near Lyons, crushed limestone rides in on a 2-mile conveyor belt from the company's Dowe Flats quarry. The rock is again crushed, mixed with sand or clay, iron ore and other materials, crushed yet again, and preheated to roughly 1,800 degrees, or about triple the melting point of lead.

It lands in the cement kiln, one of industry's most massive pieces of hardware. Wide enough to drive a sport utility vehicle through, more than half the length of a football field and sloping gently downward as it rotates, the kiln's temperatures peak at about 3,300 degrees.

The inputs melt into marble-sized globs called clinker. Clinker is mixed with a small amount of gypsum and other trace additives, ground finer than talcum powder, and shipped as cement.

This is truly a bulk process: Cemex Lyons' 100 employees produce 630,000 tons of cement a year, or 1,725 tons a day, company spokesman Rick Shapiro said. The company sells it as fast as they can make it, primarily to the Denver metro-area market.

Cement plants across the country are operating at full-tilt to keep up with demand driven by a combination of booming construction and the political hurdles associated with opening new cement plants. Shapiro said the Lyons plant runs between 89 percent and 95 percent of the hours in a year.

To produce a ton of cement, the kilns require the energy equivalent of 1,240 kilowatt hours, or as much as an average household uses in about 42 days, according to the cement industry group Portland Cement Association.

The association says there are 118 U.S. cement plants in 38 states, producing about $8.6 billion worth of cement annually. Cement prices have risen about 21 percent since October 2003, U.S. Bureau of Labor Statistics' producer price index data shows.

Portland Cement Association economist Tom Carter said the industry is projected to boost current annual U.S. capacity from 83 million tons to 103 million tons by 2010. Cement imports have climbed to 27 percent of U.S. consumption and show no sign of slowing.

Combine an aggressive production schedule with a mechanically brutal process and you have a recipe for breakdowns, which are evident across the cement industry.

Apples to apples

Combining Colorado cement-plant upset data with a sample of that posted online by the Texas Commission on Environmental Quality offers a means for comparison across the cement industry. Although state air-pollution laws vary, they tend to stick to federal guidelines for opacity, the pollutant mentioned in the vast majority of cement-plant upset reports in both Colorado and Texas.

The Holcim plant in Florence reported nearly three times as many upsets as Cemex in the 34 months from February 2003 to November 2005. But Holcim also

produces three times as much cement. Pound for pound, the Cemex plant had slightly more upsets per ton than Holcim in Florence.

Adjusted for volume, Cemex's plant in Odessa, Texas, had about four times as many upsets as either of the Colorado plants, and its New Braunfels, Texas, plant had 50 percent more upsets.

Cemex's Shapiro said the company could not comment on the variability in the number of upsets among its plants. In a statement, Cemex officials said, "The three cement manufacturing plants that you have requested information on ... are each operated in an environmentally compliant and sensitive manner. In addition, each of the plants you have referenced are plants that have historically operated well from an operational perspective, and continue to do so."

Raw upset numbers aren't everything. The duration of each of Cemex's reported upsets since 1999 was brief -- almost all less than an hour, and often less than 15 minutes. In contrast, upsets at Holcim in Florence sometimes last for days. That was the case with an upset that began Nov. 23.

The event, caused by a clinker transport pan falling off its rails, led to an unknown degree of excess opacity for 90 hours, according to the report filed with the state.

Holcim spokesman Tom Chizmadia said the upset numbers in Florence reflect the breaking-in of a new plant, built in 2002 on the site of a predecessor half its size. He said the upsets represent 0.2 percent of total operating time.

Colorado upset data shows that in 2005, Holcim's upsets actually accounted for 2 percent of its operating time through November; Cemex's amounted to 0.1 percent. In terms of upset count, Holcim has had fewer this year, with 18 reports filed through Dec. 1. Cemex had 21.

Eric Schaeffer, former head of enforcement at the U.S. Environmental Protection Agency and now director of the Washington, D.C.-based Environmental Integrity Project, said the number of upsets at Cemex's Lyons plant didn't strike him as extreme.

"A typical power plant will run opacity exceedances 3 or 4 percent of the time," many times longer than what Cemex has reported, Schaeffer said.

But upsets sometimes offer hints of a deeper problem.

Upsets as warning signs

Jana Milford, senior scientist with Environmental Defense in Boulder, said upsets represent a compromise within the Clean Air Act.

In exchange for more stringent pollution limits during normal operations, plants are given leeway for unplanned problems.

"But when there are a lot of (upsets), you've got to start worrying about whether there is something significant going on, and about whether peoples' health is being affected," Milford said.

It is a state health department inspector's job to decide whether reported upsets are indeed unpredictable, and "not due to poor maintenance, improper or careless operations, or ... otherwise preventable through the exercise of reasonable care," as the department's Air Pollution Control Division's policy states.

Paul Carr, the state inspector assigned to Cemex's Lyons plant, takes note of upsets such as the one Cemex filed May 24. The event began at 12:29 p.m. May 23 and lasted 17 minutes. The reason for the upset, as Cemex officials stated on a faxed-in upset form: "Exceeded temperature on main baghouse when primary pump to spray tower failed. Backup pump was activated immediately."

Rather than "opacity," which describes the clouds of particulates often reported by the plant's neighbors, this one's pollution description box contained the letters "DF."

DF stands for dioxins and furans, carcinogens that cement kilns can emit in certain circumstances. In Cemex's case, so-called stack tests, which test emissions at varying temperatures, have shown that dioxins form if temperatures at pollution-control equipment intakes are above 517 degrees.

Even at 522 degrees, Cemex's load of dioxins and furans is more than 10,000 times below U.S. Environmental Protection Agency thresholds, said Pamela Milmoe, air and waste coordinator for Boulder County Public Health.

The state's subsequent investigation using Cemex's own data found that the Lyons plant violated the 517-degree temperature limit 72,067 times in 2004 alone, amounting to about 15 percent of its total operating time. Cemex could face civil penalties of up to $15,000 per day.

Cemex told state and county regulators Oct. 20 that the computer system monitoring dioxins and furans had malfunctioned, but other production data showed temperatures to have been below 517 degrees. The investigation is ongoing.

"It's not the individual upsets. It's when they indicate a larger problem," Milmoe said. "It's the morass we're unable to get out of with Cemex."

Environmental watchdogs say industrial companies sometimes exploit upset regulations to avoid shutdowns and make more money. Neil Carman, a former cement-plant inspector for the state of Texas and now clean-air program director for the Lone Star Chapter of the Sierra Club, contends that many upsets are "not legitimate."

"They are preventable if they do their proper maintenance and prevention work, but they don't want to shut the plant down because they're not making money when they shut down," Carman said. "Companies gamble like this all the time."

David Ouimette, manager of the stationary sources program for Colorado's Air Pollution Control Division, said state inspectors watch for such behavior.

"We look for patterns (in upsets), then we seriously question whether it's an unforeseeable breakdown of equipment," Ouimette said.

What's in the air?

Cemex's production upsets comprise a tiny fraction of its operating time. But the combination of the unknown nature of what is billowing into the air during an upset and Cemex's plans to resume tire burning has some residents concerned.

Ouimette said the specific toxins released in an upset are often unknown, particularly when the problem is reported simply as "opacity."

"Opacity is an indicator of a problem," he said. "The problem isn't opacity. It's whatever (the opacity) is made of, and we don't know what that is, generally."

Upsets can blow particulate matter, nitrogen oxides, sulfur dioxides and carbon monoxide out of the kiln without necessarily passing through pollution-control equipment, said Boulder County's Milmoe.

The Sierra Club contends that upsets generally bring higher pollution rates, and that agencies have not monitored the health effects of such emissions, according to Carman, the former inspector with the environmental group's Texas chapter.

"They just take a leap of faith," he said. "It's an issue all across the country and especially in Colorado."

Cemex's plans to burn tires for the first time since 1993 has some locals concerned about air quality. Two federal reports concluded that burned chipped tires posed "no public health hazard" at Cemex. But the agency did not consider emissions during upset conditions.

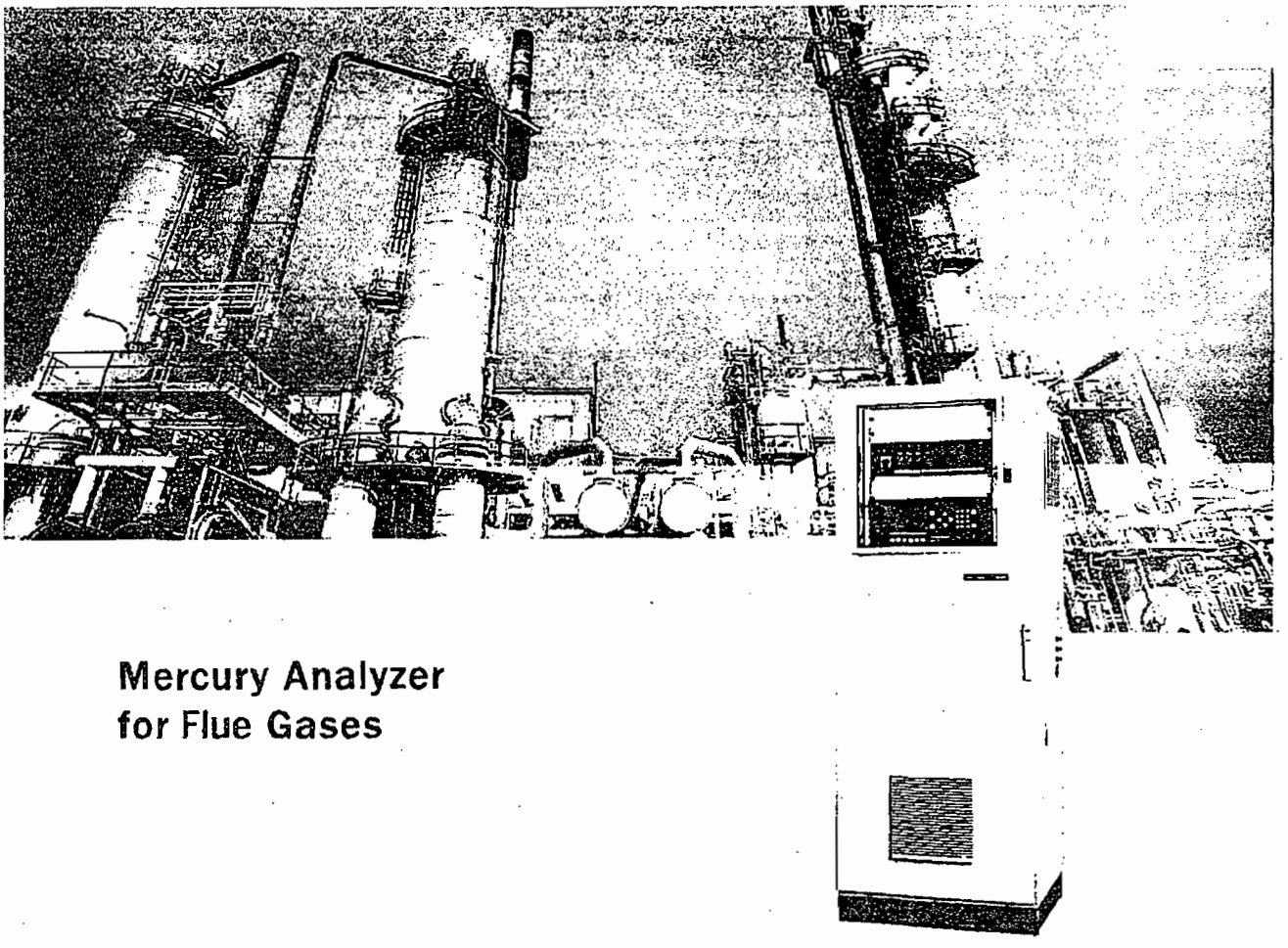
Burning tires as a supplement to coal is a widespread practice, and is already done at Holcim's Florence plant. But tires can produce more heavy metals and other toxins than coal.

Richard Cargill, who lives two miles east of the Lyons plant and leads the St. Vrain Valley Community Watchdogs, a group long critical of Cemex's operating record, opposes tire burning at the plant. He says the federal reports brush off the potential health impacts of upsets while burning tires because upsets are so infrequent.

"But I'm still very curious about what could be released out there if there's an upset when they're burning tires," Cargill said.

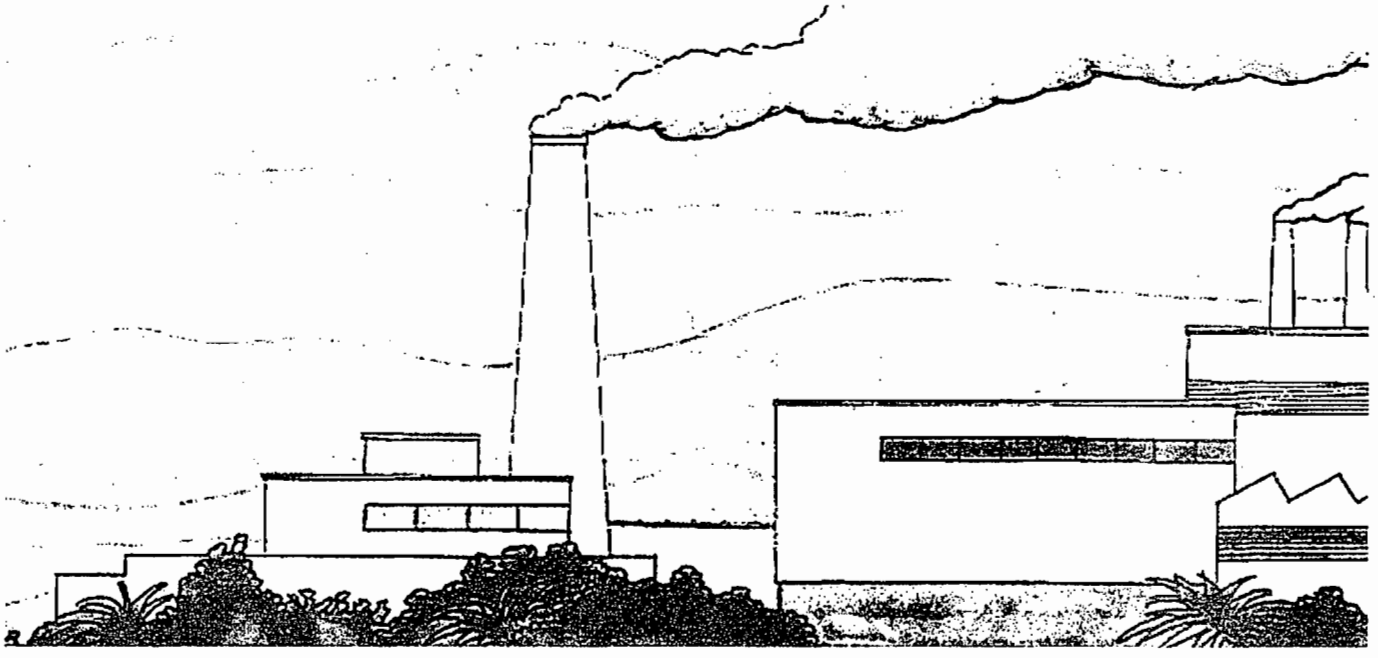
Contact Camera Staff Writer Todd Neff at (303) 473-1327 or nefft@dailycamera.com.

[Back]



Mercury Analyzer
for Flue Gases

Modern Measuring Technology for Today's Requirements



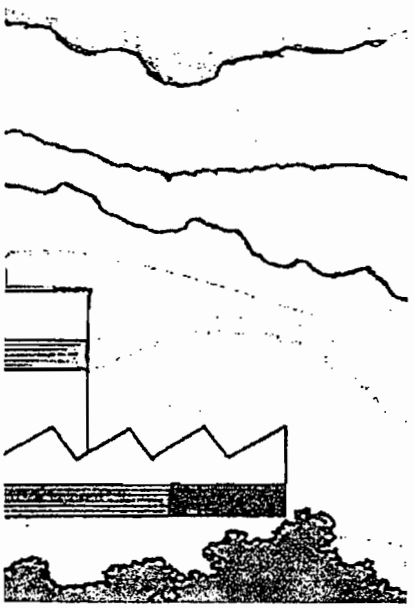
Emission limits for many known pollutants have been reduced. Additional pollutants that have to be monitored are appearing almost daily. SICK, as the world's largest manufacturer of analytical instrumentation, has always been at the forefront of industrial measurement technology.

With the MERCEM system, SICK has introduced a mercury monitoring system onto the market that has been especially designed to meet the latest requirements of emission monitoring technology.

Continuous Mercury Emission Monitoring

Several national regulations stipulate an emission limit of mercury. The MERCEM Emission Monitoring System has been developed to monitor not only this concentration limit but also even smaller measurement ranges. MERCEM combines the advantages of proven SICK system technology with those of modern analytical techniques. In this way, even complicated analytical methods become accessible for continuous industrial emission monitoring.

Reliable Detection of Mercury in Stack Gas



Among pollutant emissions, special regard must be paid to heavy metals because of their high toxicity. This is especially true for highly volatile mercury and its compounds. During combustion processes, such as in refuse incineration plants, mercury is mainly released as elemental mercury as well as mercury compounds. To record the total mercury emissions it is necessary to measure both components. Dust-bound mercury, however, plays only a minor part in the total emission.

Well-tested Reduction Method

To determine the total Hg-emissions in stack gas it is essential to reduce the mercury compounds to elemental mercury.
For this purpose the MERCEM system utilizes the tin(II) chloride reduction technique - well-established for manual measurements.

Low Detection Limits

High detection sensitivities are achieved by means of a preconcentration step following reduction (amalgamation procedure).
By varying the collection period the measurement range or the detection limit can be varied over a wide range to meet individual requirements.

No Interferences

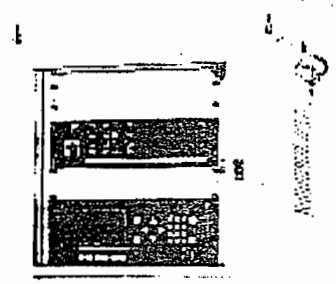
The amalgamation procedure features an additional major advantage, i.e. that the Hg analyzer is never in direct contact with the stack gas. Thus interferences caused by other components in the stack gas are eliminated.

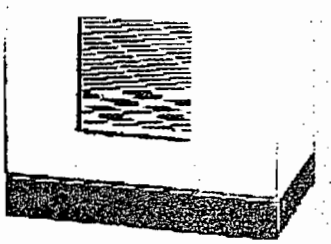
Minimized Memory Effects

Mercury chloride compounds, in particular, can cause strong memory effects during sample collection. MERCEM minimizes these effects by utilizing very high sample gas flowrates and high temperatures within the system components that are in contact with the sample.

Low Acquisition, Operating and Maintenance Costs

When developing the MERCEM, special attention was paid to creating a simple and reliable system. Low chemical consumption and minimal maintenance requirements result in economic operating costs. Simple connection to the proven SICK MCS 100 HW and MCS 100 E HW Multi-Component Emission Monitoring Systems allows MERCEM to be operated without the need for an individual sampling system and consequently reduces the acquisition costs.





System Design

MERCEM comprises a system cabinet containing the sample gas transfer lines, analyzer unit with sample gas preparation assembly, and control unit. The MERCEM system can be used as a stand-alone unit with its own sampling device or it can be combined with an MCS 100 HW or MCS 100 E HW Multicomponent Emission Monitoring System.

Easy Handling and Accessibility

The ACE 100 control unit and the MFU heating controller are integrated as 19" slide-ins into the door of the system cabinet and are accessible via a separate transparent door. Consequently, the system can be operated without opening the system cabinet.
All components inside the cabinet can be easily accessed for maintenance purposes when the front door is open. The reservoir for the reductant solution is located directly behind the front door, making it very easy to replace.

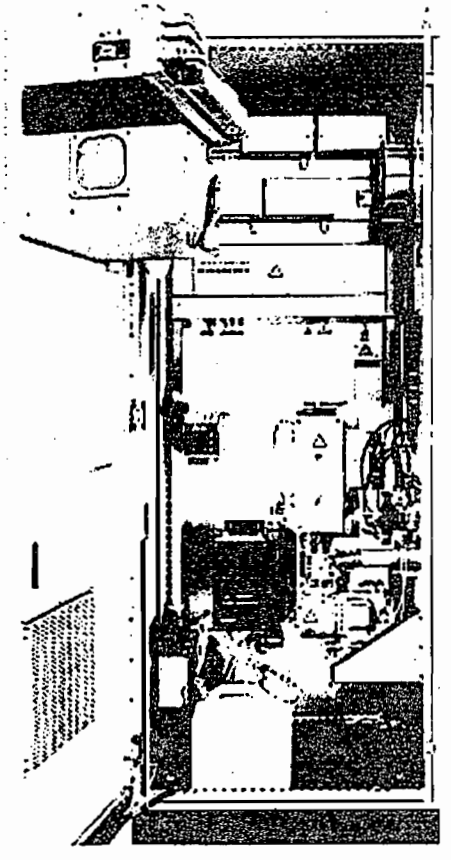
Automatic Operation with Self-monitoring

MERCEM is designed for continuous operation with low maintenance requirements and contains all control units and self-check functions required for automatic operation. The temperature and flowrate of the sampling system are constantly monitored. Large intervals between maintenance are achieved by automatic flushing cycles.

In the event of a malfunction, the sampling system is switched automatically to the standby mode and is purged free of corrosive flue gas by an inert gas stream. Correct functioning of the sample gas preparation system, including monitoring of the filling level of the reductant solution reservoir, and the analyzer are automatically controlled.

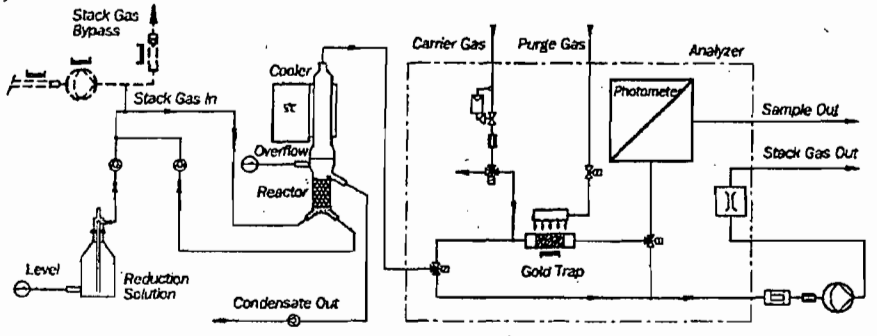
Safety

MERCEM meets the relevant guidelines for accident prevention and electromagnetic emissions.



Inside view of MERCEM

Sample Preparation and Analysis



Flow chart

Gas Flowpath

The gas flowpath consists of a strong bypass stream from which a small partial stream is extracted for sample preparation. The bypass stream is produced by the built-in gas transfer pump, or alternatively via the MCS 100 HW resp. MCS 100 E HW. Memory effects in the sampling system are minimized by the high sample gas flowrate. A second pump extracts the partial stream and feeds it to the reduction step and the amalgamation unit. To avoid condensation and memory effects, all components up to the reduction unit in contact with the gas are electrically heated to a high temperature.

Reduction

The reduction of mercury chloride compounds into elemental mercury is performed by wet-chemical reduction with $SnCl_2$ solution within a reduction vessel. Peristaltic pumps remove excess condensate and feed in fresh reductant solution.

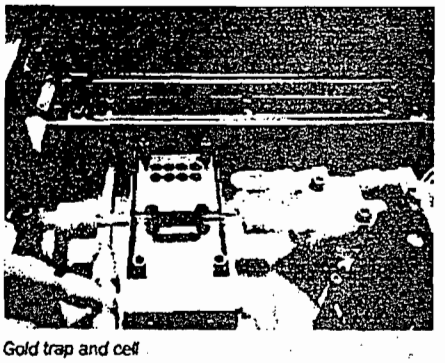
Within a subsequent heat exchanger the remaining condensate is removed and the sample is thermostatted to a constant dew point.
The sampling gas after processing is conducted into the gold trap.

Amalgamation

In the amalgamation procedure a precisely defined volume of the sample gas is conducted through a gold trap, whereby the metallic mercury forms an amalgam with the gold. At the end of this collection phase the gold trap is heated electrically, the mercury is released and transported through the cell of the photometer by an inert carrier gas stream. Following the purging cycle the gold trap is cooled and is then ready for the next collection period.
The sensitivity of the system can be adjusted to the desired measurement range by varying the sample collection time.
By utilizing the amalgamation technique, interferences to the measurement that can be caused by other flue gas components are avoided since the analyzer is only in contact with the carrier gas and the mercury.

Photometric Measurement

The mercury is measured by atomic absorption spectrometry. The single-beam photometer consists of a low pressure Hg-discharge lamp with high stability, a quartz cell, and a photodiode detector; the assembly is thermostatted. High stability of the measurements is ensured by baseline correction automatically performed before any measurement.



Gold trap and cell

The Sample Extraction System

The MERCEM sample extraction system is identical to that of the MCS 100 HW and MCS 100 E HW. It operates most reliably and has been designed for low memory effects. If MERCEM is operated in combination with an MCS 100 HW resp. MCS 100 E HW, no additional sampling system is required. The sampling system feeds the analytical system with a representative sample of the emission - cleaned from dust, but not changed in its chemical composition - with a suction capacity of approx. 1000 l/h. Additionally, calibration and security functions are integrated into the sampling system.

Adapted Probe Tubes

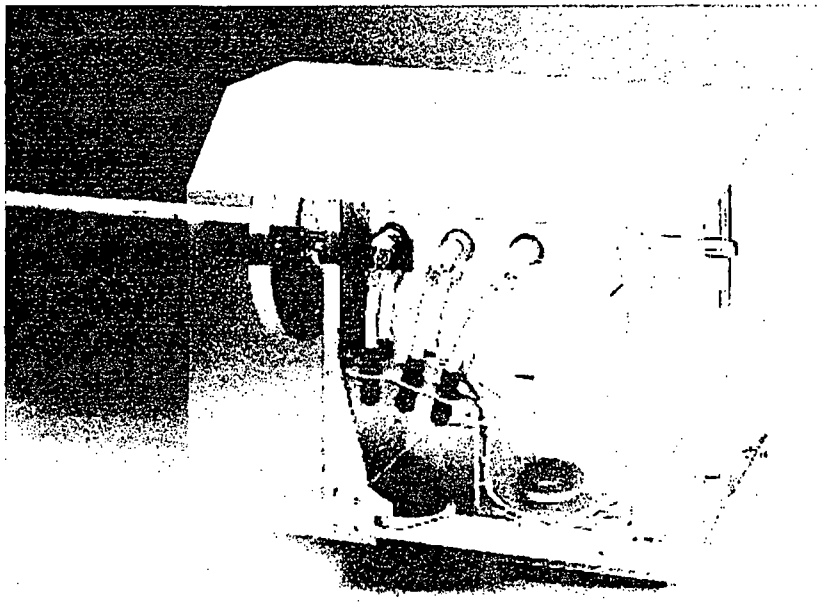
The probe tube is used to extract the flue gas sample from the stack and its length is adapted to the local circumstances. It is available as a heated or unheated version. If the stack gas temperatures exceed the dew point of the acid or the water vapor, probe tube heating may not be required. In this case a sintered metal filter is mounted at the probe tip for dust prefiltering. If the temperature is expected to drop below the condensation point, the sample must already be heated in the stack. For this purpose the electrically heated sampling tube is used. Dust prefiltering can then be carried out in the gas extraction filter. The latter is flanged to the stack and contains an additional fine filter element.

Automatic Backflush with Zero and Test Gas Sampling

Backflushing of the coarse filter as well as sampling of the zero or test gas are performed by means of nonreturn valves inside the gas sampling filter. Using this technique almost the complete sampling system is involved in the calibration, which significantly improves the reliability of mercury detection in the trace range. The connection to the sampling tube is closed by means of a pneumatic valve during the back flushing or the calibration procedures, respectively.

Sampling Line

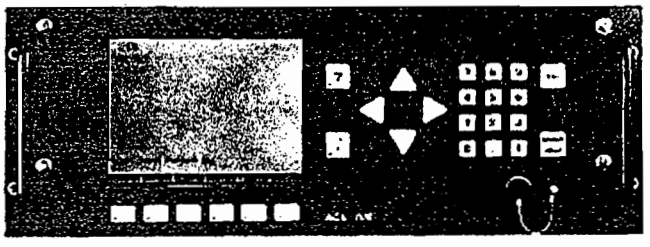
The sample gas flows to the gas transfer pump via the sampling line. Normally, an electrically heated PTFE-line is used for this purpose. Depending on the length, the heating is divided into one or several control circuits. In the event of a malfunction the connection between the probe and the sampling line is closed by a pneumatic valve and the sampling system is purged with inert gas to avoid possible damage by corrosion.



Sample Extraction System

System Control and Interfaces

MERCEM is controlled via the ACE 100 system control unit. The ACE 100 is an industry-PC with a user interface especially tailored to the requirements of industrial measuring technology and contains particularly interference-proof interfaces.



ACE 100 Control Unit

Integrated Data Acquisition System

ACE 100 is an IBM-compatible computer in a 19" slide-in cabinet with illuminated LC display and a special membrane keyboard. A silicon disk with no moving parts is used for mass storage.
ACE 100 controls the measurement sequence, calculates measured values, monitors limit values, and generates the results, warnings and alarms on the internal display and the opto-decoupled interfaces. Keyboard and display are mounted behind a lockable transparent door at the front of the system and are easily accessible. An external keyboard can be easily connected if required.

Easy-to-use Software: 2 Operating Levels with Password Protection

Operation of the MERCEM meets the requirements for modern measuring systems. The software is easy to use, utilizing the cursor and function keys for menu selection. Two operating levels are available for the measurement mode and - password-protected - for changing control functions.

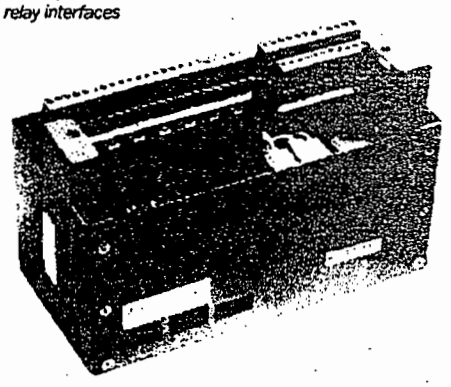
Display of Measured Values and Data Backup

Together with the status reports all measured values are displayed numerically, graphically, or as a concentration curve on the LC display. Via the integrated mass storage unit it is possible to retrace the graphical display as well as the status reports.

Interference-proof Interfaces, Automatic Change of Measurement Range

Data input and output are performed via fiber-optic controlled relay interfaces in the ACE 100. Analog outputs (0/4-20 mA), with automatic switch-over of the measurement range as an option, are generated at the interfaces as well as the status signals. Digital and analog values generated by instruments of other vendors can easily be read in and processed.

Fiber-optic controlled relay interfaces



Technical Data	MERCEM
Dimensions:	2100 mm x 800 mm x 600 mm (HxWxD) (incl. 100 mm base)
Material:	steel sheet
Weight:	approx. 340 kg
Color:	RAL 7032 - grey -
Degree of protection:	IP 54
Ambient temperature:	+5 °C to +40 °C
Ambient humidity:	Up to 80 % (non condensing)
Power supply:	3~230 V +10 % / -15 % / 50 Hz, optional 3~115 V / 60 Hz (1 phase possible)
Power consumption:	
- Control electronics (ACE 100):	max. 360 VA
- Analyzer unit:	max. 2000 VA
- Heated tube:	max. 150 VA/m
- Fine filter:	max. 400 VA
- Heated gas sampling:	max. 350 VA (not necessary in combination with MCS 100 HW or MCS 100 E HW)
Measurement range:	0-100 µg/m³ (smaller ranges on request)
Detection limit:	< 2 % of measurement range
Response time T_{90} :	approx. 180 s.
Cycle time of measurement:	< 180 s.
Zero drift:	< ±2 % / month
Span drift:	< ±2 % / month
Influence of temperature:	< 2 % of measurement range / 10 K
Linearization:	automatic after input of the calibration values
Limits:	two limits freely programmable as normally closed or normally open relay, automatic measurement range selection
Sensitivity control:	optional with Hg permeation system
Flow:	approx. 1000 l/h, analyzer unit: approx. 30 l/h
Auxiliary substances:	$SnCl_2$ reductant solution (consumption approx. 0.1 l/day), reservoir 10 l, inert gas (instrument air or N_2)
Sample point switching:	optional
Signal outputs:	galvanically separated via optocoupler
- Digital:	5 (optional max. 46), normally closed or normally open relays, freely assignable load: AC: max. 3000 VA / 250 V DC: max. 65 W / 230 V
- Analog:	8 (optional 24) 0/4-20 mA, max. resistance 500 Ohm
Interface:	RS232 (V24)
Inputs:	galvanically separated via optocoupler
- Digital:	12 (optional max. 72) freely assignable
- Analog:	6 (optional max. 32) freely assignable
Display:	7,4" monochrome LC Display with 640 x 480 pixel
Keyboard:	numeric membrane keyboard with cursor and function keys, external keyboard attachable
Operation:	2 levels, for user and programmer (password)
Memory:	2 MB (up to 32 MB optional) silicon disk
Standards:	IEC 1010-1 EN 50 081-2:92 (Emission of conducted and radiated noise) EN 50 082-2:92 (Electromagnetic compatibility)
Maintenance interval:	4 weeks
Approval:	lowest measuring range according German TÜV: 0-100 µg/m³ Hg, US EP

SICK MAIHAK GmbH • Analyzers & Process Instrumentation • Nimburger Str. 11 • 79276 Reute • Germany
Phone +49 7641 469-0 • Fax +49 7641 469 11 49 www.sick-maihak.com • E-Mail: info_sick-maihak@sick.de

8009 69 44 01/00 01/00 • Printed in Germany • Subject to change without prior notice

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Lenore Smiley
1801 Fonseca Way
The Village, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Marty Farber ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Marty Farber
C. Date of Delivery 12-22-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3616

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Postage	$
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Ms. Lenore Smiley
1801 Fonseca Way
The Village, Florida 32159

PS Form 3800, January 2001 See Reverse for Instructions

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Ruth E. Brown
504 San Pedro Drive
The Village, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Ruth Brown ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Ruth Brown C. Date of Delivery 12-22-03

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
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4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
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Ms. Ruth E. Brown
504 San Pedro Drive
The Village, Florida 32159

7001 0320 0001 3692 3869

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SENDER: *COMPLETE THIS SECTION*

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Eugenie Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Eugenie Mamarchev ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) | C. Date of Delivery
Eugenie Mamarchev

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0001 3692 3944

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Ms. Eugenie Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

7001 0320 0001 3692 3944

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SENDER: *COMPLETE THIS SECTION*

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Anton and Anke Brok
2054 Hartford Path
Lady Lake, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☒ Agent ☐ Addressee

B. Received by (Printed Name) R. N. de Silva. C. Date of Delivery 12/24/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3661

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7001 0320 0001 3692 3661

Postage	$
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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

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Mr. Anton and Anke Brok
2054 Hartford Path
Lady Lake, Florida 32162

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SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Pauline T. Beier
1900 Peachtree Avenue
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Marvin A. Beier ☐ Agent ☒ Addressee

B. Received by (Printed Name) MARVIN A. BEIER | C. Date of Delivery 12/27/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3555

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7001 0320 0001 3692 3555

Postage	$
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Postmark Here

Ms. Pauline T. Beier
1900 Peachtree Avenue
The Villages, Florida 32162

Sent
Stree
or P
City,

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SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Marvin A. Beier
1900 Peachtree Avenue
The Villages, Florida 32162-7559

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Marvin A. Beier ☐ Agent ☒ Addressee

B. Received by (Printed Name) MARVIN A. BEIER C. Date of Delivery 12/27/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3913

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Restricted Delivery Fee (Endorsement Required)
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Mr. Marvin A. Beier
1900 Peachtree Avenue
The Villages, Florida 32162-7559

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Ivan Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Eugene Mamarchev ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Eugene Mamarchev C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
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7001 0320 0001 3692 3883

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
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Sent To Mr. Ivan Mamarchev
Street, ... or PO E 3560 Idlewood Loop
City, St. The Villages, Florida 32162

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SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. John Koogler, Ph.D., P.E.
Koogler and Associates
Environmental Services
4014 NW 13 St.
Gainesville, FL 32609

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Veronica Sgro ☐ Agent ☐ Addressee

B. Received by (Printed Name) Veronica Sgro
C. Date of Delivery 12/24

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3821

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7001 0320 0001 3692 3821

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

To
Sent
Street, Apt. No.; or PO Box No.
City, State, ZIP+4

Mr. John Koogler, Ph.D., P.E.
Koogler and Associates
Environmental Services
4014 NW 13 St.
Gainesville, FL 32609

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) LORN KERR
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

USPS DEC 27 2005

1. Article Addressed to:

Mr. Lorn and Judy Kerr
Post Office Box 474
Oxford, Florida 34484

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3531

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7001 0320 0001 3692 3531

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

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Mr. Lorn and Judy Kerr
Post Office Box 474
Oxford, Florida 34484

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Everett Hadley
3399 Atwell Avenue
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Everett E. Hadley ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery 12-27-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3562

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U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3562

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Mr. Everett Hadley
3399 Atwell Avenue
The Villages, Florida 32162

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Martin Farber
1801 Fonseca Way
The Villages, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Marty Farber | C. Date of Delivery 12-22-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3890

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U.S. Postal Service
CERTIFIED MAIL RECEIPT
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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

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Mr. Martin Farber
1801 Fonseca Way
The Villages, Florida 32159

7001 0320 0001 3692 3890

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- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Margaret Dwyer
1864 Dalton Drive
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Margaret Dwyer ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* M. Dwyer
C. Date of Delivery 12/22/5

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3856

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Ms. Margaret Dwyer
1864 Dalton Drive
The Villages, Florida 32162

7001 0320 0001 3692 3586

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Cary Cohrs:
Post Office.. Box 1209
Anthony, FL 32617

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Richard E. Moser ☐ Agent ☐ Addressee

B. Received by (Printed Name) RICHARD E. MOSER
C. Date of Delivery 12/22/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3968

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3968

Mr. Cary Cohrs:
Post Office.. Box 1209
Anthony, FL 32617

PS Form 3800, January 2001 See Reverse for Instructions

Best Available Copy

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

H. Callahan
409 S. Timber Trail
Wildwood, Florida 34785

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) H Callahan C. Date of Delivery JAN 0 6 2006

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

COLLINWOOD STATION CLEVELAND, OH 4411[illegible]

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3920

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3920

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

To H. Callahan
Sent 409 S. Timber Trail
Street, Apt. No., or PO Box No. Wildwood, Florida 34785
City, State, ZIP+4

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Ann Cantlin-Elkins
1265 County Road 543A
Sumterville, Florida 33585-5129

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Ann Cantlin-Elkins ☐ Agent ☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery 12/22/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3647

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3647

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Ms. Ann Cantlin-Elkins
1265 County Road 543A
Sumterville, Florida 33585-5129

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Eugenie Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Eugenie Mamarchev ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery
Eugenie Mamarchev

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0001 3692 3876

PS Form 3811, February 2004 Domestic [illegible] 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Ms. Eugenie Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

7001 0320 0001 3692 3876

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. John & Theresa McCormick
749 Willington Way
The Villages, Fl 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X John McCormick ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

DEC 2 2

3. Service Type
X ☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3937

PS Form 3811, February 2

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3937

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Mr. John & Theresa McCormick
749 Willington Way
The Villages, Fl 32162

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

June B. Paser
2124 Barbosa Ct.
Lady Lake, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X June B Paser ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3852

PS Form 3811, February 2004 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3852

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

June B. Paser
2124 Barbosa Ct.
Lady Lake, Florida 32159

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Lawrence H. Paser
2124 Barbosa Court
Village of Santo Domingo
Lady Lake, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Lawrence B Paser ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3593

PS Form 3811, February 2004 Domestic Retu 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3593

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

To
Sent
Street or P
City,

Mr. Lawrence H. Paser
2124 Barbosa Court
Village of Santo Domingo
Lady Lake, Florida 32159

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. John Megan& Louise Racine
3448 County Road 567
Center Hill, Florida 33514-6217

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X J Megan ☐ Agent ☑ Addressee

B. Received by *(Printed Name)* J Megan C. Date of Delivery 12/29/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3791

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3791

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Postmark Here

T Mr. John Megan& Louise Racine
Se 3448 County Road 567
Sti Center Hill, Florida 33514-6217
or
Ci

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Anton and Anke Brok
2054 Hartford Path
Lady Lake, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 1-25-06

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7000 1670 0013 3109 9946

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Mr. Anton and Anke Brok
2054 Hartford Path
Lady Lake, Florida 32162

PS Form 3800, May 2000 See Reverse for Instructions

7000 1670 0013 3109 9946

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Carol Correa
872 Ladson Loop
The Village, FL 32162-3393

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Carol Correa ☐ Agent ☐ Addressee

B. Received by (Printed Name) CAROL CORREA C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0001 3692 3906

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3906

Ms. Carol Correa
872 Ladson Loop
The Village, FL 32162-3393

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Eugenie Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Eugenie Mamarchev ☐ Agent ☐ Addressee

B. Received by (Printed Name) Eugenie Mamarchev C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3944

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3944

Ms. Eugenie Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Ruth E. Brown
504 San Pedro Drive
The Village, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Ruth Brown ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Ruth Brown C. Date of Delivery 12-22-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3869

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3869

Ms. Ruth E. Brown
504 San Pedro Drive
The Village, Florida 32159

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Anton and Anke Brok
2054 Hartford Path
Lady Lake, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☒ Agent ☐ Addressee

B. Received by (Printed Name) R. N. da Silva | C. Date of Delivery 12/24/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3661

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Mr. Anton and Anke Brok
2054 Hartford Path
Lady Lake, Florida 32162

7001 0320 0001 3692 3661

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Pauline T. Beier
1900 Peachtree Avenue
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Marvin A. Beier ☐ Agent ☒ Addressee

B. Received by (Printed Name) MARVIN A. BEIER | C. Date of Delivery 12/27/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3555

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total	

Postmark Here

Sent To Ms. Pauline T. Beier
Street or PO 1900 Peachtree Avenue
City, The Villages, Florida 32162

7001 0320 0001 3692 3555

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Marvin A. Beier
1900 Peachtree Avenue
The Villages, Florida 32162-7559

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Marvin A. Beier ☐ Agent ☒ Addressee

B. Received by (Printed Name) MARVIN A. BEIER C. Date of Delivery 12/27/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3913

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3913

Mr. Marvin A. Beier
1900 Peachtree Avenue
The Villages, Florida 32162-7559

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr, Douglas R. Kinney
1864 Dalton Drive
The Villages, Florida 32162-7613

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Douglas R Kinney ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 1/18/06

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3579

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3579

Mr, Douglas R. Kinney
1864 Dalton Drive
The Villages, Florida 32162-7613

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Lenore Smiley
1801 Fonseca Way
The Village, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Marty Farber
C. Date of Delivery 12-22-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3616

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3616

Ms. Lenore Smiley
1801 Fonseca Way
The Village, Florida 32159

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Joan L. Runyon
1985 Hartford Path
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X A. V. Runyon ☒ Agent ☐ Addressee

B. Received by (Printed Name) Arthur Runyon | C. Date of Delivery 12-31-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3654

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3654

Ms. Joan L. Runyon
1985 Hartford Path
The Villages, Florida 32162

S
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or
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PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Joel Rosenblum
926 Ramos Drive
Lady Lake, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Joel Rosenblum ☑ Agent ☐ Addressee

B. Received by (Printed Name) Joel Rosenblum C. Date of Delivery 12-27-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3548

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3548

To Mr. Joel Rosenblum
Ser 926 Ramos Drive
Stre or F Lady Lake, Florida 32159
City

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. John Megan& Louise Racine
3448 County Road 567
Center Hill, Florida 33514-6217

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X J Megan ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* J Megan C. Date of Delivery 12/29/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3791

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3791

T Mr. John Megan& Louise Racine
Se 3448 County Road 567
Sti Center Hill, Florida 33514-6217
or
Ci

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Lawrence H. Paser
2124 Barbosa Court
Village of Santo Domingo
Lady Lake, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X June B Paser ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0001 3692 3593

PS Form 3811, February 2004 Domestic Retu... 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3593

To
Seni
Stre
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City,

Mr. Lawrence H. Paser
2124 Barbosa Court
Village of Santo Domingo
Lady Lake, Florida 32159

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

June B. Paser
2124 Barbosa Ct.
Lady Lake, Florida 32159

COMPLETE THIS SECTION FOR DELIVERY

A. Signature
X June B Paser ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3852

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3852

Se
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or
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June B. Paser
2124 Barbosa Ct.
Lady Lake, Florida 32159

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. John & Theresa McCormick
749 Willington Way
The Villages, Fl 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X John McCormick ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

DEC 2 2

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0001 3692 3937

PS Form 3811, February 2

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3937

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Mr. John & Theresa McCormick
749 Willington Way
The Villages, Fl 32162

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Eugenie Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Eugenie Mamarchev ☐ Agent ☐ Addressee

B. Received by (Printed Name) Eugenie Mamarchev C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3876

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3876

Ms. Eugenie Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Ann Cantlin-Elkins
1265 County Road 543A
Sumterville, Florida 33585-5129

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Ann Cantlin-Elkins ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery 12/22/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3647

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3647

Ms. Ann Cantlin-Elkins
1265 County Road 543A
Sumterville, Florida 33585-5129

PS Form 3800, January 2001 See Reverse for Instructions

Best Available Copy

NDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

H. Callahan
409 S. Timber Trail
Wildwood, Florida 34785

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X H Callahan ☐ Agent ☐ Addressee

B. Received by (Printed Name) H Callahan C. Date of Delivery JAN 0 6 2006

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

COLLINWOOD STATION CLEVELAND, OH 4411

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3920

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3920

To
Sent
Street or P.
City,

H. Callahan
409 S. Timber Trail
Wildwood, Florida 34785

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Cary Cohrs:
Post Office.. Box 1209
Anthony, FL 32617

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Richard E. Moser ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) RICHARD E. MOSER
C. Date of Delivery 12/22/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3968

PS Form **3811**, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3968

Mr. Cary Cohrs:
Post Office.. Box 1209
Anthony, FL 32617

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Margaret Dwyer
1864 Dalton Drive
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Margaret Dwyer ☐ Agent ☐ Addressee

B. Received by (Printed Name) M. Dwyer

C. Date of Delivery 12/22/5

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3856

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3856

Ms. Margaret Dwyer
1864 Dalton Drive
The Villages, Florida 32162

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Martin Farber
1801 Fonseca Way
The Villages, Florida 32159

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Murty Farber | C. Date of Delivery 12-22-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3890

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

To
Ser
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Cit

Mr. Martin Farber
1801 Fonseca Way
The Villages, Florida 32159

7001 0320 0001 3692 3890

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Everett Hadley
3399 Atwell Avenue
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Everett E. Hadley ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 12-22-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 0320 0001 3692 3562

PS Form **3811**, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3562

Mr. Everett Hadley
3399 Atwell Avenue
The Villages, Florida 32162

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: COMPLE[illegible] ELIVERY

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Lorn and Judy Kerr
Post Office Box 474
Oxford, Florida 34484

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) LORN KERR
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

USPS 34484 DEC 27 2005

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 0320 0001 3692 3531

PS Form 3811, Febr[illegible] 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7001 0320 0001 3692 3531

Mr. Lorn and Judy Kerr
Post Office Box 474
Oxford, Florida 34484

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. John Koogler, Ph.D., P.E.
Koogler and Associates
Environmental Services
4014 NW 13 St.
Gainesville, FL 32609

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Veronica Sgro ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) Veronica Sgro | C. Date of Delivery 12/24

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2. Article Number
(*Transfer from service label*) 7001 0320 0001 3692 3821

PS Form **3811**, Febr... Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0320 0001 3692 3821

OFFICIAL USE

Postage	$	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		

T

Se Mr. John Koogler, Ph.D., P.E.
Koogler and Associates
Str or Environmental Services
Cit 4014 NW 13 St.
Gainesville, FL 32609

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Ivan Mamarchev
3560 Idlewood Loop
The Villages, Florida 32162

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Eugene Mamarchev ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Eugene Mamarchev C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0001 3692 3883

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total I

Postmark Here

Sent To Mr. Ivan Mamarchev
Street, or PO E 3560 Idlewood Loop
City, St The Villages, Florida 32162

7001 0320 0001 3692 3883

PS Form 3800, January 2001 See Reverse for Instructions