FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

April 28, 2000

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. C. David Brown II
Broad and Cassell
390 North Orange Avenue, Suite 1100
Orlando, Florida 32801

Re: Permit AC27-274892(A)

Dear Mr. Brown:

This is in reply to your letter dated April 13 to Mr. Denver Stutler requesting to know the party with whom you can discuss the status of Permit AC27-274892(A).

You stated that your client wishes to expand the manufacturing capacity from 800,000 short tons to 1,000,000 short tons. According to our records, the second Florida Crushed Stone Plant is permitted to operate at the rate of 104 tons per hour of clinker. That is equivalent to 911,040 tons per year, presuming continuous operation at full capacity. Assuming that there is 5 percent gypsum in the final product, the capacity for cement production is 959,000 tons per year. This excludes losses due to downtime and operation at less than full capacity.

A permit application is required to increase production. If emissions increase by certain thresholds, it may be necessary to re-evaluate the pollution control requirements. You may discuss the details with Mr. Al Linero, P.E. of the Bureau of Air Regulation. You may reach Mr. Linero at 850/921-9523.

Sincerely,

Howard L Rhodes

Howard L. Rhodes, Director
Division of Air Resources
Management

HLR/al

Cc: Denver Stutler

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. C. David Brown II
Broad + Cassell
390 N. Orange Ave.
Ste 1100
Orlando, FL 32801

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)*

B. Date of Delivery 5/4/00

C. Signature

X

☑ Agent
☐ Addressee

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 *(Copy from service label)*
Z 341 355 277

PS Form 3811, July 1999 Domestic Return Receipt 102595-99-M-1789

Z 341 355 277

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to C. David Brown II	
Street & Number 390 N Orange Ave. Ste 1100	
Post Office, State, & ZIP Code Orlando FL 32801	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 5/2/00 Permit AC 27-274892(A)	

PS Form **3800**, April 1995

FLORIDA CRUSHED STONE COMPANY

April 6, 1999
FCS990406MMC

RECEIVED

APR 14 1999

BUREAU OF
AIR REGULATION

Mr. Al Linero
Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road, *Twin Towers Office Building*
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

As discussed, we are sending this letter to update your files on the construction activities and schedule related to Kiln #2 at Florida Crushed Stone Company (FCS). As noted in your July 23, 1998 letter to Mr. Ron Aliff of FCS, construction began on February 3, 1997. The following schedule describes activities that have occurred and documents that we have maintained continuous construction as required by 40 CFR 52.21(r)(2). It should be noted that the following information includes estimated activities up to the estimated date of initial operation.

DATE	ACTIVITY
February 3, 1997	Construction Start
December, 1997	Geotechnical Evaluation for Plant Foundations.
January, 1996 through January, 1998	Equipment Purchases and Delivery and Construction Planning
December 22, 1998	Hernando County Industrial Bond Allocation Approval
April, 1999	Permitting and Construction of Kiln #2 Construction Building

I trust the above schedule satisfies your concerns related to our construction activities. Should you require any additional information, please feel free to call me at (352) 799-7881.

Sincerely,

Mel T. McH

Michael T. McHugh
Vice President

cc: J. Heron, BAR

MM/cmp

cc: Ron Aliff
Don Elias

FCS

FLORIDA CRUSHED STONE COMPANY

RECEIVED

APR 08 1999

BUREAU OF
AIR REGULATION

April 5, 1999
FCS990405MMC

Mr. A. A. Linero, P.E.
Division of Air Resources Management, Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Florida Crushed Stone Company (FCS) is hereby notifying the Department of its decision to construct a precalciner kiln in accordance with Air Construction Permit AC27-274892(A). As required by Section I of the aforementioned 1997 permit, FCS is therefore surrendering its earlier 1995 Air Construction Permit (AC27-274892) for a gepol tower kiln.

Sincerely,

Michael T. McHugh

Michael T. McHugh
Vice President

MM/cmp

cc: Ron Aliff
Don Elias

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

July 23, 1998

CERTIFIED MAIL -RETURN RECEIPT REQUESTED

Mr. Ron Aliff
Florida Crushed Stone Company
10311 Cement Plant Road
Brooksville, FL 34601

RE: Current Status of Kiln 2 Construction Permit
AC27-274892(A) and PSD-FL-227(A) issued on February 2, 1997

Dear Mr. Aliff:

We have reviewed the request from Dr. John Koogler, in behalf of your company, regarding the current status of the Kiln 2 construction permit, AC27-274892(A) and PSD-FL-227(A). This permit expires on January 30, 2002. It is our understanding FCS started construction pursuant to 40 CFR 52.21(b)(11) and Rule 62-210.200 F.A.C., Definitions. In accordance with provisions of 40 CFR 52.21(r)(2),* the above permit and the associated BACT analysis are still valid for this project as FCS has met this federal requirement.

Since FCS has in possession two similar permits for the same project (Kiln No. 2 and associated equipment), it is necessary for FCS to surrender one of the permits issued (1995 & 1997). As stated in the 1997 permit (page 3), FCS shall surrender one of the permits to the DEP Bureau's of Air Regulation after the decision to construct the selected kiln (gepol tower or precalciner) has been made or before the construction of the selected kiln takes place.

If you have any questions regarding this matter, please call me or Teresa Heron (Review Engineer) at (850) 921-9529.

Sincerely,

AA Linero 7/23

A. A. Linero, P.E. Administrator
New Source Review Section

AAL/th

cc: Mr. John Koogler, P.E
Mr. Bill Thomas, SWD
Mr. Lawrence Jennings, Hernando Co.

*Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 month or more, or if construction is not completed within a reasonable time. The Administrator may extend the 18 month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date. [40 CFR 52.21(r)(2)].

Fold at line over top of envelope to

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

USPS BROOKSVILLE, FL DOWNTOWN 1998

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to: Mr. Ron Aliff Fla. Crushed Stone Co 10311 Cement Plant Rd Brooksville, Fl 34601	4a. Article Number P 265 659 392 4b. Service Type ☐ Registered ☑ Certified ☐ Express Mail ☐ Insured ☐ Return Receipt for Merchandise ☐ COD 7. Date of Delivery 7-28-98
5. Received By: *(Print Name)*	8. Addressee's Address *(Only if requested and fee is paid)*
6. Signature: *(Addressee or Agent)* X Ron Aliff	

PS Form **3811**, December 1994 102595-97-B-0179 Domestic Return Receipt

Thank you for using Return Receipt Service.

P 265 659 392

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to Ron Aliff	
Street & Number Fla. Crushed Stone	
Post Office, State, & ZIP Code Brooksville, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 7-23-98 PSD-FL-227(A)	

PS Form **3800**, April 1995

KA 307-98-07

MEMORANDUM

To: Teresa Heron, FDEP
Al Linero, FDEP

From: John Koogler

Date: July 21, 1998

Subject: Request for FDEP Letter on Status of Permit
Kiln 2, Florida Crushed Stone
Permit AC27-274892 and PSD-FL-227

This is a follow up to Pradeep Raval's telephone conversation with you yesterday regarding a letter from FDEP confirming the validity of the current construction permit issued to FCS for Kiln 2. Such a letter is requested to satisfy FCS financial officers.

Soon after the permit was issued, construction activities began in February of 1997. The site preparation work, land use permitting, equipment ordering and receiving, placing kiln components and associated equipment on site, etc., has already been accomplished at the cost of several million dollars. Presently, although the construction is not completed, the construction activities are still ongoing.

It is our understanding, based on the provisions of 40 CFR 52.21 (r)(2), that the authorization to construct is valid for the proposed project as construction activities have been ongoing from the time the permit was issued. A prompt letter from FDEP would reassure FCS that the permit, as issued, is still valid.

We appreciate your kind assistance in this matter.

JBK.par

Encl.

c: Ron Aliff, FCS

Mr. Ron Aliff
Florida Crushed Stone Company
10311 Cement Plant Road
Brooksville, FL 34601

Subject: Current Status of Kiln 2 Construction Permit
AC27-274892 and PSD-FL-227

Dear Mr. Aliff:

We have reviewed the request from John Koogler, regarding the current status of the Kiln 2 construction permit, AC27-274892 and PSD-FL-227.

This letter is to confirm that both the above permit, and the associated BACT analysis, are still valid for the Kiln 2 construction project.

If you have any questions, please call me.

Sincerely,

A. L. Linero, P.E.

FINAL DETERMINATION

FLORIDA CRUSHED STONE COMPANY
PORTLAND CEMENT FACILITY No. 2
AC27-274892 (A) and PSD-FL-227(A)
Hernando County

An Intent to Issue an air construction permit for Florida Crushed Stone Company (FCSC) to build a second Portland Cement plant at the existing facility located approximately 3.5 miles Northwest of Brooksville, Hernando County, Florida was distributed on November 12, 1996. The Notice of Intent to Issue was published in the Hernando Today/ Hernando Sunday on November 22, 1996.

Comments in response to the Public Notice period were submitted by Mr. Donald F. Elias, Principal, RTP Environmental Associates, Inc., on behalf of Florida Crushed Stone. Mr. Elias had several comments regarding the BACT determination and the Draft Permit.
The Bureau has considered Mr. Elias' comments and has addressed them as follows:

COMMENT No. 1 AND No. 2

FCS requested an extension of the expiration date of the permits and that these permits be worded to allow construction of either kiln to begin within 18 months of the effective date of this permit.

RESPONSE:

The expiration date of the precalciner kiln permit [AC27-274892 (A) and PSD-FL-227(A)] as well as the gepol tower permit [AC27-274892 and PSD-FL-227] will be extended to January 30, 2002. The Department has already given FCS the authority to construct either a gepol tower or a precalciner kiln. However, a statement to confirm the authority to construct either kiln will be included in this permit (Page 3). FCS shall surrender one of the permits to the Department's Bureau of Air Regulation after the decision to construct the selected kiln has been made and before the construction of the selected kiln will begin.

COMMENT No. 3:

FCS requested that the unconfined particulate matter specific conditions be deleted. The permit application already specifies the materials to be stored and the moisture content that could be used to control unconfined PM. In addition, FCS states that annual visible emission testing is required for minor and fugitives emissions. FCS also states that this facility maintains an ambient monitoring network that includes particulate monitoring as a further check on particulate emissions and impacts.

RESPONSE:

This facility shall comply with Rule 62-296.320 (4) (c) 1. through 3, F.A.C., Unconfined Emissions of Particulate Matter, which states that any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions taken by the facility to control these emissions [Rule 62-296.320 (4) (c) 2., F.A.C]. Therefore, FCS shall provide the Department's Southwest District office with a protocol for the control of unconfined particulate matter (UPM and Fugitive emissions) before obtaining an operating permit.

SPECIFIC CONDITION SECTION II. No. 2.2 will be modified as follows:

FROM:

2.2 <u>Unconfined Emissions of Particulate Matter</u> **[Rule 62-296.320(4)(c), F.A.C.]**

The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emissions.

Reasonable precautions shall include but not be limited to the following:

- All permanent haul roads shall be paved.
- Temporary haul roads shall be watered or treated with chemical dust suppressants at regular intervals.
- Dry materials (moisture content < 14%) shall be stored below grade, in silos, or in enclosed structures.
- Coal stored at or above natural grade shall be compacted, turned and/or watered as necessary to maintain a minimum 8% moisture content in the surface layer, and shall be aligned with the predominant wind direction to minimize wind erosion.
- Abandoned haul roads and other disturbed areas shall be revegetated within 60 days of the date that active service of the roads end.
- All cement products shall be transferred to transport trucks with sealed pneumatic conveying systems that is either a closed system or exhausted through a bag filter.

<u>NOTE</u>: Facilities that cause frequent, valid complaints may be required by the Southwest District office in Tampa to take these or other reasonable precautions. 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.

TO:

2.2 <u>Unconfined Emissions of Particulate Matter</u> [Rule 62-296.320(4)(c), F.A.C.]

(a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.

(b) The following reasonable precautions shall be implemented at the facility:

- **All permanent haul roads and traffic areas at the plant site (with the exception of the coal storage area) shall be paved.**

- **A sweeper truck shall be maintained and operated at the plant to limit dust buildup on paved surfaces in and around the plant site, as well as internal areas of the plant.**
- **A water tanker truck shall be maintained and operated at the plant to water paved surfaces, raw material transfer points and other plant areas during dry meteorological periods as necessary to prevent fugitive emissions. Unpaved haul roads in and around the plant site shall be watered at regular intervals (or, alternately, treated with chemical dust suppressants at regular intervals).**
- **A vacuum truck shall be maintained and operated at the plant to "immediately collect" any spilled cement kiln dust.**
- **Dry materials (moisture content less than 10%) shall be stored below grade, in silos, or in covered structures.**
- **Limestone and gypsum shall be stored in the existing covered A-frame storage structure.**
- **Fly ash shall be charged directly into the storage silo via tank truck.**
- **Coal stored at or above natural grade shall be shaped, compacted, turned and/or watered as necessary to minimize wind erosion.**
- **A water sprinkler system shall be maintained and operated at the coal storage area to wet high traffic areas during hopper charging operations The hopper and coal conveyor network shall be covered. Traffic in the coal storage area is limited to hopper charging operations.**
- **All cement products shall be transferred to transport vehicles with sealed pneumatic conveying systems which are either closed systems or exhausted through bag filters.**
- **All plant equipment operators shall be trained in basic environmental compliance, and shall perform visual inspections of materials before handling. If the visual inspections indicate a lack of excess surface moisture, the materials will be wetted. Such wetting shall continue until the materials can be handled without generating unconfined particulate matter emissions.**

(c) FCS shall comply with applicable provisions of Rule 62-296.320(4)(c), F.A.C.

NOTE: Facilities that cause frequent, valid complaints may be required by the Southwest District office in Tampa to take these or other reasonable precautions. 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.

COMMENT No. 4

FCS suggested that specific condition III. B11. be reworded as indicated in Mr. Elias' letter.

RESPONSE:

The Department agrees with Mr. Elias and will change this condition as follows:

FROM:

Compliance By Continuous Emission Monitoring System (CEMS)

B11. Compliance with the emission limits for NO_x and SO_2 in Table 1-2 shall be demonstrated by the continuous emission monitoring system (CEMS). The CEMS shall calculate and record emission rates in units of pounds of NO_x (and SO_2) per hour as well as pounds NO_x (and SO_2) per ton of clinker. Clinker production rates shall be recorded each hour. The permittee may establish a relationship between material feed rates and production rates of clinker if material feed rates are measured more accurately than clinker production rates and the relationship is accurate within 10%.

After each monitored operating hour, a 24-hour block average shall be calculated for the previous 24 successive monitored operating hours. A monitored operating hour is each hour in which fuel is fired in the unit and at least two emission measurements are recorded at least 15 minutes apart. Data taken during periods of startup, or when fuel is not fired to the unit, or when the CEMS is not calibrated shall be excluded from the 24-hour block average.

For compliance with the emission limit in Table 1-2 the 24-hour rolling average shall not include data from periods of startup. Startup shall not exceed 2 hours without notifying the Department pursuant to Rule 62-210.700 F.A.C. Data recorded during periods of shutdown, malfunction, load change, and continuous operating periods shall be included in the 24-hour rolling average.

To the extent the monitoring system is available to record emissions data, the CEMS shall be operated and shall record data at all operating hours when fuel is fired in the unit, including periods of startup, shutdown, load change, continuous operation and malfunction.

Monitor downtimes, and excess emissions based on 24-hour rolling hour averages, which includes startup emissions, shall be reported on a quarterly basis using the SUMMARY REPORT in 40 CFR 60.7. A detailed report of the cause, duration, magnitude, and corrective action taken or preventative measures adopted for each excess emission occurrence, and a listing of monitor downtime occurrences shall accompany the SUMMARY REPORT when the total duration of excess emissions is 1% or greater or if the monitoring system downtime is 5% or greater of the total monitored operating hours.

Mass emission rates (lb/hr, and lb/ton clinker) shall be calculated based on source specific and fuel specific F factors calculated using 40 CFR 60 Appendix A, Method 19. These F factors shall be recalculated when fuel properties vary significantly from those used in the previously calculated F factors but not less than once per year.

TO:

B.11 Compliance with the emission limits for NO_x and SO_2 in Table 1-2 shall be demonstrated by the continuous emission monitoring system (CEMS). The CEMS shall calculate and record emission rates in units of pounds of NO_x and SO_2 per hour. Clinker production rates shall be recorded **daily**. The permittee may establish a relationship between material feed rates and production rates of clinker if material feed rates are measured more accurately than clinker production rates and the relationship is accurate within 10%.

Every day, the 24-hour average NO_x and SO_2 emission rate for the previous day shall be calculated. Emissions shall be calculated in units of pounds per hour and pounds per ton of clinker. Daily averages are to be calculated as the arithmetic mean of each monitored operating hour. A monitored operating hour is each hour in which fuel is fired in the unit and at least two emission measurements are recorded at least 15 minutes apart. Data taken during periods of startup, or when fuel is not fired to the unit, or when the CEMS is not calibrated shall be excluded from the daily average.

For compliance with the emission limits in Table 1-2, the **daily average shall not include data from periods of startup when no clinker is being produced. However, emissions during startup periods shall not exceed the pound per hour limits in Table 1-2. Data recorded during periods of shutdown, malfunction, load change, and continuous operating periods shall be included in the daily average.**

To the extent the monitoring system is available to record emissions data, the CEMS shall be operated and shall record data at all operating hours when fuel is fired in the unit, including periods of startup, shutdown, load change, continuous operation and malfunction.

Monitor downtimes, and excess emissions based on **daily averages**, which includes startup emissions, shall be reported on a quarterly basis using the SUMMARY REPORT in 40 CFR 60.7. A detailed report of the cause, duration, magnitude, and corrective action taken or preventative measures adopted for each excess emission occurrence, and a listing of monitor downtime occurrences shall accompany the SUMMARY REPORT when the total duration of excess emissions is 1% or greater or if the monitoring system downtime is 5% or greater of the total monitored operating hours.

Mass emission rates (lb/hr, and lb/ton clinker) shall be calculated based on source specific and fuel specific F factors calculated using 40 CFR 60 Appendix A, Method 19. These F factors shall be recalculated when fuel properties vary significantly from those used in the previously calculated F factors but not less than once per year.

COMMENT NO. 5

FCS requested to revise the BACT Beryllium (Be) limit and Table 1-2 Air Pollutants Standards and Terms values [SO_2, H_2SO_4, PM(cooler), VOC and Be] and to add a footnote noting that the permittee has 18 months to achieve the NO_x permit limit.

RESPONSE:

The Department agrees with Mr. Elias' comments. The values in Table 1-2 and the BACT Be limit were changed and the footnote noting that the permittee has 18 months to achieve the NO_x permit limit was added to the Table.

COMMENT No. 6

FCS requested to change the required test method for beryllium from EPA Method 104 to EPA Method 29.

RESPONSE:

The Department agrees with Mr. Elias. The test method for Beryllium will be changed to EPA Method 29 to simplify the initial stack tests procedures and minimize testing costs.

COMMENT NO. 7:

FCS requested that the permit state that visible emissions in excess of 5% opacity are not permit violations, but only require that particulate tests be performed.

RESPONSE:

The Department agrees with Mr. Elias and will add the following clarification to Specific Condition III.C5.

In accordance with Rule 62-297.620(4) F.A.C., minor particulate sources equipped with baghouses with visible emissions which are greater than or equal to 5 percent opacity may result in permittee being required to perform a stack test in accordance with approved methods to verify compliance with the emission limits contained in Table 1-1.

COMMENT No. 8

FCS requested to revise the opacity limit for coal's fugitives emissions to be the same as the other fugitives emissions from this facility.

RESPONSE:

This Specific Condition (III. C10. c.) is an existing specific condition in permits for the Power Plant and Cement Plant No.1. To avoid confusion the reference to the 10% opacity will be deleted from Table 1-1 to reflect only 5/20 percent opacity instead of 5/10/20 percent opacity.
Compliance with the Visible Emissions standards (fugitives and minor sources controlled by baghouses) shall be demonstrated by EPA Method 9.

CONCLUSION

The Department will issue final permit AC27-274892 (A) and PSD-FL-227(A) as proposed except with the changes noted above.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

BROOKSVILLE FL FEB 12 1997 USPS

3. Article Addressed to:
MR. JOSEPH T. PIERMATEO
SR. VICE PRESIDENT
FLORIDA CRUSHED STONE COMPANY
10311 CEMENT PLANT ROAD
Brooksville, FL 34601

4a. Article Number
P 265 659 162

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
2-12-97

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, December 1991 ★U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

P 265 659 162

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to MR. JOSEPH T. PIERMATEO	
Street & Number 10311 CEMENT PLANT ROAD	
Post Office, State, & ZIP Code Brooksville, FL 34601	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 2-10-97 FCS PSD-FL-227(A)	

PS Form **3800**, April 1995

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit

Mr. Joseph T. Piermateo
Sr. Vice President
Florida Crushed Stone Company
10311 Cement Plant Road
Brooksville, Florida 34601

DEP File No.AC27-274892(A)
PSD-FL-227 (A)

Enclosed is the FINAL Permit Number PSD-FL-227(A) and AC27-274892(A) to construct a 2500 tons per day (maximum TPD as clinker) dry process portland cement plant with a preheater/precalciner design pursuant to the 40 CFR 52.21-Prevention of Significant Deterioration (PSD permit) regulations. This permit is issued pursuant to Section 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 14 (fourteen) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

C.H. Fancy
C.H. Fancy, P.E., 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 mailed by U.S. Mail before the close of business on 2-10-97 to the person(s) listed:

Mr. Joseph T. Piermatteo, Florida Crushed Stone Company *
Mr. Brian Beals, EPA
Mr. John Bunyak, NPS
Mr. Buck Oven, DEP
Mr. Bill Thomas, SWD
Mr. Doug Beason, OGC
Mr. Lawrence Jennings, Hernando Co.
Mr. Don Elias, RTP
Mr. Lawrence Curtin, H&K

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kim Fisher 2-10-97
(Clerk) (Date)

DIVISION OF AIR RESOURCES MANAGEMENT
BUREAU OF AIR REGULATION
NEW SOURCE REVIEW SECTION
PHONE 904/488-1344 FAX 904/922-6979
Mail Station # 5505

AIR CONSTRUCTION PERMIT
Portland Cement Plant No. 2
(This permit replaces permit AC27-274892 and PSD-FL-227)

FLORIDA CRUSHED STONE COMPANY

Facility ID No. 0530021
Brooksville, Florida
Hernando County

Permit No. AC 27-274892(A)
PSD-FL-227(A)
PA 82-17

February 6, 1997

FLORIDA CRUSHED STONE COMPANY.
PORTLAND CEMENT PLANT NO. 2
Brooksville, Florida
PSD-FL-227(A) and AC 27-274892(A)
Facility ID No.: 0530021

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Department of Environmental Protection

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PERMITTEE:

Florida Crushed Stone Company
Brooksville Plant
10311 Cement Plant
Brooksville, Florida 34601

Authorized Representative:
Joseph Piermatteo
Senior Vice President

FID No.	0530021
PSD No.	PSD-FL-227(A)
Permit No.	AC 27-274892 (A)
PPS No.	82-17
Expires:	January 30, 2002

LOCATED AT:

Florida Crushed Stone, Company, Brooksville Facility
Project: Portland Cement Manufacturing Plant No. 2 and Associated Equipment
Standard Industrial Classification Code (SIC): 3241
Hernando County, Florida

UTM: Zone 17; 360.0 km E ; 3162.5 km N
Directions: *Approximately 3.5 miles Northwest of Brooksville, Hernando County*

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached appendices and Tables made a part of this permit:

Table 1-1	Allowable Opacity Limits
Table 1-2	Air Pollutants Standards and Terms
Table 2-1	Compliance Requirements
Appendix BD	BACT Determination
Appendix GC	Construction Permit General Conditions

EFFECTIVE DATE:

Howard L. Rhodes

Howard L. Rhodes, Director
Division of Air Resources
Management

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION:

This existing facility consists of one (1) portland cement plant (preheater design) and associated equipment (Cement Plant No.1), a lime manufacturing plant and a 150 MW Power Plant. This permit is for the construction of a second portland cement plant (preheater/precalciner design) and associated equipment. The new plant will be identified as Cement Plant No. 2.

EMISSION UNITS

This permit addresses the following emission units:

EMISSIONS UNIT NO.	SYSTEM	EMISSIONS UNITS DESCRIPTION
031	Raw Materials Processed	Material Handling (Fugitive) Handling and Storage (Fugitive)
025	Raw Mill System	Filter Dust Bin Transport, Raw Meal Transport, Raw Meal Storage, Homogenizing Silos
026	Kiln System	Kiln Feed System Kiln & Cooler Main Stack
027	Clinker Cooler	Kiln & Cooler Main Stack
028	Finish Mill	Gypsum Storage Bin, Clinker Transport, Belt Conveyor, Finish Mill Discharge Vent, Finish Mill Sepal Separator, Clinker Storage Silo and Clinker Bin
029	Cement Handling	Cement Storage Silo A, Cement Storage Silo B, Cement Silo Discharge Hopper A, Cement Silo Discharge Hopper B
030	Coal Handling	Coal Handling and Storage (fugitives) Coal Dust Bin, Coal Mill

REGULATORY CLASSIFICATION

This industry is listed in Table 62-212.400-1 of Chapter 62-212, F.A.C., "Major Facility Categories." Therefore, stack and fugitive emissions of over 100 tons per year of carbon monoxide, volatile organic compounds, sulfur dioxide, nitrogen oxides, or particulate matter characterize the installation as a major facility subject to the requirements of **Rule 62-204.800, F.A.C.**, which incorporates 40 CFR Subpart F, the New Source Performance Standards (NSPS) for Portland Cement Plants. This facility is a Title V source.

SECTION I. FACILITY INFORMATION

PERMIT SCHEDULE:

- 1/21/97 Receipt of the RTP Envronmental Associates most recent letter with comments
- 12/02/96 Proof of Publication received by the Department
- 11/22/96 Notice of Intent published in the Hernando Today/ Hernando Sunday
- 11/12/96 Issued Notice of Intent to issue Permit
- 10/17/96 Application deemed complete

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. The documents listed below are specifically related to this permitting action. These documents are on file with the Department.

Year 1995

1. Application received March 13, 1995.
2. Department's letters dated April 21, memo dated June 16, letter dated August 3, August 10, and October 11, 1995.
3. RTP Environmental Associates letters dated March 21, May 10, May 19, July 11, July 17, August 11, August 22, September 5, September 7, September 12, September 14, and October 24, 1995.
4. EPA's letters dated June 15, and November 2, 1995.
5. Hernando County Planning Department's letter dated April 28, June 5, and August 11, 1995.
6. Technical Evaluation and Preliminary Determination, BACT determination and proposed permit dated October 3, 1995.
7. Construction Permit AC27-274892 and PSD-FL-227 issued on November 17, 1995.

Year 1996

1. Application received September 11, 1996.
2. Department's letter dated October 3, 1996.
3. EPA's letter dated November 1, 1996.
4. RTP Environmental Associates letter dated October 17, December 13, 1996 and January 16, 1997.
5. United States Department of the Interior letter dated October 11, 1996.

Permit AC27-274892 and PSD-FL-227 Issued on 11/17/95
(Expiration Date: January 30, 2002)

FCS is allowed to construct either kiln (gepol tower or precalciner kiln). FCS shall surrender one of the permits to the Department's Bureau of Air Regulation after the decision to construct the selected kiln has been made or before the construction of the selected kiln will take place.

SECTION II. EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

1.0 ADMINISTRATIVE

1.1 Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department of Environmental Protection (DEP) Southwest District Air Resources Program Permitting Section located at 3804 Coconut Palm Drive, Tampa, Florida 33619-8218, and phone number (813)744-6100. All applications for permits to construct or modify an emission unit(s) subject to the Prevention of Significant Deterioration requirements should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP) located at 2600 Blairstone Road, Tallahassee, Florida 32399-2400 and phone number (904)488-1344.

1.2 General Conditions: The owner and operator is subject to and shall be aware of and operate under, the attached General Permit Conditions G.1 through G.15 listed in *Appendix GC* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. **[Rule 62-4.160, F.A.C.]**

1.3 Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.

1.4 Forms and Application Procedures: 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. **[Rule 62-210.900, F.A.C.]**

1.5 Expiration: This air construction permit shall expire on January 30, 2002. **[Rule 62-210.300(1), F.A.C.].** The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Southwest District office of any delays in completion of the project which would affect the startup day by more than 90 days. **[Rule 62-4.090, F.A.C]**

1.6 Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213 F.A.C., must be submitted to the DEP's Southwest District office. **[Chapter 62-213, F.A.C.]**

1.7 Applicable Regulations: Unless otherwise indicated, the construction and operation of Cement Plant No. 2 and associated equipment shall be in accordance with the capacities and specifications stated in the application. This facility is subject to all applicable provisions of Chapter 403, F.S and Florida Administrative Code Chapters 62-4; 62-103; 62-204, 62-210, 62-212, 62-213, 62-296, 62-297; and the Code of Federal Regulations Section 40, Part 60, Subpart A, Appendix A and Appendix B (1995 version). Specifically, this facility is subject to the New Source Performance Standards (NSPS) for Portland Cement Plants identified by the Code of Federal Regulations Section 40, Part 60, Subpart F, and incorporated by reference in Florida Administrative Code Rule 62-204.800. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. **[Rule 62-210.300, F.A.C.]**

SECTION II. EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

2.0 EMISSION LIMITING STANDARDS

2.1 General Visible Emissions Standard: **[Rule 62-296-320(4)(b)]** Unless otherwise specified by rule or permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere any air pollutants from new, or existing emissions units, the opacity of which is equal to:

- Visible emissions of all minor sources controlled by baghouses shall not exceed 5% opacity (BACT determination).
- Visible emissions from PM fugitive sources shall not exceed 10% opacity (BACT determination).

2.2 Unconfined Emissions of Particulate Matter **[Rule 62-296.320(4)(c), F.A.C.]**

(a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.

(b) The following reasonable precautions shall be implemented at the facility:

- All permanent haul roads and traffic areas at the plant site (with the exception of the coal storage area) shall be paved.
- A sweeper truck shall be maintained and operated at the plant to limit dust buildup on paved surfaces in and around the plant site, as well as internal areas of the plant.
- A water tanker truck shall be maintained and operated at the plant to water paved surfaces, raw material transfer points and other plant areas during dry meteorological periods as necessary to prevent fugitive emissions. Unpaved haul roads in and around the plant site shall be watered at regular intervals (or, alternately, treated with chemical dust suppressants at regular intervals).
- A vacuum truck shall be maintained and operated at the plant to "immediately collect" any spilled cement kiln dust.
- Dry materials (moisture content less than 10%) shall be stored below grade, in silos, or in covered structures.
- Limestone and gypsum shall be stored in the existing covered A-frame storage structure.
- Fly ash shall be charged directly into the storage silo via tank truck.
- Coal stored at or above natural grade shall be shaped, compacted, turned and/or watered as necessary to minimize wind erosion.
- A water sprinkler system shall be maintained and operated at the coal storage area to wet high traffic areas during hopper charging operations The hopper and coal conveyor network shall be covered. Traffic in the coal storage area is limited to hopper charging operations.
- All cement products shall be transferred to transport vehicles with sealed pneumatic conveying systems which are either closed systems or exhausted through bag filters.

- All plant equipment operators shall be trained in basic environmental compliance, and shall perform visual inspections of materials before handling. If the visual inspections indicate a lack of excess surface moisture, the materials shall be wetted. Such wetting will continue until the materials can be handled without generating unconfined particulate matter emissions.

(c) FCS shall comply with applicable provisions of Rule 62-296.320(4)(c), F.A.C.

NOTE: Facilities that cause frequent, valid complaints may be required by the Southwest District office in Tampa to take these or other reasonable precautions. 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.

2.3 General Pollutant Emission Limiting Standards: **[Rule 62-296.320, F.A.C.]**

(a) The owner or operator shall not 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.

(b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

NOTE: An objectionable odor is defined as 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. [F.A.C. 62-210.200(198)]

3.0 OPERATION AND MAINTENANCE

3.1 Changes/Modifications: The owner or operator shall submit to the Department of Environmental Protection, Bureau of Air Regulation and/or the Southwest District office in Tampa, for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increase in hours of operation; equipment capacities; or any change which would result in an increase in potential/actual emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. FDEP will provide a clear point of entry for Hernando County and any other substantially-affected parties to challenge any of FDEP's proposed determinations in this regard. *Routine maintenance of equipment will not constitute a modification of this permit.* **[Rule 62-4.030, 62-210.300 and 62-4.070(3), F.A.C.]**

3.2 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 owner or operator shall notify the Southwest District office in Tampa as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the 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 and the regulations. **[Rule 62-4.130, F.A.C.]**

3.3 Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. **[Rules 62-210.650, F.A.C.]**

3.4 Excess Emissions Requirements **[Rule 62-210.700, F.A.C.]**

(a) Excess emissions resulting from start-up, shutdown or malfunction of these emissions units 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 Southwest District office for a longer duration. **[Rule 62-210.700(1), F.A.C.]**

(b) Excess emissions that are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited. **[Rule 62-210.700(4), F.A.C.]**

(c) In case of excess emissions resulting from malfunctions, the owner or operator shall notify the Air Pollution Control Section of the Southwest District office within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the problem; and the corrective actions being taken to prevent recurrence. **[Rule 62-210.700(6), F.A.C.]**

4.0 MONITORING OF OPERATIONS

4.1 Determination of Process Variables

(a) The permitee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. **[Rule 62-297.310(5), F.A.C]**

5.0 TEST REQUIREMENTS

5.1 Test Performance Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after initial startup and annually thereafter, the owner or operator

SECTION II. EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

5.1 Test Performance Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after initial startup and annually thereafter, the owner or operator of this facility shall conduct performance test(s) pursuant to 40 CFR 60.8, Subpart A, General Provisions, 40 CFR 60, Appendix A and 40 CFR 51, Appendix M. No other test method shall be used unless approval from the Department has been received in writing. Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emission unit(s) operating at permitted capacity pursuant to Rule 62-297.310(2). F.A.C. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C.]**

5.2 Test Procedures and Test Reports shall meet all applicable requirements of the Florida Administrative Code Chapter 62-297. **[Rule 62-297.310, F.A.C.]**

5.3 Test Notification: The owner or operator shall notify the Southwest District office in Tampa in writing at least *30 days* (initial) and *15 days* (annual) prior to conducting compliance tests. The notification shall include the date of test, time and place of each test, and the test contact person who will be responsible for coordinating and conducting such test for the owner or operator. **[Rule 62-297.310, F.A.C.; 40 CFR 60.7 and 40 CFR 60.8]**

5.4 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 Rule 62-204, 62-210, 62 -212, 62-296 and 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Southwest District office in Tampa. **[Rule 62-297.310(7)(b), F.A.C.]**

5.5 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with **Rule 62-297.310(6), F.A.C.**.

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

6.0 REPORTS AND RECORDS

6.1 Duration: All reports and records required by this permit shall be kept for at least (5) years from the date the information was recorded. **[Rule 62-4.160(14)(b), F.A.C.]**

6.2 Emission Compliance Stack Test Reports:

SECTION II. EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

(a) A test report indicating the results of the required compliance tests shall be filed with the Southwest District office in Tampa as soon as practical, but no later than 45 days after the last sampling run is completed. **[Rule 62-297.310(8), F.A.C.]**

(b) The report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in **Rule 62-297.310(8), F.A.C.**

6.3 Excess Emissions Report: If excess emissions occur, the owner or operator shall notify the Air Section of the Southwest District office within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. **[Rules 62-4.130 and 62-210.700(6), F.A.C.]**

6.4 Annual Operating Report for Air Pollutant Emitting Facility: Before March 1st of each year, the owner or operator shall submit to the Department this required report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year. **[Rule 62-210.370(3), F.A.C.]**

7.0 OTHER REQUIREMENTS

7.1 Waste Disposal: The owner or operator shall treat, store, and dispose of all liquid, solid, and hazardous wastes in accordance with all applicable Federal, State, and Local regulations. This air pollution permit does not preclude the permittee from securing any other types of required permits, licenses, or certifications.

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. COMMON CONDITIONS: 40 CFR 60 SUBPART A, GENERAL PROVISIONS

EMISSION UNITS

This permit addresses the following emission units.

EMISSIONS UNIT NO.	SYSTEM	EMISSIONS UNITS DESCRIPTION
031	Raw Materials Processed	Material Handling (Fugitive) Handling and Storage (Fugitive)
025	Raw Mill System	Filter Dust Bin Transport, Raw Meal Transport, Raw Meal Storage, Homogenizing Silos
026	Kiln System	Kiln Feed System Kiln & Cooler Main Stack
027	Clinker Cooler	Kiln & Cooler Main Stack
028	Finish Mill	Gypsum Storage Bin, Clinker Transport, Belt Conveyor, Finish Mill Discharge Vent, Finish Mill Sepal Separator, Clinker Storage Silo and Clinker Bin
029	Cement Handling	Cement Storage Silo A, Cement Storage Silo B, Cement Silo Discharge Hopper A, Cement Silo Discharge Hopper B
030	Coal Handling	Coal Handling and Storage (Fugitives) Coal Dust Bin, Coal Mill.

These emission units shall comply with all applicable requirements of 40 CFR 60, General Provisions, Subpart A.

A1. [40 CFR 60.7, Notification and record keeping]
A2. [40 CFR 60.8, Performance tests]
A3. [40 CFR 60.11, Compliance with standards and maintenance requirements]
A4. [40 CFR 60.12, Circumvention]
A5. [40 CFR 60.13, Monitoring requirements]
A6. [40 CFR 60.19, General notification and reporting requirements]

SUBSECTION B. SPECIFIC CONDITIONS:

The following Specific Conditions apply to the following emission units:

EMISSION UNIT NO.	SYSTEM	EMISSION UNIT DESCRIPTION
026	Kiln System	Kiln No. 2, preheater, precalciner, clinker cooler, dryer, raw mill. Kiln & Cooler Main Stack : Baghouse 2E-40
027	Clinker Cooler	Kiln & Cooler Main Stack : Baghouse 2E-40

These emission units shall comply with all applicable provisions of the 40 CFR 60 New Source Performance Standards for Portland Cement Plants, Subpart F **[Rule 62-204.800, F.A.C].**

EMISSION LIMITATIONS

B1. The maximum allowable emission rates for the No. 2 kiln, clinker cooler, raw mill, shaft dryer heater and preheater/precalciner shall not exceed the limits listed in Table 1-2. Air Pollutant Standards and Terms (attached). **[Rule 62-210.200(198) and 62-212.400, F.A.C.]**

B2. In order to minimize excess emissions during startup/shutdown/malfunction this emission units shall adhere to best operational practices. **[Rule 62-210.700, F.A.C. and 40 CFR 60.7]**

OPERATIONAL LIMITATIONS

B3. These emission units are allowed to operate continuously (8760 hours/year) **[Rule 62-210.200(223), F.A.C.]** Definitions-Potential to emit (PTE).

B4. *PROCESS OPERATING RATES*

The No. 2 kiln clinker production rate shall not exceed 104.2 tons per hour (TPH), 2500 tons per day (TPD) and 912,500 tons per year (TPY) based upon 8,760 hours of operation per year. The permitted maximum preheater feed is 173.2 TPH, which is equivalent to a maximum kiln feed rate of 159.4 TPH. **[Rule 62-210.200(223), F.A.C.]**

B5. *FUEL COMBUSTION*

(1) Fuels fired in No. 2 kiln and precalciner shall not exceed a total heat input rate of 325 MMBtu/hr and shall consist <u>only</u> of:

a. Coal and whole tires, tire derived fuel (shredded tires), and natural gas for normal operation.

b. Natural gas, all grades (meeting 1.5% sulfur limit) of virgin fuel oil, and/or blends (meeting 1.5% sulfur limit) of virgin fuel oil and on-spec used oils for startup.

c. Fuels fired in the shaft dryer heater shall not exceed a total input of 30 MMBtu/hr and shall consist only of all grades of virgin fuel oil (meeting 1.5% sulfur limit) for startup and normal operation.

COAL

(2) The coal usage rate shall not exceed 13.8 TPH or 120,888 TPY based on continuous operation.

TIRES

(3) Whole tires and tire derived fuel may be fed continuously at the kiln inlet at the base of the precalciner at a rate not to exceed 48.75 MMBtu/hr (15% of total kiln and precalciner fuel input) or 1.44 TPH and 11,952 tons per year based on 8300 hours per year.

(4) Before initiating tire firing, the gases exiting the kiln shall reach a minimum temperature of 1400 degrees F for one hour and the oxygen level in the kiln, as measured at the cement plant induced draft fan, shall reach at least 3 percent (1-hour average). Upon reaching steady state conditions, and within 6 hours, gases exiting the kiln shall be maintained at an outlet temperature of at least 1750 degrees F.

FUEL OIL

(5) The sulfur content of the fuel oil blend shall not exceed 1.5% by weight. The constituents and properties of the on-spec used oil shall comply with the following allowable concentration levels, as stipulated and defined in 40 CFR 266.40 (July 1, 1992 version), which is adopted by reference in **Rule 62-730.181, Florida Administrative Code (F.A.C.)**:

Constituent/Property	Allowable Concentration
Cadmium	2 ppm maximum
Arsenic	5 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash Point	140 ° F minimum
Polychlorinated	Less than 2 ppm
Byphenyls (PCBs)	

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

(6) On-spec used oil to be blended and burned at this facility shall not be a hazardous waste as defined by Rule 62-730.030, F.A.C., or 40 CFR Part 261 (July 1, 1992 version). It shall not include fuels or blended fuels consisting in whole or in part of hazardous waste or which include mixture of any solid waste generated from the treatment, storage, or disposal of hazardous waste. The on-spec used oil shall be burned in compliance with Section 403.769(3), Florida Statutes.

(7) The on-spec used oil to be blended with the unused fuel oil in the cement kiln fuel storage tank shall be obtained only from the used oil storage tanks located at the FCS Gregg Mine and CPL Plant. The used oil sample from Specific Condition No. B5(5) and B22 shall be analyzed for the following constituent/property, associated unit, and using the test methods indicated:

Constituent/Property	Unit	Test Method
Cadmium	ppm	EPA SW-846(6010)
Arsenic	ppm	EPA SW-846(6010)
Chromium	ppm	EPA SW-846(6010)
Lead	ppm	EPA SW-846(6010)
Total Halogens	ppm	EPA SW-846(9252)
Sulfur	percent	ASTM D129 or ASTM D1552
Flash Point	degree F	EPA SW-846(1010)
Heat of Combustion	Btu/gal	ASTM D240
Density	lbs/gal	
Polychlorinated Byphenyls		
(PCB's)	ppm	

NOTE: Other test methods may be used only after receiving written prior approval from the Department.

(8) The maximum on-specification used oil concentration in the final storage tank blend of on-specification used oil and purchased virgin oil shall not exceed 15 percent by volume.

B6. Any other operating parameters (including control equipment operating parameters) established during compliance testing and/or inspection that will confirm the proper operation of each emission unit shall be included in the operating permit **[Rule 62-297.310, F.A.C. and 62-4.070(3), F.A.C.]**

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

MONITORING OF OPERATIONS

B7. The owner or operator shall record the daily production and the preheater-kiln system feed rate. **[Rule 62-204.800, F.A.C., 40 CFR 60.63(a)]**

B8. The owner or operator shall install, calibrate, maintain, and operate in accordance with 40 CFR 60.13 a *continuous opacity monitoring system* to measure the opacity of emissions from the cement kiln and clinker cooler control device stack. **[Rule 62-204.800, F.A.C., 40 CFR 60.63(b)]**

B9. Continuous process monitors shall be installed for CO or O_2 to insure proper combustion practices and for use in determining plant operating parameters to optimize emissions of CO, NO_x, and SO_2. **[Rule 62-212.400(5), and 62-4.070(3) F.A.C.]**

B10. Continuous monitoring equipment shall also be installed, calibrated, maintained, operated, and used to determine compliance for NO_x and SO_2. Continuous emission monitors shall be installed and certified, before the initial performance test, and operated in compliance with 40 CFR 60, Appendix F, Quality Assurance Procedures (1994 version) or other Department approved QA plan; 40 CFR 60, Appendix B, Performance Specification 1, 2, and 3 (1994 version). **[Rule 62-204.800, F.A.C.]**

Compliance By Continuous Emission Monitoring System (CEMS)

B.11 Compliance with the emission limits for NO_x and SO_2 in Table 1-2 shall be demonstrated by the continuous emission monitoring system (CEMS). The CEMS shall calculate and record emission rates in units of pounds of NOx and SO_2 per hour. Clinker production rates shall be recorded daily. The permittee may establish a relationship between material feed rates and production rates of clinker if material feed rates are measured more accurately than clinker production rates and the relationship is accurate within 10%.

Every day, the 24-hour average NOx and SO2 emission rate for the previous day shall be calculated. Emissions shall be calculated in units of pounds per hour and pounds per ton of clinker. Daily averages are to be calculated as the arithmetic mean of each monitored operating hour. A monitored operating hour is each hour in which fuel is fired in the unit and at least two emission measurements are recorded at least 15 minutes apart. Data taken during periods of startup, or when fuel is not fired to the unit, or when the CEMS is not calibrated shall be excluded from the daily average.

For compliance with the emission limits in Table 1-2, the daily average shall not include data from periods of startup when no clinker is being produced. However, emissions during startup periods shall not exceed the pound per hour limits in Table 1-2. Data recorded during periods of shutdown, malfunction, load change, and continuous operating periods shall be included in the daily average.

To the extent the monitoring system is available to record emissions data, the CEMS shall be operated and shall record data at all operating hours when fuel is fired in the unit, including periods of startup, shutdown, load change, continuous operation and malfunction.
Monitor downtimes and excess emissions based on daily averages, which include startup emissions, shall be reported on a quarterly basis using the SUMMARY REPORT in 40 CFR 60.7. A detailed report of the cause, duration, magnitude, and corrective action taken or preventative measures adopted for each excess emission occurrence, and a listing of monitor downtime occurrences shall accompany the SUMMARY REPORT when the total duration of excess emissions is 1% or greater or if the monitoring system downtime is 5% or greater of the total monitored operating hours.

Mass emission rates (lb/hr, and lb/ton clinker) shall be calculated based on source specific and fuel specific F factors calculated using 40 CFR 60 Appendix A, Method 19. These F factors shall be recalculated when fuel properties vary significantly from those used in the previously calculated F factors but not less than once per year.

B12. The monitoring devices shall meet the applicable requirements of Chapter 62-204, F.A.C., 40 CFR 60, Appendix F, and 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) Notification Requirements. Data on monitoring equipment specifications, manufacturer, type calibration and maintenance requirements, and the proposed location of each monitor shall be provided to the Department's Southwest District office for review at least 90 days prior to installation of a new CEMS. **[Rule 62-204.800, F.A.C.]**

TEST METHODS AND PROCEDURES

B13. Compliance with the allowable emission limiting standards listed in Table 1-2 shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A (1994 version) and 40 CFR 61 Appendix B (1994 version) adopted by reference in Chapter 62-204, F.A.C.

Method 5 Determination of Particulate Matter Emissions from Stationary Sources (I) and (A).
Method 8 Determination of Sulfuric Acid Mist from Stationary Sources (I).
Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 10 Determination of Carbon Monoxide Emissions from Stationary Sources (I) and (A).
Method 25 Determination of Volatile Organic Compound Emissions from Stationary Sources (I).
Method 29 Determination of Metals Emissions from Stationary Sources (I).

Emission testing shall be performed at the No. 2 kiln/cooler main stack (baghouse 2E-40) during a period when the No. 2 kiln precalciner, cooler, shaft dryer/heater, raw mill and preheater are operating simultaneously and under normal operating conditions. The measured emission rates shall be the combined rates from the kiln and clinker cooler determined at the stack. EPA reference methods for sampling pollutants shall consist of the average of 3 consecutive test runs, each of one hour duration.
These emission units (026 and 027) shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Test Requirements and 40 CFR 60.8. Performance Tests. Table 2-1, Compliance Requirements (attached) also lists the EPA methods.

Testing of emissions shall be conducted with the emission unit operating at permitted capacity (85% coal and 15% tires). Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the unit may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation shall be limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C., and 40 CFR 60 Appendix A and 40 CFR 60.8, Subpart A].**

B14. The visible emissions test shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur **[40 CFR 60.11 and Rule 62-297.310 (7), F.A.C.].**

B15. Compliance with the particulate matter standard contained in Table 1-2 (attached) shall be determined using EPA Method 5. The emission rate (E) of particulate matter shall be computed for each run using the following equation:

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

where:

E = emission rate of particulate matter, kg/metric ton (lb/ton) of kiln feed
c_s = concentration of particulate matter, g/dscm (g/dscf)
Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr)
P = total kiln feed (dry basis) rate, metric ton/hr (ton/hr)
K = conversion factor, 1000 g/kg (453.6 g/lb)

B16. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30.0 dscf) for the kiln and at least 60 minutes and 1.15 dscm (40.6 dscf) for the clinker cooler. **[Rules 62-204.800 and 62-297.401, F.A.C. 40 CFR 60.64(b)(1) - (3)].**

B17. Suitable methods shall be used to determine the kiln feed rate (P), except fuels, for each run. Material balance over the production system shall be used to confirm the feed rate **[40 CFR 60.64(3)].**

B18. Operating procedures shall include good combustion practices and proper training of all operators and supervisors. The good combustion practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. **[Rule 62-4.070(3), F.A.C.].**

RECORDKEEPING AND REPORTING REQUIREMENTS

B19. The owner or operator shall submit reports of excess emissions based upon data from the continuous opacity monitoring system. Periods of excess emissions that shall be reported are defined as all 6 minute periods during which the average opacity exceeds that allowed in the BACT determination. The content of these reports must comply with the requirements in 40 CFR 60.7(d). Such reports shall be submitted quarterly pursuant to 40 CFR 60.7 (c). **[Rule 62-204.800, F.A.C.; 40 CFR 60.63(d), 60.65(a) and 40 CFR 60.7].**

B20. In order to document compliance with Specific Condition No. B5(3) TIRES:

a. A log shall be established and maintained for the hours of operation using tires as supplemental fuels. The log shall include the daily tire usage (hours) as supplemental fuel at the facility, a monthly running total of the tire usage (hours), and a cumulative 12 month running total (hours), to ensure that the annual limit is not exceeded. The log shall be maintained on file for at least five (5) years and shall be made available to the Department upon request.

b. A log that includes the date of all tire deliveries to the facility, and the total quantity (nearest 0.1 tons) of tires received.

c. A tire usage-control system shall be installed to assure that the tire usage as supplemental fuel at the facility does not exceed the maximum of 15% of the total Btu heat input to the No. 2 kiln and precalciner or 1.44 tons per hour. The control system shall include a verification method and a log that insures and documents that the tires usage and heat input limits are not exceeded.

d. A log for the utilization rate (tons per hour) of tires. The utilization rate of tires as supplemental fuel shall be determined by a continuous weighing method and shall be recorded.

e. The logs shall be maintained on file for at least five (5) years and shall be made available to the Department upon request.

FCS shall record, as a minimum, the daily dry feed rate into the No. 2 kiln (TPH), and the clinker production rate. The above records shall be retained for a period of five (5) years and made available to the Department upon request.

B21. In order to document compliance with Specific Condition No. B5(2) COAL:

A coal usage control system shall be established to assure that the coal usage does not exceed a maximum of 13.8 TPH.

B22. In order to document compliance with Specific Conditions No. B5(5) through B5(8) FUEL OILS, the following used oil control system shall be used, as a minimum:

a. Record the transfer of used oil and virgin oil to the blend tanks (dates and gallons).

b. Record the final blend quantities of on-spec used oil and virgin oil (gallons)

c. Calculate and record the final percentage of on-spec used oil in the tank blend of on-spec used oil and virgin oil, and verify that the percentage does not exceed 15.0 percent, by volume.

These records shall be maintained on file for at least five (5) years and shall be made available to the Department upon request. **[Rule 62-4.070(3), F.A.C. and FCS letter on Used Oil Sampling].**

B23. Recordkeeping requirement when burning on-spec used oil shall be in accordance with 40 CFR 266.43 (b) and (6) (July 1, 1992 version). The results of each sample analysis shall be submitted to the Department's Southwest District office and the Hernando County Planning offices within 30-days after a sample is taken. The dates and quantities of on-spec purchased fuel oil transferred to the facility storage tank shall be reported quarterly (i.e., Jan-Mar, April-June, July-Sept, and Oct-Dec). The report is due in the month following the ending quarter. All records shall be kept for a minimum of five (5) years period for public and regulatory agency inspection.

B24. All measurements, records, and other data required to be maintained by the permittee shall be reported to the Southwest District office on a quarterly basis with the start of commercial operation in accordance with 40 CFR 60.7. All measurements, records and other data required to be maintained by the permittee shall be retained for at least 5 years following the date on which such measurements, records, or data are recorded. The data shall be available to Department staff as requested. **[40 CFR 60.7]**

B25. The owner or operator shall submit reports of the malfunction information required to be recorded by 40 CFR 60.7(b). These reports shall include the frequency, duration, and cause of any incident resulting in de-energization of any device controlling kiln emissions or in the venting of emissions directly to the atmosphere. **[Rule 62-204.800, F.A.C., 40 CFR 60.65 (c)]**

Daily Operation and Maintenance (O&M) Log:

B26. This facility shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. Operators shall keep a daily O&M log to include, at a minimum, the following information:

The data collected from in-stack monitoring instruments.

The records on daily feed rates and clinker production rate.

The amount and type of fuel burned.

Total quantity (by weight) of tire used as supplemental fuel.

The results of all source tests.

Calibration logs for all instruments.

Maintenance/repair logs for any work performed on equipment or instruments, that is subject to this permit;

Total coal, natural gas, and oil usage.

All measurements, records, and other data required to be maintained by FCS shall be retained for at least five (5) years following the data on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. The Department's Southwest District office shall be notified in writing at least 15 days prior to the testing (auditing) of any instrument required to be operated by these specific conditions of certification in order to allow witnessing by authorized personnel. **[Rule 62-4.070(3), F.A.C.]**

SUBSECTION C. SPECIFIC CONDITIONS

The following Specific Conditions apply to the following emission units:

EMISSIONS UNIT NO.	SYSTEM	EMISSIONS UNITS DESCRIPTION
031	Raw Materials Processed	Material Handling (Fugitive) Handling and Storage (Fugitive)
025	Raw Mill System	Filter Dust Bin Transport, Raw Meal Transport, Raw Meal Storage, Homogenizing Silos
028	Finish Mill	Gypsum Storage Bin, Clinker Transport, Belt Conveyor, Finish Mill Discharge Vent, Finish Mill Sepal Separator, Clinker Storage Silo and Clinker Bin
029	Cement Handling	Cement Storage Silo A, Cement Storage Silo B, Cement Silo Discharge Hopper A, Cement Silo Discharge Hopper B
030	Coal Handling	Coal Handling and Storage (Fugitives) Coal Dust Bin, Coal Mill.

EMISSION LIMITATIONS

C1. The permittee shall not cause or allow to be discharged into the atmosphere visible emissions which exceed the limits given in Table 1-1 Allowable Opacity Limits. **[Rule 62-210.200(198) and 62.212.400, F.A.C.]**

C2. In order to minimize excess emissions during startup/shutdown/malfunction these emission units shall adhere to best operational practices. **[Rule 62-210.700, F.A.C. and 40 CFR 60.7]**

OPERATIONAL LIMITATIONS

C3. Cement Plant No.2 and associated equipment is allowed to operate continuously (8760 hours/year) **[Rule 62-210.200(223), F.A.C. Definitions-Potential to emit (PTE)].**

C4. *Process operating rates*:

The maximum material handling rates are as specified in Table 1-1. Allowable Opacity Limits.

TEST METHODS AND COMPLIANCE PROCEDURES

C5. The maximum permitted allowable particulate emission rate (lbs/hr and gr/dscf) from these emissions units are as stated in Table 1-1 Allowable Opacity Limits. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, and because these sources are equipped with a baghouse, the Department pursuant to the authority granted under Rule 62-297.620(4), F.A.C., with a baghouse, the Department pursuant to the authority granted under Rule 62-297.620(4), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate stack test. **[Rule 62-297.620(4), F.A.C.]**

In accordance with Rule 62-297.620(4), minor particulate sources equipped with baghouses with visible emissions that are greater than or equal to 5 percent opacity may result in the permittee being required to perform a stack test in accordance with approved methods to verify compliance with the 0.01 gr/dscf emission limits contained in Table 1-1.

C6. Compliance with the allowable emission limiting standards listed in Table 1-1 shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A (1995 version) adopted by reference in Chapter 62-204, F.A.C.

Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).

Testing of emissions shall be accomplished within 90 to 100% of the permitted capacity **[Rule 62-297.310(2), F.A.C]**. Failure to submit the input rates and actual operating conditions may invalidate the test **[Rule 62-297.310 (2), F.A.C.]**.

These emission units shall comply with all applicable requirements of Rule 62-297.310 General Test Requirements and 40 CFR 60.8, Subpart A, Performance Tests.

C7. The visible emissions test, EPA Method 9, shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. **[Rule 62-297.310, F.A.C.]**

C8. Should the Department have reason to believe the particulate matter standards set forth in Table 1-1 are not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing (applicable emission unit) in accordance with Rule 62-297.620 (4) F.A.C. **[Rule 62-297.620(4) and 62-297.310, F.A.C.]**

C9. Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. **[Rule 62-4.070(3), F.A.C.]**.

C10. Particulate emissions from coal handling facilities related to the No. 2 kiln shall be minimized by following the procedures listed below: **[Rule 62-296.320(4)(c), F.A.C.]**

a. All conveyers and transfer points shall be enclosed to preclude particulate emissions (except those directly associated with coal stacking/reclaiming).

b. Coal storage piles shall be shaped, compacted and oriented to minimize wind erosion.

c. Water sprays or chemical wetting agents and stabilizers shall be applied to storage piles, handling equipment, etc during dry periods and as necessary to maintain an opacity of less than 10 percent, except when adding, moving or removing coal from the coal pile, during which the opacity shall be no more than 20%.

C11. The part of the fly ash handling system related to the No. 2 kiln (including transfer equipment, flyash bin, and pneumatic system exhaust) shall be totally enclosed and vented through fabric filters.

RECORDKEEPING AND REPORTING REQUIREMENTS

Daily Operation and Maintenance (O&M) Log:

C12. This facility shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. Operators shall keep a daily O&M log to include, at a minimum, the following information:

The results of all source tests.

Calibration logs for all instruments.

Maintenance/repair logs for any work performed on equipment or instrument which is subject to this permit.

All measurements, records, and other data required to be maintained by FCS shall be retained for at least five (5) years following the data on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. The Department's Southwest District office shall be notified in writing at least 15 days prior to the testing (auditing) of any instrument required to be operated by these specific conditions of certification in order to allow witnessing by authorized personnel. **[Rule 62-4.070(3), F.A.C.]**

SECTION IV. PERMITTING HISTORY

CEMENT PLANT

06-13-83	PA 82-17	Original PPS Certification
07-25-83	PA 82-17	Modification, limestone injection
11-10-83	AC27-61016	Original air construction permit
03-27-84	PSD-FL-091	EPA PSD permit
06-29-86	PA 82-17	Modification, limestone calciner
08-26-86	AC27-118674 PSD-FL-091	Modification, reduced emission limits
04-30-90	AC27-118674 PSD-FL-091A	Intent to Issue, testing shredded tires
06-06-90	AC27-118674 PSD-FL-091A	Amendment, testing shredded tires
09-24-90	AC27-118674 PSD-FL-091	Amendment, testing JEA sediment
05-24-91	AO27-183508	Original air operation permit
08-30-91	AC27-118674 PSD-FL-091B	Intent to Issue, use of shredded tires
10-09-91	AC27-118674 PSD-FL-091	Amendment, testing shredded tires for NO_x measurements
10-25-91	AC27-118674 PSD-FL-091	Amendment, testing whole tires
07-20-92	AC27-118674 PSD-FL-091C	Amendment, additional testing with whole tires
11-18-92	AC27-118674 PSD-FL-091A	Modification, use of shredded tires
11-24-92	AC27-118674	Intent to Issue, use of whole tires

	PSD-FL-091	
12-21-92	AC27-118674	Modification, use of whole tires
12-17-93	AC27-222095 PSD-FL-091D	Modification, use of used oil
03-11-94	AO27-231888	Modification, use of used oil, and tires (whole and shredded)
08-10-94	AC27-222095 PSD-FL-091E	Modification, use of used oil w/ PCB limit condition
08-30-94	AO27-231888A	Modification, used oil test method
POWER PLANT		
06-13-83	PA 82-17	Original PPS Certification
07-25-83	PA 82-17	Modification, limestone injection
08-03-83	PA 82-17	Modification
03-27-84	PSD-FL-090	EPA PSD permit
02-20-85	PA 82-17	Modification
06-29-86	PA 82-17	Modification, limestone calciner
06-02-94	PA 82-17	Revision to transfer authorization from SWFWMD to DEP for dike construction
10-06-94	PSD-FL-090A	Amendment, testing at 133 MW
05-23-95	PSD-FL-090D	Intent to Issue, for operation of power at 1850 MMBtu/hr input

G.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.

G.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 or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

G.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.

G.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.

G.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.

G.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.

G.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.

G.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.

G.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 extend it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

G.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.

G.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.

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

G.13 This permit also constitutes:

(a) Determination of Best Available Control Technology *(X)*
(b) Determination of Prevention of Significant Deterioration *(X)*; and
(c) Compliance with New Source Performance Standards (*X*).

G.14 The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

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

(c) Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The person responsible for performing the sampling or measurements;
3. The dates analyses were performed;
4. The person responsible for performing the analyses;
5. The analytical techniques or methods used; and
6. The results of such analyses.

G.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.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

FLORIDA CRUSHED STONE COMPANY
PORTLAND CEMENT PLANT NO. 2 AND ASSOCIATED EQUIPMENT
Brooksville, Florida
Hernando County

The applicant, Florida Crushed Stone Company (FCS), plans to construct a 104.2 ton per hour (maximum TPH as clinker) dry process portland cement kiln with a *preheater/precalciner design* at its existing cement plant approximately 3.5 miles northwest of Brooksville, Hernando County, Florida. The project includes a single kiln and clinker cooler along with raw mill, finish mill, cement and clinker handling equipment, coal handling equipment, silos, and air pollution control equipment. The facility will produce 912,500 tons per year (maximum TPY as clinker) and approximately 1,004,000 TPY of portland cement.

The Department issued a construction permit and a BACT determination for Cement Plant No. 2 utilizing the preheater (PH) design (1995). This revised BACT analysis will consider the proposed preheater/precalciner (PH/PC) design that may be utilized by FCS in lieu of the permitted PH kiln. An extensive analysis supporting the BACT determination requested by FCS was submitted with the original application and is included by reference along with the original BACT Determination made by the Department and the additional information submitted with the present application.

A detailed process description is included in the Technical Evaluation and Preliminary Determination.

Following is the BACT determination proposed by the applicant:

BACT DETERMINATION REQUESTED BY THE APPLICANT:

POLLUTANT	EMISSION LIMIT
Particulate Matter (kiln)	0.2 lb/ton of dry kiln feed
Particulate Matter (cooler)	0.1 lb/ton of dry kiln feed
Particulate Matter (material handling, conveying, storage	0.01 gr/dscf, baghouses
Sulfur Dioxide (kiln)	0.23 lb/ton clinker
Nitrogen Oxides (kiln)	2.8 lb/ton clinker
Carbon Monoxide (kiln)	2.0 lb/ton clinker

A single, large, fabric filter system (baghouse) will be used to capture particulate matter from the kiln and the cooler. Baghouses will also be used to limit particulate emissions from other process emission points. Table 1-1 is a list of the emission units to be controlled by baghouses.

Portland cement installations are among the major facilities listed in Table 212.400-1, F.A.C., "Major Facilities Categories." A BACT determination is required for each pollutant exceeding the significant emission rates in Table 212.400-2, "Regulated Air Pollutants Significant Emissions Rates," which in this case are particulate matter (PM), sulfur dioxide (SO_2), carbon monoxide (CO), and nitrogen oxides (NOx).

This facility is also subject to the following requirements given in Rule 62-208.800, F.A.C., "Federal Regulations adopted by Reference:"

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

- 40 CFR 51, Subpart P - Protection of Visibility.

Date of Receipt of a BACT Application:

September 11, 1996

Review Group Members:

Teresa Heron and A. A. Linero of the New Source Review Section.

BACT DETERMINATION PROCEDURE

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (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. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of BACT pursuant to Section 169, 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.

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determination of any other state.

(d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from this facility can be grouped into categories based upon the control equipment and techniques that are available to control emissions from these emission units. Using this approach, the emissions can be classified as follows:

- Particulate matter from kilns and coolers (PM/PM_{10}, and VE). Controlled generally by add-on particulate collection equipment such as baghouses or electrostatic precipitators.
- Products of combustion and incomplete combustion (e.g., SO_2, NO_x, CO, VOC). Control is largely achieved by good combustion practices, reactions with clinker and raw materials and removal in add-on control equipment.
- Emissions from materials handling, conveyance, and storage (primarily PM). Controlled generally by fabric filters and reasonable precautions.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting standard as a result of PSD review, the control of "non-regulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., PM, SO_2, H_2SO_4, fluorides, etc.), if a reduction in "non-regulated "air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

BACT DETERMINATION ANALYSIS:

PARTICULATE MATTER (PM/PM_{10})

Particulate Matter is generated by the various physical and chemical processes at a cement manufacturing plant. Sources of particulate matter at cement plants include (1) quarrying and crushing, (2) raw material storage, (3) grinding and blending, 4) clinker production, 5) finish grinding, and 6) packaging and loading. Additional sources of PM are raw material storage piles, conveyers, storage silos, and unloading facilities. The largest emission source of PM within cement plants is the pyroprocessing system that includes the kiln and clinker cooler exhaust stacks (in this case, common kiln/cooler stack). Emissions from kilns are affected by several factors, including differences in convective patterns, material movement patterns, burner locations and insertion lengths, heat transfer mechanisms, and the type of clinker cooler that supplies secondary air to the kiln for combustion. Typically, dust from the pollution control equipment servicing the kiln and cooler is collected and recycled into the kiln and thus incorporated into the clinker. According to FCS, virtually all of the cement kiln dust (CKD) generated from Cement Plant 1 is captured in the baghouse and returned to the pyroprocessing system as raw material. A small amount is removed every few weeks and sold to avoid build-up of thallium in the product. It is expected that most of the CKD from Cement Plant 2 will be recycled, while any excess will be stored in a silo for sale.

Common control devices for stack gases include settling chambers, inertial separators, impingement separators, wet scrubbers, fabric filters, and electrostatic precipitators. Fabric filters (baghouses) and electrostatic precipitators (ESPs) are generally considered equivalent for particulate control. Both types of devices can achieve removal efficiencies of over 99%. ESPs and baghouses are used extensively as control devices at cement plants. ESPs are generally specified for kiln and clinker cooler exhaust gases because of their ability to operate effectively at varying temperatures. Baghouses are also used at facilities for particulate control from kilns and coolers. Both types of control equipment provide for the recovery/recycling of collected dust back into the process stream. Baghouses are also used to control particulate emissions from most other material processing operations at cement plants.

Common controls to limit particulate emissions from fugitive sources (such as roadways, stockpiles, and material processing and conveying equipment) include wet suppression, sweeping, application of surfactants, paving of roads and covering of stockpiles to reduce wind erosion. Wet suppression of fugitive particulate emissions is considered as BACT for most material handling operations and unpaved roads. Dust from stockpiles can be minimized by relatively high material moisture content with additional water spraying as necessary.

Small quantities of beryllium (Be), mercury (Hg) and lead (Pb) are generated by the combustion of coal and fuel oil blends. Be and Pb will be generated as particulate emissions from the combustion of fuels, and will be removed by incorporation into the product clinker or controlled by the kiln/cooler baghouse. Hg can exist in both particulate and gaseous form and can only be partially removed by the process and control equipment The applicant projects such low emissions of these metals that they will not be subject to BACT.

A review of the BACT Clearinghouse indicates that baghouses and ESPs are widely used to control particulate matter from process emission units at cement plants. They are commonly accepted as BACT.

The applicant has proposed kiln particulate emissions of 0.2 pounds per ton of dry kiln feed (lb/ton kiln feed) and cooler particulate emissions equal to the New Source Performance Standards (NSPS) limit of 0.1 lb/ton kiln feed as BACT for this source. This compares with the proposed values in the original application for the PH kiln of 0.3 and 0.1 lb/ton kiln feed for the two units, respectively.

PRODUCTS OF COMBUSTION AND INCOMPLETE COMBUSTION

Nitrogen Oxides

Emissions of NO_x from dry process cement plants with a preheater/precalciner include the kiln, the calcining loop, and any fuel-fired support operation. NO_x is generated during fuel combustion by oxidation of chemically bound nitrogen in the fuel (fuel NO_x) and by thermal fixation of nitrogen in the combustion air (thermal NO_x). As flame temperature increases, the amount of thermally generated NO_x increases. Fuel type affects the quantity and type of NO_x generated. Generally, natural gas is low in nitrogen. However it causes higher flame temperatures and generates more thermal NO_x than oil or coal, which have higher fuel nitrogen content, but exhibit lower flame temperatures.

NO_x emissions represent a significant portion of the total emissions generated by this project, and shall be minimized using BACT.

The emissions of NO_x can potentially be reduced at Portland cement plants by two methods:

1. Minimizing the quantity of NO_x generated during combustion (combustion modifications).

2. Reducing the quantity of NO_x in the flue gas stream (flue gas controls).

A review of EPA BACT/LAER Clearinghouse (BACT Clearinghouse) information indicates that NO_x emissions at most facilities are minimized by process control and good combustion practices.

The applicant stated that NO_x emissions at this facility will be controlled through "proper combustion practices" such as burner design with primary combustion air control. Burning a portion of the fuel in the precalciner, introduction of tires in the material feed end of the kiln, and indirect firing will spread out the thermal load and will help minimize NO_x emissions.

In its original submittal, the applicant ruled out Selective Catalytic Reduction (SCR) and Selective Non-Catalytic Reduction (SNCR) as technically unfeasible or cost prohibitive. The applicant gave subsequent consideration to other possible control methods following a request by the Department for additional details justifying the selected method. The applicant rejected Low NO_x Burners, low Nitrogen Fuel, Flue Gas Recirculation, Fuel Reburning, and Contemporaneous Reductions from the on-site power plant and cement kiln as options which are allegedly ineffective, undemonstrated, or beyond the control of the applicant.

The applicant has proposed for this kiln with a preheater/precalciner design a NO_x emission rate of 292 lb/hr and 2.8 lb/ton clinker. This value is substantially less than the one FCS proposed in its original application (4.3 lb/ton clinker) and, on a unit basis, is equal to the BACT Determination made by the Department in 1995. It is compared below with previous determinations documented by the BACT Clearinghouse.

Previous BACT Determinations

BASIS	Least Stringent	Most Stringent	Proposed
	Year 1978	Year 1981	Year 1996
lb/ton clinker	11.13	0.85	2.8

It is important to note that the facility which was given the 0.85 lb/ton clinker NO_x limit has not been able to meet it since construction. A dry process plant with a preheater/precalciner received a NO_x limit of 1.11 lb/ton clinker but was never built. Another dry process plant with a preheater/precalciner received a BACT determination of 2.09 lb NO_x/ton clinker. However, it appears that since that time a less stringent standard was applied. One dry process preheater/precalciner kiln in California received a NO_x BACT determination of 2.5 lb/ton clinker. The Department made a BACT Determination of 2.8 lb/ton clinker in 1995 for the proposed Florida Rock Industries Cement Plant in Newberry, Florida. The main reason it was higher than the one for the California plant was that Florida limestone is wetter and requires more heat input to dry. A claim by the kiln manufacturer that differences in volatility between Eastern and Western coal should be reflected in an even higher emission limit for the Florida kiln was rejected by the Department.

A review of the NO_x emission rate summary indicates that the applicant's proposal is representative of the most stringent BACT determinations made to date for plants utilizing dry processes. The dry process with a preheater/precalciner is considered to be the most energy-efficient process. Therefore it is expected that the lower fuel use will result in relatively low NO_x. Additionally, the lower flame temperature realized when burning coal, spreading the thermal load over various burn points, indirect firing, as well as documented reductions from tire burning, are further reasons to a expect low emission rate from the proposed preheater/precalciner kiln.

The Department also reviewed a paper presented at the Air and Waste Management Association (AWMA) International Specialty Conference on Waste Combustion in Boilers and Industrial Furnaces. The paper, "Reduction of NO_x Emissions from Cement Kiln/Calciner through the Use of the NOxOUT Process," which was written by representatives of Nalco and Ash Grove Cement, suggests that SNCR is a viable control method. A level as low as 1.0 lb/ton of clinker was reached based on demonstration tests conducted at the Ash Grove cement plant in Seattle, Washington. However the process has not been demonstrated on a long term basis and FCS' kiln designer, Polysius, has not been willing to guarantee its performance or the quality of cement produced when using this control process.

Recently a proposed cement plant (Great Star Cement, Clark County, Nevada) was permitted with the urea-based SNCR/NOxOUT process as BACT. The process relies on the reaction between ammonia and NO_x to yield molecular nitrogen. The delivery system consists of urea injectors in one of the preheater sections. The objective was to achieve 50% reduction of NO_x emissions. At that level there should be no ammonia slip while meeting a BACT limit of 3.1 lb/ton clinker.

A survey of stack test data from various kilns around the country, operating for more than three years, suggests that the proposed emission limit for NO_x is low but achievable

The USEPA Technology Transfer Network (TTN) BACT/LAER/RACT Clearinghouse database was reviewed for more recent data. Review of this data does not change the Department's original review.

Sulfur Dioxide

Sulfur dioxide (SO_2) may be generated both from sulfur compounds such as sulfates in the raw materials and from sulfur in the fuel. The sulfur content of both raw materials and fuels varies from plant to plant and with geographic location. Sulfur dioxide at this facility will be generated by the combustion of coal and tires in the kiln and generation of sulfur gases from the raw materials.

The exhaust gas from a cement kiln can contain varying amounts of SO_2. Under low oxygen conditions, sulfates in the raw materials can be converted to SO_2. At high temperature and excess air conditions, some of the sulfur introduced into the cement kiln with the raw materials, and most of the sulfur contained in the fuel, are converted to SO_2. Most of the SO_2 subsequently reacts with oxygen and alkali compounds (such as Na_2O and K_2O vaporized at sintering temperatures) to form alkali sulfates, which are found in cement clinker and in kiln dust. The amount of SO_2 released in the kiln flue gases will vary with the amount of excess alkali available for absorption. Additional SO_2 may be removed through contact with the incoming raw materials and, to some extent, in the particulate control equipment.

SO_2 control processes can be classified into five categories: fuel/material sulfur content limitations, absorption by a solution, adsorption on a solid bed, direct conversion to sulfur, or direct conversion to sulfuric acid.

FCS proposes to limit SO_2 emissions by taking advantage of the alkaline environment in the kiln, preheater, and raw mill to effect substantial removal of SO_2. Ultimately the sulfur is incorporated into the clinker lattice structure, thus minimizing the amount emitted to the atmosphere. Some additional SO_2 removal through contact with particulate matter may also take place in the kiln/cooler baghouse.

A review of the BACT determinations for cement plants as contained in the BACT Clearinghouse indicates SO_2 reduction levels from 70 to 96% (percent) from facilities utilizing the dry processes. The Department did not find instances of BACT involving measures beyond those proposed by FCS. Some plants use baghouses as proposed by FCS instead of Electrostatic Precipitators (ESPs) for particulate control. It is possible that the filter cake on the bags enhances SO_2 removal compared with an ESP. However, the difference is marginal compared with the primary removal mechanism involving oxidation of SO_2 to SO_3, alkali reactions, and subsequent removal of sulfates as particulate matter and with the clinker.

The SO_2 limit proposed by the applicant, 0.23 lb/ton clinker, is substantially less than the 0.55 lb/ton value proposed in the original application submitted by FCS in 1995 and is equal to the BACT emission limit (on a unit basis) set by the Department in its review of the previous preheater (PH) kiln proposal. A survey of stack test data from different facilities around the country operating for at least three years demonstrates that the proposed limit is low but achievable.

Carbon Monoxide and Volatile Organic Compounds

Carbon monoxide (CO) is a pollutant formed by the incomplete combustion (oxidation) of carbon containing compounds in the cement kiln fuel and during the transformation of cement raw materials to cement clinker. When insufficient oxygen is provided, more CO and less CO_2 are formed than under excess air conditions. Substantial quantities of CO and CO_2 are also generated through calcining of limestone and other calcareous material. This calcining process thermally decomposes $CaCO_3$ to CaO and CO_2. The calcining of limestone in the cement manufacturing process liberates large amounts of CO_2, which is available for dissociation into CO.

Emissions of CO can potentially be reduced at portland cement plants by two main methods: utilization of proper combustion practices to maximize the oxidation of CO to CO_2 and reducing the quantity of CO in the flue gas stream (flue gas control).

VOC is also a pollutant formed by the incomplete combustion of fuel or hydrocarbons contained in the raw materials. The temperatures of the gases in the kiln will reach between 3700 to 3800 degrees Fahrenheit. At these high temperatures, virtually all VOCs will be consumed or destroyed regardless of their source (limestone, mill scale, coal, fuel oil, etc.). Clinker production requires certain temperatures, residence time, and turbulence within the kiln. These factors are sufficient to ensure the destruction of almost all VOCs at cement plants.

Emissions of VOC can be controlled by add-on control devices by the mechanisms of adsorption, absorption, or incineration (afterburning). Incineration processes include flame incineration, thermal incineration, and catalytic incineration. No add-on controls for CO or VOC have been demonstrated for cement plants.

The high temperatures and control of excess air and fuel, typically results in simultaneous optimization for control of products of incomplete combustion and NO_x. The applicant proposes proper combustion practices as BACT to control emissions of CO from this plant. The applicant estimates low emissions of VOC such that the new kiln will not be subject to BACT for this pollutant.

A review of the BACT Clearinghouse reveals that for CO and VOC, BACT from cement plants for these pollutants is proper combustion practices.

BACT DETERMINATION BY DEP:

Particulate Matter Determination

BACT for visible emissions was determined to be more stringent than the NSPS for Portland Cement Plants, 40 CFR 60, Subpart F. With respect to the kiln, BACT for PM was also determined to be more stringent than the NSPS for Portland Cement Plants, 40 CFR 60, Subpart F. This value of 0.2 lb/ton kiln feed is equal to the Department's previous BACT determination for the PH kiln and equal to the proposed determinations made for the Florida Rock Industries kiln in Newberry and the Southdown Cement Plants in Brooksville.

Based on actual data the kiln and cooler PM limits are considered to be low and achievable.

For each small baghouse in the material handling process the exhaust gases must not exhibit greater than 5 percent opacity. The Department has determined that 5 percent opacity is BACT, and is attainable with a baghouse.

Nitrogen Oxides Determination

The Department has determined that the NO_x level proposed by the applicant is similar to the lowest emission limits from plants already in operation throughout the country and reflects recent BACT determinations for Florida portland cement plants.

FCS previously ruled out SNCR as unfeasible for the previous PH design because the "optimum temperature range to drive the SNCR reactions between 1600-2000 degrees F is encountered in a typical kiln system only in the kiln itself." FCS contended that injection of ammonia/urea in the kiln will cause increases in NO_x. In the new PH/PC arrangement, the temperature range for SNCR will occur outside of the kiln and its use is at least plausible.

The Department believes that the proposed NO_x limit of 2.8 lb/ton clinker (at 104.2 TPH clinker production) is BACT for this plant. Therefore, BACT for NO_x emissions from the cement kiln is determined to be equal to 2.8 lb/tons of clinker. The Department believes that this limit can be achieved by the technology proposed by FCS. If it is not met within the time allotted in the proposed construction permit, then FCS must examine the option of employing SNCR or propose an alternative technology to accomplish the same end.

Sulfur Dioxide Determination

The Department has also determined that the SO_2 BACT limit proposed by the applicant is also one of the lowest in the country and is equal to recent BACT Determinations by the Department for this pollutant. It is the conclusion of the Department that the key factors in SO_2 removal are maintaining proper ratios of sulfur and alkali in the kiln environment and intimate contact between raw materials and exhaust gases. This is considered by the Department to be the mechanism by which the proposed limit of 0.23 lb/ton clinker will be achieved.

The Department believes that FCS will meet the SO_2 limits as proposed. This is substantiated by the letter of October 28, 1983 from Sholtes and Koogler, Environmental Consultants, regarding the existing PH kiln at FCS. Per page 13, "Polysius (cement plant designer) states that if only sulfur dioxide from the cement plant were considered, sulfur dioxide emissions as low as 20 pounds per hour could be expected from the cement plant." This is further proved by actual emissions tests from the original kiln which average about 10 lb of SO_2 per hour or approximately 0.1 lb/ton clinker.

The Department has also concluded that sulfuric acid mist emissions are not expected to be significant because free sulfite (SO_3) will preferentially react with clinker and kiln dust in the alkali environment of the kiln. Also, little water is available to complete the reaction to acid mist. No BACT determination was required for sulfuric acid mist (H_2SO_4).

An emission limit of 0.23 lb SO_2/ton clinker will insure that ambient SO_2 concentration increases will be less than the applicable National Park Service Significant Impact Level. Although it appears that FCS can achieve even lower values, it would be prudent to allow sufficient flexibility such that emissions of all combustion products can be minimized simultaneously. To provide further assurance that this limit will be met, the Department proposes a limit on the sulfur content of the coal of 1.25 percent.

CO Determination

BACT for CO was determined to be 2.0 lb/ton clinker. This value is equivalent to that proposed by FCS and the Department's previous BACT determination for Cement Plant 2. It is lower than the value given in AP-42 and will provide sufficient flexibility to minimize NO_x and SO_2 emissions. The Department requests that FCS continue to be judicious in its procurement of raw materials such as coal ash with low levels of unburned carbon to minimize CO generation in the PH.

Other Pollutants

No BACT determination was required for VOC as it will not be emitted in significant amounts.

No BACT determination was required for Pb. The limit requested by FCS insures BACT will not be triggered. Removal will be accomplished by the particulate control system and incorporation into the clinker matrix.

No BACT was required for Be. The adopted value will result in emissions less than the PSD significant threshold value. The particulate control system will remove Be which will also be largely incorporated into the clinker matrix.

No BACT was required for Hg. The estimate provided by FCS will result in emissions less than the applicable BACT threshold. This is consistent with information available to the Department on mercury levels in raw materials and coal as well as tests conducted at kilns in Florida.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

The BACT emissions established by the Department are summarized as follows:

SOURCE	POLLUTANT EMISSION LIMIT
KILN	
Kiln (PM/PM_{10})	0.2 lb/ton kiln feed (dry basis) and 0.3 lb/ton clinker - 1 hour average
Kiln (VE)	Visible emissions not to exceed 10 percent opacity
Kiln (SO_2)	0.23 lb/ton clinker 24 hr rolling average
Kiln (NOx)	2.8 lb/ton clinker - 24 hr rolling average
Kiln (CO)	2.0 lb/ton clinker - 1 hr average
Kiln (SO_3)	0.014 lb/ton clinker (non-BACT)
Kiln (VOC)	0.085 lb/ton clinker (non-BACT)
Kiln (Be)	8.5×10^{-7} lb/ton clinker (non-BACT)
Kiln (Hg)	2.4×10^{-5} lb/ton clinker (non-BACT)
Kiln (Pb)	5.2×10^{-4} lb/ton clinker (non-BACT)
Fuels	Coal (1.25 % S), blend of fuel oil and on-spec used oil (1.5 % S), tires (up to 15% of heat input), and natural gas are the only fuels allowed
COOLER	
Cooler (PM/PM_{10})	0.1 lb/ton kiln feed (dry basis) and 0.15 lb/ton clinker
Cooler (VE)	Visible emissions not to exceed 10% opacity

ASSOCIATED EQUIPMENT

Minor points with baghouses	Visible emissions not to exceed 5% opacity

FUGITIVES SOURCES

Fugitive sources	Visible emissions not to exceed 10% opacity

COMPLIANCE

Compliance with the particulate emission limitations shall be demonstrated using EPA Reference Method 5 as contained in Appendix A, 40 CFR 60, and set forth in Subsection 60.64 of the NSPS for Portland Cement Plants, 40 CFR 60.

Compliance with opacity standards (minor sources controlled by baghouses) shall be determined by conducting observations in accordance with 40 CFR 60, Appendix A, Method 9.

Continuous Opacity Monitors (kiln and cooler) shall meet the requirements of the 40 CFR 60, Appendix B and 40 CFR 60, Subpart F, NSPS for Portland Cement Plants. Compliance with the opacity standard for the kiln and cooler shall be demonstrated by EPA Reference Method 9 as contained in Appendix A, 40 CFR 60.

Compliance with the opacity standards for fugitive sources shall be determined by EPA reference Method 9 as contained in Appendix A, 40 CFR 60.

Compliance with the SO_2 and NO_x emission limitations shall be demonstrated using CEMs. The CEMs shall meet all the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

Compliance with the CO limitations shall be demonstrated by 3 one-hour tests using EPA Method 10.

Pursuant to F.A.C. 62-4.070(3), 62-212.400(6) and 62-296.520, the kiln/cooler exhaust system shall be equipped with continuous monitors to record NO_x and SO_2 for the purposes of compliance; opacity at the stack to indicate proper maintenance and operation; and CO and/or O_2 to optimize combustion conditions for pollution control.

Compliance with the VOC limitations shall be demonstrated (on a one time basis) by three one hour stack tests using Method 25 or 25A to confirm emission rate is less than the PSD significant emission rate.

Compliance with the Pb, Hg, and Be limitations shall be demonstrated (on a one time basis) by three one-hour stack tests using EPA Method 29 to confirm emission rate is less than the PSD significant emission rate.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

BACT/LAER/RACT CLEARINGHOUSE DATABASE COMPARISON

The following table is to be used for reference and comparison with portland cement facilities listed in the BACT/LAER/RACT Clearinghouse database:

POLLUTANT	lb/ton clinker	lb/ton kiln$_{ph}$ feed	lb/ton kiln feed	lb/MM BTU
PM/PM_{10} (kiln)	0.3	0.18	0.2	0.09
SO_2 (kiln)	0.23	0.14	0.15	0.07
NO_x (kiln)	2.80	1.68	1.83	0.89
CO (kiln)	2.0	1.20	1.31	0.64
VOC (kiln)	0.085	0.05	0.06	0.03
H_2SO_4 (kiln)	0.014	8.37 E-03	0.009	4.46 E-03
Be (kiln)	8.5 E-07	5.10 E-07	5.55 E-07	2.72 E-07
Hg (kiln)	2.4 E-05	1.44 E-05	1.57 E-05	7.69 E-06
Pb (kiln)	5.2 E-04	3.13 E-04	3.40 E-04	1.67 E-04
PM/PM_{10} (Cooler)	0.15	0.09	0.1	0.04

Based on the following FCS process rates:
Preheater feed rate (kiln$_{ph}$ feed) : 173.2 TPH
Kiln feed rate : 159.4 TPH
Clinker production : 104.2 TPH
Heat Input : 325 MMBTU/hr

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING

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Date: 2/7/97

Approved By:

Howard L. Rhodes

Howard L. Rhodes, Director
Division of Air Resources Management

Date: 2/9/97

Table 1-1
Allowable Opacity Limits (Minor Particulate Sources)
Florida Crushed Stone

Description	Control	Emission Unit Equipment	Grain Loading (gr/dscf)	OPACITY	lb/hr
Emission Unit: Raw Material Processed Process Rate = 245 TPH					
Material Processing (Fugitive)				10	
Handling and Storage (Fugitive)				10	
Emission Unit: Raw Mill System Process Rate = 173.2 TPH Preheater Feed					
Filter Dust Bin Transport	Baghouse	2E-67	0.01	5	0.302
Raw Meal Transport	Baghouse	2F-02	0.01	5	0.208
Raw Mill Storage and Homogenizing Silos	Baghouse	2G-01	0.01	5	1.178
Emission Unit: Kiln Operations Process Rate = 159.4 TPH Kiln Dry Feed					
Kiln Feed System	Baghouse	2H-05, 2E-66	0.01	5	0.499
Emission Unit: Finish Mill Process Rate = 104.2 TPH Clinker					
Gypsum Storage Bin	Baghouse	2L-14	0.01	5	0.320
Clinker Transport	Baghouse	2L-03	0.01	5	0.253
Belt Conveyor	Baghouse	2M-04	0.01	5	0.485
Finish Mill Discharge Vent	Baghouse	2N-02	0.01	5	2.640
Finish Mill Sepol Separator	Baghouse	2N-08	0.01	5	8.270
Clinker Storage Silo	Baghouse	2L-05	0.01	5	0.253
Clinker Bin	Baghouse	2M-15	0.01	5	0.624
Emission Unit: Cement Handling Process Rate: ~ 115 TPH Portland Cement					
Cement Storage Silo A	Baghouse	2Q-18	0.01	5	0.499
Cement Storage Silo B	Baghouse	2Q-18	0.01	5	0.499
Cement Silo Discharge Hopper A	Baghouse	2Q-28	0.01	5	0.208
Cement Silo Discharge Hopper B	Baghouse	2Q-38	0.01	5	0.208
Emission Unit: Coal Handling Process Rate = 13.8 TPH					
Coal Mill	Baghouse	2S-15	0.01	5	1.745
Coal Dust Bin	Baghouse	2S-20	0.01	5	0.145
Coal Handling and Storage (Fugitive)				5/20	
TOTAL					18.336

Table 2-1. Compliance Requirements.

FACILITY ID NUMBER: 0530021

DRAFT Permit No.: AC27-274892(A) and PSD-FL-227(A)

Permittee:
Florida Crushed Stone, Company
Portland Cement Plant No. 2 and Associated Equipment

E.U. ID#	Description	Pollutant Name or parameter	Fuel(s) [1]	EPA/Reference Method/CMS *	Testing Time Frequency	Min. Compliance Test Duration	CMS * Compliance
026	Kiln No. 2	PM/PM_{10}	Oil/Coal /Gas/WTDF	5	initial/annual	3 one-hr run	
026	Kiln No. 2	VE	Oil/Coal/Gas/WTDF	9/COMS	initial/annual/COMS	3 one-hr run	No [4]
026	Kiln No. 2	SO_2	Oil/Coal/Gas/WTDF	CEMS	daily average	continuous	Yes [6]
026	Kiln No. 2	NOx	Oil/Coal/Gas/WTDF	CEMS	daily average	continuous	Yes [3]
026	Kiln No. 2	CO	Oil/Coal/Gas/WTDF	10 [5]	initial/annual	3 one-hr run	
026	Kiln No. 2	VOC	Oil/Coal/Gas/WTDF	25 or 25A [2]	initial	3 one-hr run	
026	Kiln No. 2	H_2SO_4 mist	Oil/Coal/Gas/WTDF	8	initial	3 one-hr run	
026	Kiln No. 2	Hg, Pb	Oil/Coal/Gas/WTDF	29	initial	3 one-hr run	
026	Kiln No. 2	Be	Oil/Coal/Gas/WTDF	29	initial	3 one-hr run	
031	Fugitive sources	VE		9	Protocol [7]		
025/028/029/030	Minor Sources	VE		9	initial/annual	3 one-hr run	
027	Cooler No. 2	PM/PM_{10}	Oil/Coal/Gas/WTDF	5	initial/annual	3 one-hr run	
027	Cooler No. 2	VE	Oil/Coal/Gas/WTDF	9/COMS	initial/annual/COMS	3 one-hr run	No [4]

Notes:

[1] Testing of emissions shall be conducted while burning coal, 85% coal and 15% tires (permitted capacity). The kiln is allowed to burn virgin fuel oil and a blend of virgin fuel oil and on-spec used oil for startup. See specific conditions No. 3.

[2] VOC emission shall be tested initially to comply with the condition of this permit. Thereafter, compliance will be assumed provided the CO allowable emission rate is reached.

[3] NO_x - The continuous emission monitor (CEM) data shall be used for Kiln No. 2 compliance requirement. The CEM calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[4] Pursuant to 40 CFR 60, Subpart F, the kiln/cooler exhaust system shall be equipped with continuous opacity monitor system (COMS) to record the opacity at the stack to indicate proper maintenance and operation. Monitoring of the opacity of emissions shall be demonstrated by COMS pursuant to 40 CFR 60.63. Notification and recordkeeping shall be in accordance with 40 CFR 60.7 and 40 CFR 60.65.

[5] Continuous process monitors for CO and/or O_2 to optimize combustion conditions for pollution control shall be part of the process.

[6] SO_2 - The continuous emission monitor (CEM) data shall be used for Kiln No. 2 compliance requirement. The CEM calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[7] Protocol as approved by the Southwest District Ofiice.

* CMS [=] compliance demonstrated by a continuous monitoring system: CEMS or COMS.

Table 1-2. Air Pollutant Standards and Terms.

FACILITY ID NUMBER: 0530021

Permittee:

Florida Crushed Stone, Company

DRAFT Permit No.: AC27-274892(A) and PSD-FL-227(A)

Portland Cement Plant No. 2 and Associated Equipment

Emission Unit 026 - Kiln No. 2
Emission Unit 027 - Cooler No. 2

				Allowable Emissions			
E.U. ID#	Description	Pollutant ID	Fuel(s) [2]	BACT limits	lb/hr	TPY	Basis
026	Kiln No. 2	PM/PM_{10}	coal/gas/WTDF/oil	0.20 lb/ton kiln feed*	31.9	140.0	BACT
026	Kiln No. 2	SO_2	coal/gas/WTDF/oil	0.23 lb/ton clinker	24.0	105.0	BACT
026	Kiln No. 2	NO_x	coal/gas/WTDF/oil	2.8 lb/ton clinker	291.7	1280.0	BACT [3]
026	Kiln No. 2	CO	coal/gas/WTDF/oil	2.0 lb/ton clinker	208.3	913.0	BACT
026	Kiln No. 2	VOC	coal/gas/WTDF/oil	0.085 lb/ton clinker	8.85	38.8	FCS/DEP
026	Kiln No. 2	H_2SO_4	coal/gas/WTDF/oil	0.014 lb/ton clinker	1.46	6.39	FCS DATA
026	Kiln No. 2	Beryllium	coal/gas/WTDF/oil	8.5 E-07 lb/ton clinker	8.85 E-05	3.88 E-04	FCS/DEP
026	Kiln No. 2	Mercury	coal/gas/WTDF/oil	2.4 E-05 lb/ton clinker	2.50 E-03	1.10 E-02	FCS DATA
026	Kiln No. 2	Lead	coal/gas/WTDF/oil	5.2 E-04 lb/ton clinker	5.42 E-02	2.37 E-01	FCS DATA
026	Kiln No. 2	VE	coal/gas/WTDF/oil	10% opacity			BACT
027	Cooler No. 2	PM/PM_{10}	coal/gas/WTDF/oil	0.1 lb/ton kiln feed*	15.94	70.0	BACT-NSPS
027	Cooler No. 2	VE	coal/gas/WTDF/oil	10% opacity			BACT

ALLOWABLE OPERATING RATES

		KILN No. 2	Cooler No.2
Hours of operation per year		8760	8760
Kiln preheater feed rate	TPH	173.2	
Kiln feed rate *	TPH	159.4	

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

Kiln Heat Input	**MMBtu/hr**	325	
Clinker Production (1)	TPH	104.2	
Cooler throughput rate	TPH	104.2	

NOTES

(1) At a maximum design clinker production rate of 104.2 TPH and preheater feed rate of 173.2 TPH, utilizing a conversion factor of 0.602: (173.2 x 0.602 = 104.2).
(2) Fuel oil burning as specified in Specific Condition No. 8 is allowable for startup only. WDTF and whole tires (15% heat input) are allowed to be burned at this kiln.
(3) FCS shall have up to 18 months after startup of commercial operation to achieve the NO_x standard (2.8 lb/ton clinker).

Memorandum

Florida Department of
Environmental Protection

Kim

TO: Howard Rhodes

THRU: Clair Fancy CHF
Al Linero AAL 1/30 (repermitting of unbuilt plant with a process change) AL

FROM: Teresa Heron T.H

DATE: ~~January 31~~, 1997 2/7

SUBJECT: Florida Crushed Stone, PSD-Fl-227(A) and AC27-274892(A)
Project Modification and Production Increase

Attached is the final construction permit for this facility. The permit will provide for a change in the kiln technology (adds a precalciner) and a production increase for the previously proposed and permitted Portland Cement Plant No. 2.

The revised project includes a dry process kiln with a preheater/precalciner, clinker cooler, crushers, raw mill, finish mill, material and fuel handling equipment, silos, and shipping facilities. Pollution control equipment includes a common fabric filter system (baghouse) for particulate emissions from the kiln and cooler; absorption of sulfur compounds and metals into the product; combustion controls for volatile organic compounds (VOC) and CO; combustion controls for NO_x with additional controls to be specified as needed to meet permit limits; and baghouses for particulate emissions from other process emission units.

The BACT determination is the same on a unit basis as the one previously approved in the existing permit.

I recommend your approval and signature

RTP ENVIRONMENTAL ASSOCIATES INC.®

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239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

(908) 968-9600
Fax: (908) 968-9603

January 16, 1997

RECEIVED
JAN 21 1997
BUREAU OF
AIR REGULATION

Ms. Teresa Heron
Florida Dept. of Environmental Protection
Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Proposed "Reasonable Precautions" to prevent unconfined particulate matter emissions for Florida Crushed Stone draft permit

Dear Ms. Heron:

In our telephone conversation of January 9, 1997, you stated that the Department was amenable to all of the applicant's comments on the draft permit for a proposed precalciner kiln at Florida Crushed Stone (see December 13, 1996 letter from Donald F. Elias to Clair H. Fancy) except for number 3, which relates to unconfined particulate matter emissions (UPM). In response to your concerns, we have revised permit condition II.2.2(b) as follows based on reasonable preventions to control UPM at the facility:

(b) *The following reasonable precautions shall be implemented at the facility:*

- *All permanent haul roads and traffic areas at the plant site (with the exception of the coal storage area) shall be paved.*
- *A sweeper truck shall be maintained and operated at the plant to limit dust buildup on paved surfaces in and around the plant site, as well as internal areas of the plant.*
- *A water tanker truck shall be maintained and operated at the plant to water paved surfaces, raw material transfer points and other plant areas during dry meteorological periods as necessary to prevent fugitive emissions. Unpaved haul roads in and around the plant site shall be watered at regular intervals (or, alternately, treated with chemical dust suppressants at regular intervals).*
- *A vacuum truck shall be maintained and operated at the plant to "immediately collect" any spilled cement kiln dust.*

- *Dry materials (moisture content less than 10%) shall be stored below grade, in silos, or in covered structures.*
- *Limestone and gypsum shall be stored in the existing covered A-frame storage structure.*
- *Fly ash shall be charged directly into the storage silo via tank truck.*
- *Coal stored at or above natural grade shall be shaped, compacted, turned and/or watered as necessary to minimize wind erosion.*
- *A water sprinkler system shall be maintained and operated at the coal storage area to wet high traffic areas during hopper charging operations. The hopper and coal conveyor network shall be covered. Traffic in the coal storage area is limited to hopper charging operations.*
- *All cement products shall be transferred to transport vehicles with sealed pneumatic conveying systems which are either closed systems or exhausted through bag filters.*
- *All plant equipment operators will be trained in basic environmental compliance, and will perform visual inspections of materials before handling. If the visual inspections indicate a lack of excess surface moisture, the materials will be wetted. Such wetting will continue until the materials can be handled without generating unconfined particulate matter emissions.*

Please review our proposed permit language herein and incorporate as necessary into the draft permit. As we discussed, please provide us with another copy of the revised draft permit so that we may review the revisions made pursuant to this and our December 13th letters.

Thank you for your time and consideration.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias /wec

Donald F. Elias
Principal

DFE/WEC/wec

cc: C.Fancy, A.Linero, C.Holladay, H.Oven - Florida DEP
B.Adkins, C.Allen - Florida Crushed Stone
L.Curtin - Holland & Knight
W.Corbin, M.Hober, Proj.File-FCS - RTP Environmental Associates, Inc.

Memorandum

Florida Department of
Environmental Protection

TO: Al Linero 9H3 ©

FROM: Buck Oven

DATE: January 9, 1997

SUBJECT: Florida Crushed Stone, PA 82-17, Module 8025
PSD FL 227A

Please have the appropriate staff review the attached draft Order for accuracy and compare it to the proposed amendment to the PSD Permit and Permit No AC27-274892. Advise me of any necessary changes.

Attach:

cc: Doug Beason

cc: D. Beason

BEFORE THE STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

In Re:	)
Florida Crushed Stone Company	)
Power Plant Certification	)
Modification Request	)
No. PA 82-17F	)
Hernando County, Florida	)

PROPOSED ORDER

MODIFYING CONDITIONS OF CERTIFICATION

The Department of Environmental Protectionhas received a request to modify the Conditions of Certification for the Florida Crushed Stone (FCS) power plant in Brooksville pursuant to the Florida Electrical Power Plant Siting Act, Section 403.516(1), Florida Statutes, and Condition XXV, Modification of Conditions, which delegates authority to modify conditions to the Department.

On September 11, 1996, a request for modification was filed to allow construction and operation of a revised, second cement plant and related facilities on the site. The Department is reviewing the proposed request. The Bureau of Air Regulation has prepared a Public Notice of Intent to Issue Air Construction Permit for publishing. Approval of the Air Construction Permit and issuance of a revision to PSD-FL-227A by the Department will require a corresponding modification to the Conditions of Certification in PA 82-17.

The following changes to the conditions are proposed:

I. Air - A. Emission Limitations

16. If the preheater kiln technology is selected, ~~S~~stack emissions from Cement Plant II shall not exceed the following site specific limitations for the cement kiln, clinker cooler, raw mill and preheater as given in Permit No. AC~~95~~27-274892:

(Dry basis)	Emission Limits	MAX ALLOWABLE EMISSIONS	
POLLUTANT	LBS./TON KILN FEED	LBS./HR.	TONS/YR.
Particulate (Cooler)	0.1	12.7	55.6
Particulate (Kiln)	0.2	25.4	111.3
SO_2	0.18	22.4	98.2
No_x	1.83	232.4	1018

If the precalciner kiln technology is selected, stack emissions from Cement Plant II shall not exceed the following site specific limitations for the cement kiln, clinker cooler, raw mill, shaft dryer heater, and precalciner as given in Permit No. AC27-274892(A):

(dry basis)	Emission Limits	MAX ALLOWABLE EMISSIONS	
POLLUTANT	LBS./TON KILN FEED	LBS./HR.	TONS/YR.
Particulate (Cooler)	0.1	15.9	69.8
Particulate (Kiln)	0.2	31.9	139.6
SO_2	0.15	24.0	104.9
No_x	1.83	291.7	1277.5

The measured emission rates will be the combined rates from the Unit II cement kin stack. Visible emissions shall not be equal to or greater than 10% opacity, also determined at the Unit II cement plant stack. Permits No. AC~~95~~27-274892 and AC27-274892A also ~~specifies~~ specify:

a. No change

b. No change

c. No change

17. Minor source Cement Plant II particulate emissions due to the storage and/or use of raw materials, intermediate (cement kiln dust) and final (clinker) products will be controlled through the use of silos and/or covered conveyors equipped with fabric filter baghouses designed for outlet grain loading of 0.01 gr/~~acf~~dscf. A visible emission reading of 5% opacity or less may be used to establish compliance with the ~~lb/hour~~ gr/dscf emission

limits for each source given in the permits. A visible emission reading greater than 5% opacity ~~will~~ may

require the permittee to perform a stack test using EPA Methods contained in 40 CFR 60, Appendix A with minimum requirements for stack sampling facilities, source sampling and reporting in accordance with 62-297, F.A.C.

B. Air Monitoring Program

1. A flue gas oxygen meter shall be installed for the unit to continuously monitor a representative sample of the flue gas. The oxygen monitor shall be used with automatic feedback or manual controls to continuously maintain air/fuel ratio parameters at an optimum. Performance tests shall be conducted and operating procedures established. The document -- ***"Use of Flue Gas Oxygen Meter as BACT for Combustion Controls"*** -- may be used as a guide. The permittee shall ---.

H. Cement Kiln #2, and its associated equipment, shall be constructed and operated in accordance with PSD FL ~~22~~ 227 or 227(A).

XXV. Modification of Conditions

The conditions of this certification may be modified in the following manner:

A. The Board pursuant to 403.516(1), F.S. hereby delegates to the Secretary the authority to modify, after notice and opportunity for hearing, any conditions pertaining to consumptive use of water, monitoring of air or water, sampling, groundwater, mixing zones, zones of discharge, leachate control programs, effluent or emission limitations and transmission line construction.

B. This certification shall be automatically modified to conform to any subsequent amendments, modifications, or renewals made by DEP under a federally delegated or approved program to any separately issued Prevention of Significant Deterioration (PSD) permit, Title V Air Permit, or National Pollutant Discharge elimination System (NPDES) permit for the certified facility. Florida Crushed Stone shall send each party to the original certification proceedings (at the party's last known address as shown in the record of such proceeding) notice of requests for modifications or renewals of the above listed permits if the request involves a relief mechanism (e.g., mixing zone, variance, etc.) from standards, a relaxation of conditions included in the permit due to state permitting requirements, or the inclusion of less restrictive air emission limitations in the air permits. DEP shall notify all parties to the certification proceeding of any intent to modify conditions under this section prior to taking final agency action.

C. All other modifications shall be made in accordance with Sections 403.516, F.S.

Copies of the department's proposed action are hereby being distributed to all parties to the certification proceeding and made available for public review. All of the parties to the original proceeding are hereby advised of the intent to modify. A hearing may be held if a party to the original certification hearing objects within 45 days from receipt of the proposed notice of modification or if a person whose substantial interests will be affected by the proposed modification objects in writing within 30 days after issuance of the public notice.

DONE AND ENTERED this __________ day of __________, 1997, in Tallahassee, Florida.

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION

____

HAMILTON S. OVEN, P.E.
ADMINISTRATOR, SITING
COORDINATION OFFICE
2600 Blair Stone Road, MS 48
Tallahassee, Florida 32399-2400

Tallahassee, FL 32399-3000

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239 U.S. Highway 22 East
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December 13, 1996

Mr. Clair H. Fancy, P.E.
Bureau of Air Regulation
Florida Dept. of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Fancy:

We appreciate the Department's efforts in reviewing our application and preparing a draft permit. After careful review, Florida Crushed Stone (FCS) has the following comments on the draft air permit for a second kiln at their Brooksville facility:

(1) As noted in the application, FCS is requesting authority to construct either a gepol tower (previously permitted) or a precalciner kiln (subject of this draft permit). We request that the permit be worded to allow construction of either kiln to begin within 18 months of the effective date of this permit. This could be accomplished by a minor modification of the original permit (i.e., extending its date) or incorporating the original gepol tower permit into the new precalciner permit.

(2) The expiration date of this construction permit, November 30, 1998 (i.e., less than two years), is insufficient to allow for construction and shakedown of the proposed facility prior to applying for the operating permit. Therefore, we request that the expiration date be set at five years from the effective date of the final permit.

(3) Permit condition II.2.2(b) on page 5 is much more restrictive than requirements in the previous permit for the gepol tower kiln. Specifically, the applicant requests that the third through fifth bullet items be deleted. First, the permit application already specifies which materials will be stored in enclosed structures/silos. Also, determination of which materials required special storage was based on 10% moisture content in the previous permit application, not 14% as specified in the draft permit. Second, alignment of the coal pile with the predominant wind direction may not be possible given operational restrictions in the coal handling

area. Third, the requirement for revegetating haul roads and other disturbed areas is burdensome and may be interpretated to apply to mining operations. In summary, annual visible emission testing is being required as part of this permit for minor and fugitive PM sources, which will ensure that visible emissions are controlled to the degree necessary. Further, FCS maintains an ambient monitoring network that includes particulate monitoring as a further check on particulate emissions and impacts.

(4) Permit condition III.B11 on page 14 is much more restrictive than requirements in the previous permit for the gepol tower kiln. In the previous permit, production and feed rates were to be calculated and recorded daily, which is reflected in current condition III.B7. It is impractical, if not impossible, to calculate and record hourly production and feed rates. Even if it were somehow possible, the production and feed rates could not be calculated on a real-time basis for use by CEM systems.

Also, the requirement to calculate 24-hour rolling-hourly CEM averages is burdensome and not necessary. As written, we interprete the permit for the gepol tower kiln to require compliance with 24-hour limits to be based on daily block averages consistent with the requirement for production and feed rates to be recorded daily. Most existing permits with CEM requirements or new federal directives require that compliance with 24-hour permit limits based on CEM data be calculated as daily (i.e., block) rather than 24-hour running averages. For example, the recent Emission Guidelines/New Source Performance Standards (EG/NSPS) for municipal waste combustors (MWCs) at 40 CFR Subparts Cb and Eb require compliance based on CEM data to be determined with the daily (i.e., block) averaged <u>geometric mean</u> of hourly arithmetic mean concentrations, which are even less stringent than daily (i.e., block) averaged arithmetic mean averages.

Finally, this condition requires that startup be limited to 2 hours without notifying the Department. As noted in our May 10, 1995 responses for the previous permit, startup from cold conditions can take up to 24 hours (a large amount of time is necessary to heat the large thermal mass of the kiln). Thus, every cold startup would require notification and potentially prior Department approval. We believe that the language in the draft permit is a misinterpretation of FAC 62-210.700, which limits the duration of <u>excess emissions</u> due to startup, shutdown, and malfunctions to two hours in a 24 hour period. During startup and shutdown, emissions will be less than permit limits given in lb/hour values. However, since no feed stock is introduced or clinker produced during the initial warmup phases of a startup, permit limits given in lb/ton are meaningless. We suggest that this condition be reworded as follows:

B11. Compliance with the emission limits for NO_x and SO_2 in Table 1-2 shall be demonstrated by the continuous emission monitoring system (CEMS). The CEMS shall calculate and record emission rates in units of pounds of NO_x and SO_2 per hour. Clinker production rates shall be recorded daily. The permittee may establish a relationship between material feed rates and production rates of clinker if material feed rates are measured more accurately than clinker production rates and the relationship is accurate within 10%.

Every day, the 24-hour hour average NO_x and SO_2 emission rate for the previous day must be calculated. Emissions must be calculated in units of pounds per hour and pounds per ton of clinker. Daily averages are to be calculated as the arithmetic mean of each monitored operating hour. A monitored operating hour is each hour in which fuel is fired in the unit and at least two emission measurements are recorded at least 15 minutes apart. Data taken during periods of startup, or when fuel is not fired to the unit, or when the CEMS is not calibrated shall be excluded from the daily average.

For compliance with the emission limits in Table 1-2, the daily average shall not include data from periods of startup when no clinker is being produced. However, emissions during startup periods shall not exceed the pound per hour limits in Table 1-2. Data recorded during periods of shutdown, malfunction, load change, and continuous operating periods shall be included in the daily average.

(5) There are numerous rounding errors in Table 1-2. Please revise these values to the correct numbers shown below:

SO_2 = 24.0 lb/hour	VOC = 0.085 lb/ton clinker
H_2SO_4 = 1.46 lb/hr	Be = 8.5E-07 lb/ton clinker[a]

Cooler PM = 15.94 lb/hr and 69.81 tpy (could be rounded to 70 tpy)
Hours of operation should include "per year"

In addition, the table does not include the footnote noting that the applicant has 18 months to achieve the NO_x permit limit. There is no mention of the 18 month period anywhere in the draft permit, although the supporting documents discuss this. As we noted in previous correspondence, it is important that FCS have this period to optimize the kiln operation in order to minimize NO_x emissions.

---

[a]Emission limit should also be corrected on page 10 of Appendix BD (BACT Determination).

(6) On Table 2-1, please change the required test method for beryllium to Method 29 from Method 104. Thus, compliance with the beryllium emission limit can be determined during the same multi-metals test as required for mercury and lead in order to simplify the initial stack tests procedures and minimize testing costs.

(7) Permit condition III.C5 on pages 20 and 21 notes that Department establishes a visible emission limitation of 5% opacity in lieu of particulate stack tests. Like specific condition 13 in the gepol tower permit, it should be explicitely stated that visible emissions in excess of 5% opacity are not permit violations, but only require that particulate stack tests be performed.

(8) Permit condition III.C10(c) on pages 21 and 22 specifies an opacity limit for coal handling equipment and fugitive emissions from coal storage piles, etc. to less than 5% except when adding, moving, or removing coal (during which opacity shall be no more than 20%). To maintain consistency with opacity limits for other fugitive emissions, FCS requests that the "less than 5% opacity" be changed to "10% opacity or less" and revise the entry in the opacity column of Table 1-1 for coal handling and storage fugitive emissions accordingly (i.e., from "5/20/10" to "20/10").

If you have any questions or need any additional information, please feel free to contact either Bryan Adkins of Florida Crushed Stone at 352-799-7881 or myself at 908-968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias/wec

Donald F. Elias
Principal

DFE/WEC/wec

cc: A. Linero, T. Heron, C. Holladay, H. Oven/FDEP
B. Adkins, C. Allen/FCS
L. Curtin, Esq./Holland & Knight
M. Hober, W. Corbin, M. Lewis, FCS3 Project File/RTP
EPA
NPS
SWD
Beason, OGC
L. Jennings, Hernando Co.

FLORIDA CRUSHED STONE COMPANY

RECEIVED
DEC 2 1996
BUREAU OF
AIR REGULATION

November 26, 1996

Mr. Clair Fancy
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Proof of Publication- Public Notice of Intent To Issue Air Construction Permit. Draft Permit No. AC27-274892(A), PSD-FL-227, PA82-17 Florida Crushed Stone, Portland Cement Plant No.2 and Associated Equipment.

Mr. Fancy:

Enclosed is the newspaper affidavit from the Hernando Today for the above referenced public notice published on November 22, 1996.

Please call me at the number below if you have any questions.

Sincerely,

Tom Mountain

Tom Mountain
Environmental Manager

cc: B. Beals, EPA
J. Bunyak, NPS
B. Oven, NPS
B. Thomas, SWD
D. Beason, OGC
L. Jennings, Hernando Co
J. Heron, BAR

P.O. BOX 668 / BROOKSVILLE, FL 34605-0668 / 11430 CAMP MINE RD - 34601 / (904) 796-3522 / FAX (904) 799-4169

HERNANDO TODAY

Published Daily

BROOKSVILLE, HERNANDO, FLORIDA
STATE OF FLORIDA
COUNTY OF HERNANDO:

Before the undersigned authority personally appeared Sally Parmerter, who on oath says that she is Legal Ad Coordinator of the Hernando Today/Hernando Sunday, a daily newspaper published at Brooksville in Hernando County, Florida: that the attached copy of the advertisement, being a Legal Advertisement in the matter of Public Notice of Intent to Issue Air Construction Permit

in the N/A Court, was published in said newspaper in the issues of Nov. 22, 1996

Affiant further says that the said Hernando Today/Hernando Sunday is a newspaper published at Brooksville, in said Hernando County,, Florida, and that the said newspaper has heretofore been continuously published in said Hernando County, Florida, each week and has been entered as second class mail matter at the post office in Brooksville, in said Hernando County, Florida, for a period of 1 year next preceding the first publication of the attached copy of advertisement; and affiant further says that 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.

Sally Parmerter
(Signature of Affiant)

Sworn to and subscribed before me this 25th day of November, 1996

Kathleen R Schiefelbein
(Signature of notary public)

Kathleen R. Schiefelbein
(Name of Notary typed, printed or stamped)

Personally Known ✓ or
Produced Identification______
Type of Identification Produced

OFFICIAL NOTARY SEAL
KATHLEEN R SCHIEFELBEIN
NOTARY PUBLIC STATE OF FLORIDA
COMMISSION NO. CC478140
MY COMMISSION EXP. JULY 5,1999

KATHLEEN R. SCHIEFELBEIN
NOTARY PUBLIC
STATE OF FLORIDA

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DRAFT Permit No.: AC27-274892(A), PSD-FL-227(A)
Florida Crushed Stone
Brooksville Cement Manufacturing Facility
Hernando County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Florida Crushed Stone Company (FCS). The permit will provide for a change in kiln technology and a production increase for the previously proposed and permitted Portland Cement Plant No. 2 to be located at 10311 Cement Plant Road in Brooksville, Hernando County, Florida. A Best Available Control Technology (BACT) determination was required for particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_X), and carbon monoxide (CO) pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's name and address are: Florida Crushed Stone Company, 10311 Cement Plant Road, Brooksville, Florida 34601.

The project changes consist of adding a precalcining vessel and a different preheater prior to the kiln in lieu of the previously approved Gepol preheater. The capacity of the plan will increase from 83 to 104 tons per hour of clinker. The revised project, therefore, will consist of a dry process kiln with a preheater/precalciner, clinker cooler, crushers, raw mill, finish mill, material and fuel handling equipment, silos, and shipping facilities. Pollution control equipment includes a common fabric filter system (baghouse) for particulate emissions from the kiln and cooler; absorption of sulfur compounds and metals into the product; combustion controls for volatile organic compounds (VOC) and CO; indirect firing, multiple burn points and other combustion controls for NO_X; and baghouses for particulate emissions from other process emission units.

Total emissions of PSD-Significant pollutants for the revised Portland Cement Plant No. 2 project will be greater than those predicted for the original project due to the production increase:

Pollutant	Revised Project Tons Per Year	Original Project Tons Per Year
PM/PM_{10}	300	250
SO_2	105	98
NO_X	1278	909
CO	913	727

An air quality impact analysis was conducted. SO_2 and NO_2 emissions will not have a significant impact in the PSD Class II area: therefore, no PSD Class II increment consumption for SO_2 and NO_2 was calculated. The maximum predicted PSD Class II PM_{10} increments consumed by this project will be as follows:

PSD Class II Increment	Consumed (ug/m3)	Allowable Increment (ug/m3)	Percent Increment Consumed
PM_{10}			
24-hour	28	30	93
Annual	3	17	18

The project will not have a significant impact on the Chassahowitzka PSD Class I area with respect to SO_2, PM_{10} and visibility; therefore, no increment consumption for SO_2 and PM_{10} was calculated. The maximum predicted PSD Class I NO_2 increment consumed by this project is as follows:

PSD Class I Increment	Consumed (ug/m3)	Allowable Increment (ug/m3)	Percent Increment Consumed
NO_2 Annual	0.99	2.5	40

Coal and tires will be the primary fuels consumed. A blend of fuel oil and on-spec used oil will be burned during startup with occasional use of natural gas. No RCRA hazardous waste will be burned. Cement Kiln Dust (CKD) collected in the kiln/cooler baghouse will be returned to the process. Any CKD not returned to the process will be stored in silos for sale and ultimately handled in accordance with Subtitle C rules under development by EPA.

The Department will issue the FINAL Permit, in accordance with the conditions of the DRAFT Permit 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 DRAFT Permit issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit, the Department shall issue a Revised DRAFT Permit and require, if applicable, another Public Notice.

The Department will issue FINAL Permit with the conditions of the DRAFT Permit unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. or a party requests mediation as an alternative remedy under Section 120.573 before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9370, fax: 904/487-4938. Petitions 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. A petitioner must 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 (or a request for mediation, as discussed below) 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 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed: (b) A statement of how and when each petitioner received notice of the Department's action or proposed action: (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action: (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action: (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action: and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action addressed in this notice of intent.

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 of intent. 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 person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

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As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

The 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: 904/488-1344
Fax: 904/922-6979

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619
Telephone: 813/744-6100
Fax: 813/744-6458

Hernando County Planning Department
20 North Main Street, Room 262
Brooksville, Florida 34601-2807
Telephone: 352/754-4057
Fax: 352/754-4420

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 Administrator, New Resource Review Section at 111 south Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 904/488-1344, for additional information.

NOV. 22, 1996

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

November 12, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Joseph T. Piermatteo
Sr. Vice President
Florida Crushed Stone Company
10311 Cement Plant Road
Brooksville, Florida 34601

Re: DRAFT Permit No. AC27-274892(A), PSD-FL-227(A), PA 82-17
Florida Crushed Stone, Portland Cement Plant No. 2 and Associated Equipment

Dear Mr. Piermatteo:

Enclosed is one copy of the Draft Air Construction Permit for the Florida Crushed Stone Cement Plant No. 2 located at US Highway 98, Northwest of Brooksville, Hernando County. The Technical Evaluation and Preliminary Determination, Best Available Control Technology Determination, the Department's Intent to Issue Air Construction Permit, and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" are also included. The FINAL Permit, if issued, may replace the permit already issued by the Department on November 17, 1995 for a second cement plant at your Brooksville facility.

The "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" must be published within 30 (thirty) days of receipt of this letter. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please contact Ms. Teresa Heron or Mr. Linero at 904/488-1344.

Sincerely,

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CHF/th/t

Enclosures

In the Matter of an
Application for Permit by:

Florida Crushed Stone Company
10311 Cement Plant Road
Brooksville, Florida 34601

DRAFT Permit No.:AC27-274892(A)
PSD-FL-227(A)
Brooksville Portland Cement Facility
Hernando 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 attached) for the proposed project, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Florida Crushed Stone Company, applied on September 11, 1996, to the Department for an air construction permit to replace the one issued on November 17, 1995 for a second cement plant at its Brooksville facility located at 10311 Cement Plant Road, Brooksville, Hernando County. The request is to allow a possible change in the project to incorporate more modern kiln technology together with a production increase.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and 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 a new air construction permit is required to revise the emission limits as proposed. The new permit, if issued, may replace the the one already issued.

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 62-103.150, 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 within 30 (thirty) days in the legal advertisement section of a newspaper of general circulation in the area affected. 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. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. 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: 904/488-1344; Fax 904/ 922-6979) within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit pursuant to Rule 62-103.150 (6), F.A.C.

The Department will issue the FINAL Permit, in accordance with the conditions of the enclosed DRAFT Permit 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 DRAFT Permit issuance action for a period of 30 (thirty) days from the date of publication of "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT." Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit, the Department shall issue a Revised DRAFT 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., or a party requests mediation as an alternative remedy under Section 120.573 F.S. before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9730, fax: 904/487-4938. Petitions 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. A petitioner must 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 (or a request for mediation, as discussed below) 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 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the action or proposed action addressed in this notice of intent.

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A person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

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As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

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.

C.H. Fancy

C.H. Fancy, P.E., 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, Draft BACT Determination, and the DRAFT permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 11-12-96 to the person(s) listed:

Mr. Joseph T. Piermatteo, Florida Crushed Stone Company *
Brian Beals, EPA
John Bunyak, NPS
Buck Oven, DEP
Bill Thomas, SWD
Doug Beason, OGC
Lawrence Jennings, Hernando Co.
Don Elias, RTP
Lawrence Curtin, H&K
Tom Mountain, FCS

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kuri Tober 11-12-96
(Clerk) (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DRAFT Permit No.: AC27-274892(A), PSD-FL-227(A)
Florida Crushed Stone
Brooksville Cement Manufacturing Facility
Hernando County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Florida Crushed Stone Company (FCS). The permit will provide for a change in kiln technology and a production increase for the previously proposed and permitted Portland Cement Plant No. 2 to be located at 10311 Cement Plant Road in Brooksville, Hernando County, Florida. A Best Available Control Technology (BACT) determination was required for particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_x), and carbon monoxide (CO) pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's name and address are: Florida Crushed Stone Company, 10311 Cement Plant Road, Brooksville, Florida 34601.

The project changes consist of adding a precalcining vessel and a different preheater prior to the kiln in lieu of the previously approved Gepol preheater. The capacity of the plant will increase from 83 to 104 tons per hour of clinker. The revised project, therefore, will consist of a dry process kiln with a preheater/precalciner, clinker cooler, crushers, raw mill, finish mill, material and fuel handling equipment, silos, and shipping facilities. Pollution control equipment includes a common fabric filter system (baghouse) for particulate emissions from the kiln and cooler; absorption of sulfur compounds and metals into the product; combustion controls for volatile organic compounds (VOC) and CO; indirect firing, multiple burn points and other combustion controls for NO_x; and baghouses for particulate emissions from other process emission units.

Total emissions of PSD-Significant pollutants for the revised Portland Cement Plant No. 2 project will be greater than those predicted for the original project due to the production increase:

Pollutant	Revised Project Tons Per Year	Original Project Tons Per Year
PM/PM_{10}	300	250
SO_2	105	98
NO_x	1278	909
CO	913	727

An air quality impact analysis was conducted. SO_2 and NO_2 emissions will not have a significant impact in the PSD Class II area: therefore, no PSD Class II increment consumption for SO_2 and NO_2 was calculated. The maximum predicted PSD Class II PM_{10} increments consumed by this project will be as follows:

PSD Class II Increment Consumed (ug/m3)		Allowable Increment (ug/m3)	Percent Increment Consumed
PM_{10}			
24-hour	28	30	93
Annual	3	17	18

The project will not have a significant impact on the Chassahowitzka PSD Class I area with respect to SO_2, PM_{10} and visibility; therefore, no increment consumption for SO_2 and PM_{10} was calculated. The maximum predicted PSD Class I NO_2 increment consumed by this project is as follows:

PSD Class I Increment Consumed (ug/m3)		Allowable Increment (ug/m3)	Percent Increment Consumed
NO_2 Annual	0.99	2.5	40

Coal and tires will be the primary fuels consumed. A blend of fuel oil and on-spec used oil will be burned during startup with occasional use of natural gas. No RCRA hazardous waste will be burned. Cement Kiln Dust (CKD) collected in the kiln/cooler baghouse will be returned to the process. Any CKD not returned to the process will be stored in silos for sale and ultimately handled in accordance with Subtitle C rules under development by EPA.

The Department will issue the FINAL Permit, in accordance with the conditions of the DRAFT Permit 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 DRAFT Permit issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit, the Department shall issue a Revised DRAFT Permit and require, if applicable, another Public Notice.

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The 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: 904/488-1344
Fax: 904/922-6979

Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, Florida 33619
Telephone: 813/744-6100
Fax: 813/744-6458

Hernando County Planning Department
20 North Main Street, Room 262
Brooksville, Florida 34601-2807
Telephone: 352/754-4057
Fax: 352/754-4420

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 Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 904/488-1344, for additional information.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Joseph J. Pennatteo Sr. VP.
Fla Crushed Stone Co.
10311 Cement Plant Rd
Brooksville, Fl
34601

4a. Article Number
P 339 251 177

4b. Service Type
☐ Registered ☐ Insured
☑ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
11/14/96

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ★U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

P 339 251 177

US Postal Service
Receipt for Certified Mail
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PS Form 3800, April 1995

DIVISION OF AIR RESOURCES MANAGEMENT
BUREAU OF AIR REGULATION
NEW SOURCE REVIEW SECTION
PHONE 904/488-1344 FAX 904/ 922-6979
Mail Station # 5505

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

Portland Cement Plant No. 2

FLORIDA CRUSHED STONE COMPANY

Facility ID No. :0530021
Brooksville, Florida
Hernando County

Permit No. AC 27-274892 (A)
PSD-FL-227 (A)
PA 82-17

November 6, 1996

FLORIDA CRUSHED STONE COMPANY.
PORTLAND CEMENT PLANT NO. 2
Brooksville, Florida
PSD-FL-227(A) and AC 27-274892(A)
Facility ID No.: 0530021

Table of Contents

I. APPLICANT NAME AND ADDRESS

Florida Crushed Stone Company
10311 Cement Plant Road
Brooksville, Florida 34601

II. FACILITY INFORMATION

A. FACILITY LOCATION

Florida Crushed Stone Company (FCS) plans to construct a 104 ton of clinker per hour (TPH clinker) cement plant at its existing facility located approximately 3.5 miles northwest of Brooksville, Hernando County. In addition to the existing 83 TPH clinker cement plant, there are large limestone reserves, quarrying operations, a lime plant, and a 150 megawatt power plant on 6400 contiguous acres. A second 83 TPH clinker cement plant was already permitted on November 17, 1995 but has not yet been built. The proposed 104 TPH plant would be constructed in lieu of the second 83 TPH plant.

This site is approximately 20 to 30 kilometers east to southeast of the Chassahowitzka National Wildlife Refuge, a Class I PSD Area, and over 50 kilometers north of ozone (O_3) maintenance and lead (Pb) non-attainment areas in Pinellas and Hillsborough Counties. The UTM coordinates of this facility are Zone 17, 360.0 km East and 3162.5 km North.

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

Florida Crushed Stone/Central Power and Lime facility is classified as a major air pollutant emitting facility. As proposed, the revised project is subject to New Source Review because it constitutes a Major Source with emissions of approximately 300 tons per year (TPY) of particulate matter (PM and PM_{10}), 105 TPY of sulfur dioxide (SO_2), 1278 TPY of nitrogen oxides (NO_x) and 913 TPY of carbon monoxide (CO).

Less than significant emissions of other criteria pollutants, as proposed, are 39 TPY of volatile organic compounds (VOC), 6.4 TPY of sulfuric acid mist (H_2SO_4 as SO_3), 2.37E-01TPY of lead (Pb), and 1.10E-02 TPY of mercury (Hg), and 3.8E-04 TPY of beryllium (Be).

III. PROJECT DESCRIPTION

FCS is applying for a permit which incorporates modifications in the kiln technology currently permitted for the second cement kiln (AC27-274892 and PSD-FL-227, issued in November 1995) from a Gepol preheater (PH) tower kiln to a preheater/precalciner (PH/PC) kiln. Thermal efficiencies will be improved with the PH/PC kiln and the amount of fuel combusted per ton of clinker produced is expected to be reduced. The change to a PH/PC kiln will lower the temperature of the exhaust gases used to dry the raw materials prior to the raw mill so a shaft dryer incorporating an additional air heater is added to the design. Production will be 104 TPH of clinker from the PH/PC kiln instead of the permitted 83 TPH of clinker from the PH kiln.

The proposed cement plant will be designed to produce up to 104.2 TPH of clinker (highest maintained rate over a day). Although the plant will operate continuously and at a lower average production rate, the annual potential production rate will not exceed 912,500 TPY of clinker. The major equipment will include a PH/PC kiln, a clinker cooler, raw mill, finish mill, silos, conveyers, and particulate control/dust collection and recycling equipment. Another stack servicing the kiln and cooler will be erected and attached to the existing 320 foot stack. The cement product will be stored in silos and shipped in bags or in bulk by rail or truck.

Equipment changes resulting from the change in kiln technology consist of the following:

- Replacement of the planned Gepol tower with a preheater/precalciner, which consists of a set of cascading cyclones with a separate indirect-fired burner.

- Replacement of the planned direct-fired main kiln burner with an indirect fired main kiln burner.

- Addition of a shaft dryer to the raw mill system, including a separate combustion source (i.e., air heater), which increases the number of cyclones and slightly changes the course of air flow and raw material feed through the raw mill system.

- Addition of a bypass system, which vents air from the base of the precalciner through a dedicated baghouse directly to the main kiln stack. This system is common in precalciner systems and removes undesirable volatile constituents in the exhaust gases that might otherwise condense and cause scaling which can restrict process and gas flows.

- Since the kiln and precalciner burners are indirect fired, the coal handling system will require changes to reduce the air used to supply pulverized coal to the combustion system. This will require an additional coal storage silo (2S-20) and create two new minor particulate matter (PM) sources (2S-17 and 2S-21).

The revisions to the raw material and clinker handling systems are:

- Removal from the design of three dust collectors (2D-63, 2S-07, and 2S-04), one each for the iron ore storage bin (2D-61), coal storage bin (2S-10), and coal feed conveyor (2S-03). Based on the operation of the existing cement kiln, dust collectors are not necessary for these sources.

- Use of existing storage bins for the existing cement kiln I system for fly-ash, lime, and filter dust feed materials. This will eliminate three sources (i.e., silos) from the design (2D-64, 2F-21, and 2D-72) and two associated fly-ash silo dust collectors (2D-67 and 2F-30). The currently permitted filter dust silo dust collector (2D-72) will be retained for use in controlling PM emissions from the feed system used to convey filter dust from the existing silo to the new kiln.

- Addition of a clinker storage silo (2L-05) with an associated dust collector (2L-06) and clinker storage bin (2M-15) with an associated dust collector (2M-18).

- Change to the general arrangement of cement storage silos to utilize existing lime silos and dust collectors from the existing cement kiln for cement storage and load-out.

- Addition of the additional cement discharge hopper (2Q-38) with a related dust collector (2Q-17).

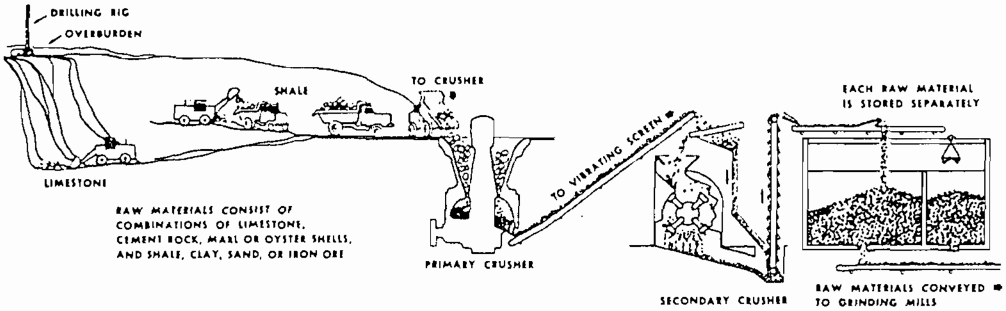
- Minor changes to the exit temperatures, flowrates, stack diameters, discharge height equipment numbers, and cloth areas for numerous sources as shown by underlines in Table 1-3 of the application.

The main raw materials will be limestone, clay, ash, iron ore from various sources and gypsum (e.g. from Tampa Electric's scrubbing system).

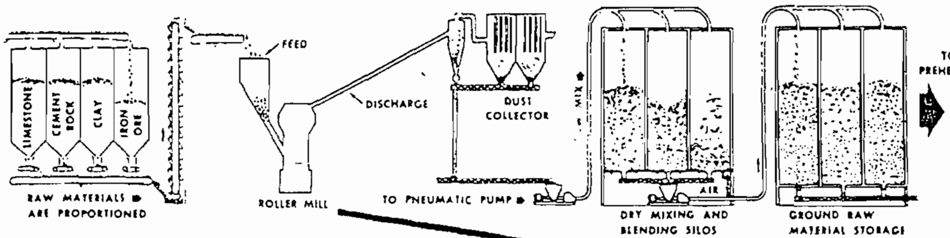
IV. PROCESS DESCRIPTION

Portland cement is a fine powder, usually gray in color, that consists of a mixture of dicalcium silicate, tricalcium silicate, tricalcium aluminate, and tricalcium aluminoferrite, and miscellaneous minerals to which one or more forms of calcium sulfate have been added. About 95% of the cement production in the United States is portland cement. Masonry cement, also produced at the portland cement plant, represents the balance of the domestic cement production.

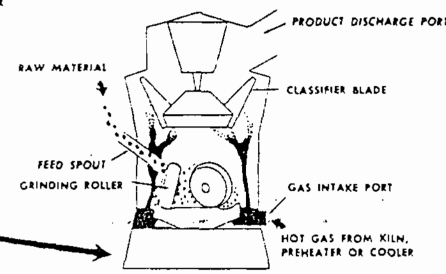
There are several variations in cement manufacturing including the wet, dry, dry preheater (PH), and dry preheater/precalciner (PH/PC) processes. These processes are essentially identical relative to the manufacture of cement from raw materials. However, the type of process does affect the equipment design, method of operation, and fuel consumption. Because of its lower fuel requirements, most new portland cement plants use the dry PH/PC. FCS proposes to use the dry PH/PC process depicted in simplified form in Figure 1 (from a Portland Cement Association publication).



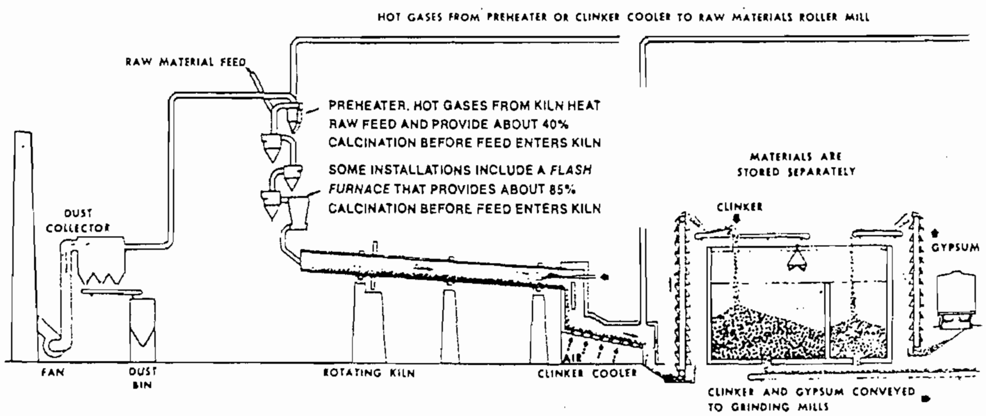
1. Stone is first reduced to 125 mm size, then to 20 mm, and stored.



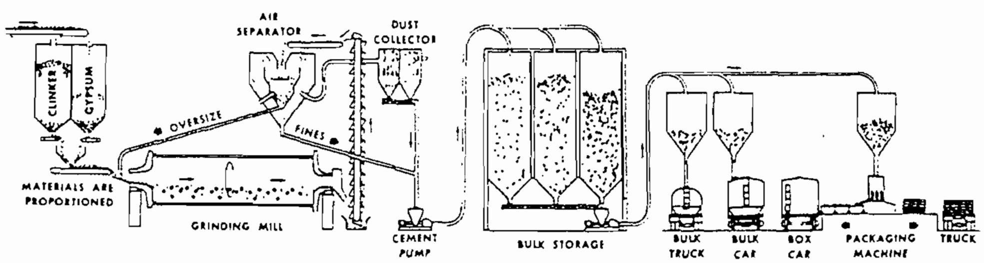
2. Raw materials are ground to powder and blended.



DETAIL OF ROLLER MILL, WHICH COMBINES CRUSHING, GRINDING, DRYING, AND CLASSIFYING IN ONE VERTICAL UNIT



3. Burning changes raw mix chemically into cement clinker. Note four-stage preheater, flash furnaces, and shorter kiln.



4. Clinker with gypsum is ground into Portland cement and shipped.

Figure 1 New technology in dry-process cement manufacturing

The choice of fuel is based on economics. The most commonly used kiln fuels are coal, natural gas, and oil. Supplementary fuels such as petroleum coke, tires, used oil and various kinds of wastes are burned at many plants. FCS will burn coal in the kiln burner and introduce tires with the raw materials entering the kiln. FCS will use a blend of virgin oils with on-spec used oil for kiln startup and proposes use of natural gas at any time.

Fuel combustion differs between the various processes. In all of the variations, the combustion occurs in the kiln. In the dry PH/PC process, substantial fuel combustion also occurs in PC vessel between the PH and kiln material entry point. This reduces the thermal load on the kiln and allows for a shorter kiln.

The production of portland cement is a four-step process: (1) raw materials acquisition and handling (2) kiln feed preparation for pyroprocessing, (3) pyroprocessing, and (4) finished cement grinding. The chemical reactions and physical processes that constitute the transformation are quite complex. The main portion of the advanced, dry processes is the pyroprocessing system which includes the rotary kiln, suspension preheater, and calcining loop. Several complex chemical reactions necessary to produce portland cement minerals take place in the rotary kiln. Pyroprocessing (dry process with preheater) may be conveniently divided into five stages, depending on location and temperature of the materials in the system.

1. Uncombined water evaporates from raw materials as the material temperature increases to 100°C (212°F) in the upper PH or raw materials roller mill.

2. As the material temperature increases from 100°C to approximately 430°C (800°F) in the PH, combined water is liberated from argillaceous compounds.

3. Between 430°C and 900°C (1650°F), calcination begins in the lower PH and is completed in the PC. Carbon dioxide is liberated from the carbonates. A portion of the fuel is burned in the PC vessel to effect the greatest degree of calcination.

4. Following calcination, sintering of the oxides occurs in the burning zone of the rotary kiln at temperatures up to 1510°C (2750°F). Lime, silica, and iron and aluminum compounds react to form calcium silicates, aluminates, ferrites and aluminoferrites. Alkali sulfates and chlorides evaporate.

5. Following sintering, clinker nodules are produced as the temperature of the material decreases from 1510°C to 1370°C (2500°F).

The raw materials enter the pyroprocessing system in the uppermost PH. They exit the PC and (together with tires) enter the kiln at the elevated end. The rotation of the kiln causes the solid materials to be slowly transported downward from the front end. Coal (or fuel oil blend or natural gas) is supplied at the lower or discharge end of the kiln. The hot, gaseous combustion products move counter-current to the materials flow, thereby transferring heat to solids in the kiln and preheater.

The product of the rotary kiln is known as clinker which enters a vessel where it is cooled by air. Hot air from the clinker cooler is recovered and returned to the pyroprocessing system as combustion air or to dry or convey materials. The cooled clinker is mixed with a form of calcium sulfate, such as waste gypsum from electric utility scrubbers, and ground in the finish mill to produce portland cement.

Portland cement is shipped from the packhouse or shipping department in bulk or in paper bags by truck or rail.

V. FUEL CONSUMPTION

The main fuels to be burned in the kiln are coal and tires (up to 15% of total heat input). Blends of virgin and on-spec used oil (up to 1.5% S and a flash point of 140°F minimum) will be used for startup. The applicant proposes to use natural gas at any time. There are no plans to burn petroleum coke or hazardous wastes.

Startup of the proposed cement kiln will be accomplished with oil or natural gas. Oil and gas will be combusted first at low utilization rates. Cold start up requires approximately 24 hours until the kiln is ready to receive feed. Since oil or natural gas utilization rates during the entire startup period are less than fuel consumption rates at normal operating conditions and no product or coal is introduced to the kiln, emissions during start up period should be less than emissions under normal operation. No coal or product will be introduced into the kiln until optimum operating conditions are attained. Like the start up period, coal and product feed begins at reduced rates, ramping up gradually to the final operating conditions.

Tires will not be fed until the kiln is hot enough to support proper combustion and the temperature maintained high enough to destroy dioxins and furans.

The revision in technology will add two primary emissions sources, the shaft dryer and the precalciner. Both of these new sources are combustion sources that are integral in the preparation of the raw material feed and the cement clinker production. The shaft dryer contains a 30 MMBtu/hr combustion source, to be fired on No. 2 light fuel oil. The combined gross heat input to the PC and the kiln is 325 MMBtu/hr, to be fired on coal, natural gas, and/or tires or tire-derived fuel (start-up with natural gas, fuel oil, and/or on-spec used oil).

VI. RULE APPLICABILITY

The proposed project is subject to the preconstruction review requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, and 62-204, 62-210, 62-212, 62-296, and 62-297, Florida Administrative Code (F.A.C.).

The present facility is a Major Source of air pollution per Rule 62-210.200., F.A.C., "Definitions." The new cement plant will be a major source for PM, PM_{10}, SO_2, NO_x, and CO. The proposed plant will be located in an area (Hernando County) designated attainment for all criteria pollutants (Rule 62-204.360, F.A.C.). The proposed project is subject to the Prevention of Significant Deterioration (PSD) regulations (Rule 62-212.400., F.A.C.) because the potential emissions increases of each of these pollutants exceed the significant emission rates given in Table 62-212.400-2, F.A.C., "Regulated Air Pollutants Significant Emission Rates."

PSD Review consists of a determination of best available control technology (BACT) and an air quality impact analysis for each of these regulated pollutants. The allowable emissions of these pollutants will be established by a Best Available Control Technology (BACT) determination (Rule 62-212.300, F.A.C.). The BACT review is included as a separate document.

The additional plant is also subject to the applicable requirements of the federal New Source Performance Standards (NSPS) including:

- 40 CFR 60 Subpart F, "Standards of Performance for Portland Cement Plants."
- 40 CFR 51 Subpart P, "Protection of Visibility."

The proposed cement plant is also subject to the applicable requirements related to used fuels and wastes given in 40 CFR 266.40, which is adopted by reference in Rule 62-730.181 F.A.C. and Rule 62-730.030 F.A.C. or 40 CFR Part 261 (July 1994 version).

In processing the application, the Department must conduct its review consistent with the roles and requirements of States, the EPA Administrator (role delegated to Florida), the Federal Land Manager, and Federal official charged with direct responsibility for a Class I area. The requirements are given in Section 164 and 165 of the Clean Air Act and 40 CFR 51.300 Subpart P, Protection of Visibility. In this case, the Class I area is the nearby Chassahowitzka National Wildlife Area.

VII. SOURCE IMPACT ANALYSIS

A. CONTROL TECHNOLOGY REVIEW

PARTICULATE MATTER

As proposed by the applicant, all emissions sources addressed in Table I will be controlled by baghouses. The major emission unit in the cement plant is the kiln. The exhaust gases from the kiln and cooler will be controlled by a common baghouse and emitted to the atmosphere through a dedicated stack adjacent to the existing power plant/cement plant No. 1 stack.

All the baghouses used in the proposed cement plant are designed to operate such that particulate matter concentrations in the exhaust gas stream will not exceed 0.01 grains per dry cubic foot (gr/dscf).

All dry raw materials, intermediate products and final products within the cement plant will be transferred by enclosed conveyer, air slides, screw conveyors, or enclosed elevators. All of the enclosed transfer systems will be operated under negative pressure with the gases vented through baghouses before being discharged to the atmosphere. Storage silos and the coal receiving and storage system will also be vented through baghouses. Water sprays will be used as necessary to control fugitive particulate matter emission. Quarrying and raw material storage piles will be under moist conditions with relatively low unconfined emissions. Roads will be washed on a daily basis in order to control excessive dust.

According to FCS, this cement plant will not generate cement kiln dust (CKD) as a waste product. This is consistent with the greater opportunity for recycle afforded by the dry processes and with the present practice which is to reuse the material or sell it from a storage silo. CKD collected in kiln/cooler baghouse will be returned to the process.

No dust disposal piles are planned. FCS will eventually be required to comply with Subtitle C regulations to be promulgated by EPA to address CKD.

A covered coal conveyer and baghouse will be used to limit fugitive emissions from the coal handling system.

Manual and automatic control of the combustion process will insure that the combustion process can be optimized for both normal operation and for startup and shutdown conditions. At no time will the baghouse be bypassed during either startup or shutdown periods.

SULFUR DIOXIDE

The Department's SO_2 emission limit of 0.23 pounds per ton of clinker will be accomplished by removal of sulfur oxides as alkali salts including sodium and potassium sulfates as well as removal by reactions with lime and limestone in the kiln, PH/PC, raw mill, and kiln baghouse. Removal is enhanced by maintaining proper ratios of sulfur and alkali in the pyroprocessing environment and intimate contact between raw materials and exhaust gases. Ultimately the sulfur oxides are incorporated into the clinker lattice structure, thus minimizing the amount emitted to the atmosphere. Limiting the sulfur content in the coal to 1.25 percent sulfur will further insure that SO_2 emissions will be minimized.

NITROGEN OXIDES

A NO_X emission limit of 2.8 pounds per ton of clinker will be met through proper combustion practices and distribution of the thermal load by indirect firing of fuel in the kiln, burning a portion of the fuel in the PC burner, and tire burning near the entry point of the kiln. If these methods are insufficient, then FCS must examine additional options such as limited Selective Non-Catalytic Reduction to achieve the target limit.

CARBON MONOXIDE AND VOLATILE ORGANIC COMPOUNDS

CO and VOC emission limits of 2.0 and 0.085 pounds per ton of clinker, respectively, will be accomplished through combustion controls.

B. EMISSION LIMITATIONS

The proposed emissions for Cement Plant 2 are summarized in Table A. Table 1-1 and Table 1-2 list permitted emissions for each emission unit. The proposed source will emit PM/PM_{10}, SO_2, NO_X, and CO in significant amounts and VOC, H_2SO_4, Be, Hg, and Pb at less than significant levels with respect to Table 62-212.400-2.

C. AIR TOXICS ASSESSMENT

Concerns about air toxic emissions are mitigated by the fact that there will be no combustion or treatment of hazardous waste, only moderate combustion of used oil, and recycling or sale of all CKD.

The reader is referred to the EPA's Regulatory Determination on CKD dated Tuesday, February 7, 1995 for a full discussion. EPA concludes that "when reintroduced, CKD does not contribute any constituents to clinker production that are not already present in the production process. Furthermore, at this time, EPA has no indication that such clinker poses unacceptable threats to human health or the environment." FCS will have to comply with any rules promulgated by EPA under Subtitle C of RCRA designed to control releases to groundwater.

Table A
Summary of Proposed Emissions

POLLUTANT	POTENTIAL INCREASE IN FACILITY EMISSIONS (tons per year)	PSD SIGNIFICANT EMISSION RATES (tons per year)	SUBJECT TO PSD REVIEW
PM/PM_{10} (kiln)	139.613	25/15	Yes/Yes
PM/PM_{10} (cooler)	69.806		
PM/PM_{10} (minor)	80.123		
SO_2	104.938	40	Yes
NO_x	1277.500	40	Yes
CO	912.500	100	Yes
VOC	38.781	40	No
H_2SO_4	6.388	7	No
Be	3.88E-4	0.0004	No
Hg	1.10E-2	0.1	No
Pb	2.37E-1	0.6	No

There are numerous impurities contained in the fuel and raw materials. These include at least arsenic, lead, beryllium, cadmium, chromium, fluoride, nickel, mercury, vanadium and zinc. These constituents are absorbed to a very high extent in the pyroprocessing system and consolidated into the clinker lattice structure. The exception is mercury. However, insufficient quantities are evolved to require a determination for Best Available Control Technology (BACT).

The very high temperatures in the kiln should insure destruction of furans and dioxins. A more detailed plan will need to be developed to insure that introduction of tires at the kiln material inlet will not result in conditions conducive to dioxin/furans formation. The possibility of subsequent dioxin (re)formation in the baghouse will be minimized by the clinker's propensity for chlorine adsorption and by maintaining the inlet temperature of the baghouse below 450 degrees F. According to the BIF regulations, this is below the temperature where EPA believes a possibility of the post-combustion formation of dioxins/furans may exist.

The applicant plans to burn whole tires. According to document EPA-450/3-91-024, Burning Tires for Fuel and Tire Pyrolysis: Air Implications, Chapter 4 - Tire and TDF use in Portland Cement Plants, "the long residence time and high operating temperatures of cement kilns provide an ideal environment to burn tires as supplemental fuel. Results of several tests conducted on cement kilns while burning tires or TDF indicate the emissions are not adversely affected, but in many cases improve when burning tires." In contrast to wet processes, the process to be employed by FCS exhibits very high temperature at both ends of the kiln. This affords more options for introduction of tires while insuring complete combustion.

The Department has no information that the proposed facility poses an unacceptable health risk.

D. AIR QUALITY ANALYSIS

1. INTRODUCTION

The proposed project will emit four pollutants at levels in excess of PSD significant amounts: PM/PM_{10}, SO_2, NO_x and CO. 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_2 and CO;
* A significant impact analysis for PM_{10}, SO_2, NO_x and CO;
* A PSD increment analysis for PM_{10}, SO_2, and NO_2;
* An Ambient Air Quality Standards (AAQS) analysis for PM_{10}; and
* An analysis of impacts on soils, vegetation, and visibility and of growth-related air quality modeling 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. However, the following EPA-directed stack height language is included: "In approving this permit, 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 if and when EPA revises 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." A discussion of the required analyses follows.

2. ANALYSIS OF EXISTING AIR QUALITY AND DETERMINATION OF BACKGROUND CONCENTRATIONS

Preconstruction ambient air quality monitoring is required for all pollutants subject to PSD review unless otherwise exempted or satisfied. This monitoring requirement may be satisfied by using previously existing representative monitoring data, if available. An exemption to the monitoring requirement may be obtained if the maximum air quality impact resulting from the projected emissions increase, as determined by air quality modeling, is less than a pollutant-specific de minimus concentration. In addition, if an acceptable monitoring method for the specific pollutant has not been established by EPA, monitoring may not be required.

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 previously existing representative monitoring data. These 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 that SO_2, NO_2 and CO impacts from the project are predicted to be less than the applicable de minimus levels. Therefore, preconstruction ambient air quality monitoring is not required for these pollutants. The table also shows that PM_{10} impacts from the project are predicted to be greater than the corresponding de minimus level. Therefore, preconstruction ambient air quality monitoring is required for PM_{10}. Previously existing representative monitoring data from PM_{10} monitors located just east of the FCS fence line were used to fulfill the monitoring requirement for PM_{10} and to establish background concentrations for use in the AAQS analysis. Background concentrations established for PM_{10} are 66 and 33 ug/m3 for the 24-hour and annual averaging times, respectively.

Maximum Project Air Quality Impacts for Comparison to the De Minimus Ambient Levels

Pollutant	Avg. Time	Max Predicted Impact (ug/m^3)	Impact Greater Than De Minimus?	De Minimus Level (ug/m^3)
PM_{10}	24-hour	13.7	YES	10
SO_2	24-hour	2.3	NO	13
NO_2	Annual	0.2	NO	14
CO	8-hour	35	NO	575

3. MODELS AND METEOROLOGICAL DATA USED IN SIGNIFICANT IMPACT, PSD INCREMENT AND AAQS ANALYSES

The EPA-approved SCREEN3 and Industrial Source Complex Short-Term (ISCST3) dispersion models were used to evaluate the pollutant emissions from the proposed project and other existing major facilities. SCREEN3 is a single-source screening model which uses default meteorology inputs to predict pollutant impacts. The ISCST3 model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area and volume sources. The model incorporates elements for plume rise, transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition. The ISCST3 model allows for the separation of sources, building wake downwash, and various other input and output features. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options in each modeling scenario. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfy 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 the National Weather Service (NWS) stations at Tampa International Airport, Florida (surface data) and Ruskin, Florida (upper air data). The 5-year period of meteorological data was from 1982 through 1986. These NWS stations were selected for use in the study because they are the closest primary weather stations to the study area and are most representative of the project site. The surface observations included wind direction, wind speed, temperature, cloud cover and cloud ceiling.

Since five years of data were used in ISCST3, the highest-second-high (HSH) short-term predicted concentrations were compared with the appropriate AAQS or PSD increments. For the annual averages, the highest predicted yearly average was compared with the standards. For determining the project's significant impact area in the vicinity of the facility and if there are significant impacts from the project on any PSD Class I area, both the highest short-term predicted concentrations and the highest predicted yearly averages were compared to their respective significant impact levels.

4. SIGNIFICANT IMPACT ANALYSIS

Initially, the applicant conducted modeling using only the proposed project's emissions. Both the SCREEN3 and ISCST3 models were used. Receptors were placed within 10 km of the facility, which is located in a PSD Class II area. Receptors were also placed in the Chassahowitzka National Wilderness Area (CNWA) which is a PSD Class I area located approximately 20 km to the west of the project at its closest point. For each pollutant subject to PSD and also subject to PSD increment and/or AAQS analyses, this modeling compared maximum predicted impacts due to the project with PSD significant impact levels to determine whether significant impacts due to the project were predicted in the vicinity of the facility or in the CNWA. The tables below show the results of this modeling.

Maximum Project Air Quality Impacts for Comparison to the PSD Class II Significant Impact Levels in the Vicinity of the Facility.

Pollutant	Avg. Time	Max Predicted Impact (ug/m^3)	Significant Impact Level (ug/m^3)	Significant Impact?
PM_{10}	Annual	1.1	1	YES
	24-hour	13.7	5	YES
CO	8-hour	35	500	NO
	1-hour	50	2000	NO
SO_2	Annual	0.46	1	NO
	24-hour	2.3	5	NO
	3-hour	5.2	25	NO
NO_2	Annual	0.2	1	NO

Maximum Project Air Quality Impacts for Comparison to the PSD Class I Significant Impact Levels (CNWA)

Pollutant	Averaging Time	Max. Predicted Impact at Class I Area (ug/m^3)	Significant Impact?	National Park Service (NPS) Significant Impact Level (ug/m^3)
PM_{10}	Annual	0.01	NO	0.08
	24-hour	0.19	NO	0.27
SO_2	Annual	0.003	NO	0.025
	24-hour	0.069	NO	0.07
	3-hour	0.410	NO	0.48
NO_2	Annual	0.06	YES	0.03

As shown in the first table the maximum air quality impacts due to PM_{10} emissions from the proposed project are greater than the significant impact levels in the vicinity of the facility. Therefore, the applicant was required to further determine PM_{10} impacts in the vicinity of the facility for comparison with the AAQS and PSD Class II increments. As shown in the second table the maximum air quality impact in the PSD Class I area due to NO_2 emissions from the proposed project are greater than NPS significant impact level, thus requiring further NO_2 impact determination in the PSD Class I area.

5. PSD INCREMENT ANALYSIS

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant.

a. Class II Area

The results of the PSD Class II increment analysis presented in the table below show that the maximum predicted PM_{10} impacts are less than the allowable increments.

PSD Class II Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact (ug/m^3)	Impact Greater Than Allowable Increment?	Allowable Increment (ug/m^3)
PM_{10}	Annual	3	NO	17
	24-hour	28	NO	30

b. Class I Area

The results of the PSD Class I increment analysis presented in the table below shows that the maximum predicted NO_2 impact for all sources within 150 km of the Class I area is less than the allowable increment

PSD Class I Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact (ug/m^3)	Impact Greater Than Allowable Increment?	Allowable Increment (ug/m^3)
NO_2	Annual	0.99	NO	2.5

6. AAQS ANALYSIS

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding a "background" concentration to the maximum modeled concentration. This "background" concentration takes into account all sources of a particular pollutant that are not explicitly modeled. Since the area of significant impact is small and is very close to one of two PSD PM monitoring sites, only FCS sources were explicitly modeled.

The background concentration represents the remainder of the sources in the area. The highest second-highest 24-hour concentration measured during 1993 to 1995 at this monitor was used as the background concentration value for the 24-hour averaging time, and the highest annual geometric mean concentration at this monitor during these years was used as the background concentration value for the annual averaging time.

The results of the AAQS analysis are summarized in the table below. As shown in this table, emissions from the proposed project are not expected to cause or significantly contribute to a violation of an AAQS.

Ambient Air Quality Impacts

Pollutant	Averaging Time	Major Sources Impact (ug/m^3)	Background Conc. (ug/m^3)	Total Impact (ug/m^3)	Total Impact Greater Than AAQS	Florida AAQS (ug/m^3)
PM_{10}	Annual	1	33	34	NO	50
	24-hour	11	66	76	NO	150

7. AIR TOXICS AIR QUALITY ANALYSIS

The maximum predicted impacts of regulated and non-regulated toxic air pollutants that are proposed to be emitted by the project are presented in the table below. Each pollutant's maximum 8-hour, 24-hour, and annual impact is compared to the Department's draft Ambient Reference Concentrations (ARC). As shown in the table, all predicted impacts are less than their respective ARC.

Air Toxics Analysis

	8- hour		24- hour		Annual	
Pollutant	Impact (ug/m^3)	ARC (ug/m^3)	Impact (ug/m^3)	ARC (ug/m^3)	Impact (ug/m^3)	ARC (ug/m^3)
Arsenic	9.57e-04	0.1	5.47e-04	0.02	1.1e-04	2.3e-04
Benzene	0.38	30	0.22	7	4.4e-02	1.2e-01
Beryllium	1.7e-05	0.02	9.7e-06	4.8e-03	1.9e-06	4.2e-04
Biphenyl	1.6e-04	13	8.9e-05	3.12	-	-
Cadmium	1.2e-03	0.02	6.8e-04	0.005	1.4e-04	5.6e-04
Carbon disulfide	5.0e-02	310	2.85e-02	74	5.7e-03	200
Chlorobenzene	7.8e-03	460	4.4e-03	110	-	-
Chromium III	4.5e-03	5	2.6e-03	1.2	5.2e-04	1000
Chromium IV	5.0e-04	0.5	2.9e-04	0.1	5.7e-05	8.3e-05
Chrysene	4.0e-06	2	2.3e-06	0.5	-	-
Cobalt	1.2e-03	0.5	6.8e-04	0.12	-	-
Dioxin	-	-	-	-	1.5e-09	2.2e-08
Dioctyl phthalate	4.2e-03	50	2.4e-03	12	4.8e-04	4.2
Ethylbenzene	3.6e-03	4340	2.1e-04	1033	4.1e-04	1000
Formaldehyde	1.1e-02	3.7	6.2e-03	0.9	1.2e-03	7.7e-02
Hexane	1.1e-03	1760	6.5e-04	419	1.3e-04	200
Hydrogen Chloride	0.2	70	0.1	17	0.02	7
Lead	1.0e-02	0.5	5.9e-03	0.1	1.2e-03	9.0e-02
Manganese	2.2e-02	50	1.3e-02	12	2.5e-03	5.0e-02
Mercury	4.8e-04	0.1	2.7e-04	2.0e-02	5.5e-05	0.3
Methyl Chloride	7.2e-03	1030	4.1e-03	245	8.2e-04	0.28

Methyl Ethyl Ketone	6.0e-04	5900	3.4e-04	1405	6.9e-05	1000
Methylene Chloride	1.6e-02	1740	8.9e-03	414	1.8e-03	2.0
Napthalene	7.8e-02	500	4.4e-02	119	-	-
Nickel	4.8e-03	1	2.7e-03	0.2	5.5e-04	4.2e-03
Phenol	2.2e-03	190	1.3e-03	45	2.5e-04	30
Selenium	5.2e-03	2	3.0e-03	0.5	-	-
Styrene	1.0e-02	2130	5.9e-03	507	-	-
Toluene	4.8e-02	1880	2.7e-02	448	5.5e-03	400
Trichloroethylene	8.6e-05	2690	4.9e-05	640	9.8e-06	0.77
Xylene	1.4e-02	4340	7.9e-03	1033	1.6e-03	80

Note: ARC = Ambient Reference Concentration

E. ADDITIONAL IMPACTS ANALYSIS

1. IMPACTS ON SOILS, VEGETATION, AND WILDLIFE

The maximum ground-level concentrations predicted to occur for SO_2, PM_{10}, CO and NO_X as a result of the proposed project, including background concentrations and all other nearby sources, will be below the associated AAQS. The AAQS are designed to protect both the public health and welfare. As such, this project is not expected to have a harmful impact on soils and vegetation in the PSD Class II area. An air quality related values (AQRV) analysis was done by the applicant for the Class I area. No significant impacts on this area are expected.

2. IMPACT ON VISIBILITY

The Visual Impact Screening and Analysis (VISCREEN) computer model was used for the more conservative level-1 and level-2 visibility analyses and the PLUVUE-II computer model was used for a level-3 visibility analysis. These EPA-approved computer models were used to estimate the impact of the proposed project's stack emissions on visibility in the CNWA. Based on the level-3 visibility analysis, no significant impact on visibility due to this project is expected in the CWNA.

3. GROWTH-RELATED AIR QUALITY IMPACTS

There will be a small number of temporary construction workers during construction and no significant increase in the number of new permanent workers after project is completed. There will be no significant impacts on air quality caused by associated population growth.

VIII. CONCLUSION

Based on the foregoing technical evaluation of the application and additional information submitted by Florida Crushed Stone Company, the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations provided the Department's Best Available Control Technology Determination is implemented and certain conditions are met. The general and specific conditions are listed in the attached draft conditions of approval.

DRAFT

DIVISION OF AIR RESOURCES MANAGEMENT
BUREAU OF AIR REGULATION
NEW SOURCE REVIEW SECTION
PHONE 904/488-1344 FAX 904/922-6979
Mail Station # 5505

AIR CONSTRUCTION PERMIT
Portland Cement Plant No. 2
(This permit replaces permit AC27-274892 and PSD-FL-227)

FLORIDA CRUSHED STONE COMPANY

Facility ID No.:0530021
Brooksville, Florida
Hernando County

Permit No. AC 27-274892(A)
PSD-FL-227(A)
PA 82-17

December XX, 1996

DRAFT

FLORIDA CRUSHED STONE COMPANY.
PORTLAND CEMENT PLANT NO. 2
Brooksville, Florida
PSD-FL-227(A) and AC 27-274892(A)
Facility ID No.: 0530021

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DRAFT

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Florida Crushed Stone Company
Brooksville Plant
10311 Cement Plant
Brooksville, Florida 34601

FID No.	0530021
PSD No.	PSD-FL-227(A)
Permit No.	AC 27-274892 (A)
PPS No.	82-17
Expires:	November 30, 1998

Authorized Representative:
Joseph Piermatteo
Senior Vice President

LOCATED AT:

Florida Crushed Stone, Company, Brooksville Facility
Project: Portland Cement Manufacturing Plant No. 2 and Associated Equipment
Standard Industrial Classification Code (SIC): 3241
Hernando County, Florida

UTM: Zone 17; 360.0 km E ; 3162.5 km N
Directions: *Approximately 3.5 miles Northwest of Brooksville, Hernando County*

STATEMENT OF BASIS:

This draft construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached appendices and Tables made a part of this permit:

Table 1-1	Allowable Opacity Limits
Table 1-2	Air Pollutants Standards and Terms
Table 2-1	Compliance Requirements
Appendix BD	BACT Determination
Appendix GC	Construction Permit General Conditions

EFFECTIVE DATE:

Howard L. Rhodes, Director
Division of Air Resources Management

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION:

This existing facility consists of one (1) portland cement plant (preheater design) and associated equipment (Cement Plant No.1), a lime manufacturing plant and a 150 MW Power Plant. This permit is for the construction of a second portland cement plant (preheater/precalciner design) and associated equipment. The new plant will be identified as Cement Plant No. 2.

EMISSION UNITS

This permit addresses the following emission units:

EMISSIONS UNIT NO.	SYSTEM	EMISSIONS UNITS DESCRIPTION
031	Raw Materials Processed	Material Handling (Fugitive) Handling and Storage (Fugitive)
025	Raw Mill System	Filter Dust Bin Transport, Raw Meal Transport, Raw Meal Storage, Homogenizing Silos
026	Kiln System	Kiln Feed System Kiln & Cooler Main Stack
027	Clinker Cooler	Kiln & Cooler Main Stack
028	Finish Mill	Gypsum Storage Bin, Clinker Transport, Belt Conveyor, Finish Mill Discharge Vent, Finish Mill Sepal Separator, Clinker Storage Silo and Clinker Bin
029	Cement Handling	Cement Storage Silo A, Cement Storage Silo B, Cement Silo Discharge Hopper A, Cement Silo Discharge Hopper B
030	Coal Handling	Coal Handling and Storage (fugitives) Coal Dust Bin, Coal Mill

REGULATORY CLASSIFICATION

This industry is listed in Table 62-212.400-1 of Chapter 62-212, F.A.C., "Major Facility Categories." Therefore, stack and fugitive emissions of over 100 tons per year of carbon monoxide, volatile organic compounds, sulfur dioxide, nitrogen oxides, or particulate matter characterize the installation as a major facility subject to the requirements of **Rule 62-204.800, F.A.C**., which incorporates 40 CFR Subpart F, the New Source Performance Standards (NSPS) for Portland Cement Plants. This facility is a Title V source.

SECTION I. FACILITY INFORMATION

PERMIT SCHEDULE:

- (DATE) Petition for an administrative hearing
- (DATE) Received proof of publication in **(DATE)** issue of Newspaper
- (DATE) Issued Notice of Intent to issue Permit
- 10/17/96 Application deemed complete

RELEVANT DOCUMENTS:

Year 1995

1. Application received March 13, 1995.
2. Department's letters dated April 21, memo dated June 16, letter dated August 3, August 10, and October 11, 1995.
3. RTP Environmental Associates letters dated March 21, May 10, May 19, July 11, July 17, August 11, August 22, September 5, September 7, September 12, September 14, and October 24, 1995.
4. EPA's letters dated June 15, and November 2, 1995.
5. Hernando County Planning Department's letter dated April 28, June 5, and August 11, 1995.
6. Technical Evaluation and Preliminary Determination, BACT determination and proposed permit dated October 3, 1995.
7. Construction Permit AC27-274892 and PSD-Fl-227 issued on November 17, 1995.

Year 1996

1. Application received September 11, 1996.
2. Department's letter dated October 3, 1996.
3. RTP Environmental Associates letter dated October 10, 1996.
4. RTP Environmental Associates letter dated October 17, 1990.
5. United States Department of the Interior letter dated October 11, 1996.

SECTION II. EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

1.0 ADMINISTRATIVE

1.1 Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department of Environmental Protection (DEP) Southwest District Air Resources Program Permitting Section located at 3804 Coconut Palm Drive, Tampa, Florida 33619-8218, and phone number (813)744-6100. All applications for permits to construct or modify an emission unit(s) subject to the Prevention of Significant Deterioration requirements should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP) located at 2600 Blairstone Road, Tallahassee, Florida 32399-2400 and phone number (904)488-1344.

1.2 General Conditions: The owner and operator is subject to and shall be aware of and operate under, the attached General Permit Conditions G.1 through G.15 listed in *Appendix GC* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. **[Rule 62-4.160, F.A.C.]**

1.3 Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.

1.4 Forms and Application Procedures: 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. **[Rule 62-210.900, F.A.C.]**

1.5 Expiration: This air construction permit shall expire on November 30, 1998. **[Rule 62-210.300(1), F.A.C.]**. The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Southwest District office of any delays in completion of the project which would affect the startup day by more than 90 days. **[Rule 62-4.090, F.A.C]**

1.6 Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213 F.A.C., must be submitted to the DEP's Southwest District office. **[Chapter 62-213, F.A.C.]**

1.7 Applicable Regulations: Unless otherwise indicated, the construction and operation of Cement Plant No. 2 and associated equipment shall be in accordance with the capacities and specifications stated in the application. This facility is subject to all applicable provisions of Chapter 403, F.S and Florida Administrative Code Chapters 62-4; 62-103; 62-204, 62-210, 62-212, 62-213, 62-296, 62-297; and the Code of Federal Regulations Section 40, Part 60, Subpart A, Appendix A and Appendix B (1995 version). Specifically, this facility is subject to the New Source Performance Standards (NSPS) for Portland Cement Plants identified by the Code of Federal Regulations Section 40, Part 60, Subpart F, and incorporated by reference in the Florida Administrative Code regulation 62-204.800. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. **[Rule 62-210.300, F.A.C.]**

2.0 EMISSION LIMITING STANDARDS

2.1 General Visible Emissions Standard: **[Rule 62-296-320(4)(b)]** Unless otherwise specified by rule or permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere any air pollutants from new, or existing emissions units, the opacity of which is equal to:

- Visible emissions of all minor sources controlled by baghouses shall not exceed 5% opacity (BACT determination).
- Visible emissions from PM fugitive sources shall not exceed 10% opacity (BACT determination).

2.2 Unconfined Emissions of Particulate Matter **[Rule 62-296.320(4)(c), F.A.C.]**

(a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.

(b) Reasonable precautions shall include but not be limited to the following:

- All permanent haul roads shall be paved.
- Temporary haul road shall be watered or treated with chemical dust suppressants at regular intervals.
- Dry materials (moisture content < 14%) shall be stored below grade, in silos, or in enclosed structures.
- Coal stored at or above natural grade shall be compacted, turned and /or watered as necessary to maintain a minimum 8% moisture content in the surface layer, and shall be aligned with the predominant wind direction to minimize wind erosion.
- Abandoned haul road and other disturbed areas shall be revegetated within 60 days of the date that active service of the roads ends.
- All cement products shall be transferred to transport trucks with a sealed pneumatic conveying system which is either a closed system or exhausted through a bag filter.

NOTE: Facilities that cause frequent, valid complaints may be required by the Southwest District office in Tampa to take these or other reasonable precautions. 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.

2.3 General Pollutant Emission Limiting Standards: **[Rule 62-296.320, F.A.C.]**

(a) The owner or operator shall not 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.

(b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

NOTE: An objectionable odor is defined as 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. [F.A.C. 62-210.200(198)]

3.0 OPERATION AND MAINTENANCE

3.1 Changes/Modifications: The owner or operator shall submit to the Department of Environmental Protection, Bureau of Air Regulation and/or the Southwest District office in Tampa, for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increase in hours of operation; equipment capacities; or any change which would result in an increase in potential/actual emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. FDEP will provide a clear point of entry for Hernando County and any other substantially-affected parties to challenge any of FDEP's proposed determinations in this regard. *Routine maintenance of equipment would not constitute a modification of this permit.* **[Rule 62-4.030, 62-210.300 and 62-4.070(3), F.A.C.]**

3.2 Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the owner or operator shall notify the Southwest District office in Tampa as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the 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 and the regulations. **[Rule 62-4.130, F.A.C.]**

3.3 Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. **[Rules 62-210.650, F.A.C.]**

3.4 Excess Emissions Requirements **[Rule 62-210.700, F.A.C.]**

(a) Excess emissions resulting from start-up, shutdown or malfunction of these emissions units 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 Southwest District office for longer duration. **[Rule 62-210.700(1), F.A.C.]**

(b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited. **[Rule 62-210.700(4), F.A.C.]**

(c) In case of excess emissions resulting from malfunctions, the owner or operator shall notify the Air Pollution Control Section of the Southwest District office within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the problem; and the corrective actions being taken to prevent recurrence. **[Rule 62-210.700(6), F.A.C.]**

4.0 MONITORING OF OPERATIONS

4.1 Determination of Process Variables

(a) The permitee shall, operate, and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. **[Rule 62-297.310(5), F.A.C]**

5.0 TEST REQUIREMENTS

5.1 Test Performance Within 60 days after achieving the maximum production rate at which this facility will be operated, but not later than 180 days after initial startup and annually thereafter, the owner or operator of this facility shall conduct performance test(s) pursuant to 40 CFR 60.8, Subpart A, General Provisions and 40 CFR 60, Appendix A. No other test method shall be used unless approval from the Department has been received in writing. Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emission unit(s) operating at permitted capacity pursuant to Rule 62-297.310(2). F.A.C. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C.]**

5.2 Test Procedures and Test Reports shall meet all applicable requirements of the Florida Administrative Code Chapter 62-297. **[Rule 62-297.310, F.A.C.]**

5.3 Test Notification: The owner or operator shall notify the Southwest District office in Tampa in writing at least (30) days (initial) and 15 days (annual) prior to conducting compliance tests. The notification shall include the date of test, time and place of each test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. **[Rule 62-297.310, F.A.C.; 40 CFR 60.7 and 40 CFR 60.8]**

5.4 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 Rule 62-204, 62-210, 62 -212, 62-296 and 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Southwest District office in Tampa. **[Rule 62-297.310(7)(b), F.A.C.]**

5.5 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with Rule **62-297.310(6), F.A.C.**.

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

6.0 REPORTS AND RECORDS

6.1 Duration: All reports and records required by this permit shall be kept for at least (5) years from the date the information was recorded. **[62-4.160(14)(b), F.A.C.]**

6.2 Emission Compliance Stack Test Reports:

(a) A test report indicating the results of the required compliance tests shall be filed with the Southwest District office in Tampa as soon as practical, but no later than 45 days after the last sampling run is completed. **[Rule 62-297.310(8), F.A.C.]**

(b) The report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in **Rule 62-297.310(8), F.A.C.**

6.3 Excess Emissions Report: If excess emissions occur, the owner or operator shall notify the Air Compliance Section of the Southwest District office within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. **[Rules 62-4.130 and 62-210.700(6), F.A.C.]**

6.4 Annual Operating Report for Air Pollutant Emitting Facility: Before March 1st of each year, the owner or operator shall submit to the Department this required report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year. **[Rule 62-210.370(3), F.A.C.]**

7.0 OTHER REQUIREMENTS

7.1 Waste Disposal: The owner or operator shall treat, store, and dispose of all liquid, solid, and hazardous wastes in accordance with all applicable Federal, State, and Local regulations. This air pollution permit does not preclude the permittee from securing any other types of required permits, licenses, or certifications.

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. COMMON CONDITIONS: 40 CFR 60 SUBPART A, GENERAL PROVISIONS

EMISSION UNITS

This permit addresses the following emission units.

EMISSIONS UNIT NO.	SYSTEM	EMISSIONS UNITS DESCRIPTION
031	Raw Materials Processed	Material Handling (Fugitive) Handling and Storage (Fugitive)
025	Raw Mill System	Filter Dust Bin Transport, Raw Meal Transport, Raw Meal Storage, Homogenizing Silos
026	Kiln System	Kiln Feed System Kiln & Cooler Main Stack
027	Clinker Cooler	Kiln & Cooler Main Stack
028	Finish Mill	Gypsum Storage Bin, Clinker Transport, Belt Conveyor, Finish Mill Discharge Vent, Finish Mill Sepal Separator, Clinker Storage Silo and Clinker Bin
029	Cement Handling	Cement Storage Silo A, Cement Storage Silo B, Cement Silo Discharge Hopper A, Cement Silo Discharge Hopper B
030	Coal Handling	Coal Handling and Storage (Fugitives) Coal Dust Bin, Coal Mill.

These emission units shall comply with all applicable requirements of 40 CFR 60, General Provisions, Subpart A.

A1. [49 CFR 60.7, Notification and record keeping]
A2. [40 CFR 60.8, Performance tests]
A3. [40 CFR 60.11, Compliance with standards and maintenance requirements]
A4. [40 CFR 60.12, Circumvention]
A5. [40 CFR 60.13, Monitoring requirements]
A6. [40 CFR 60.19, General notification and reporting requirements]

SUBSECTION B. SPECIFIC CONDITIONS:

The following Specific Conditions apply to the following emission units:

EMISSION UNIT NO.	SYSTEM	EMISSION UNIT DESCRIPTION
026	Kiln System	Kiln No. 2, preheater, precalciner, clinker cooler, dryer, raw mill. Kiln & Cooler Main Stack : Baghouse 2E-40
027	Clinker Cooler	Kiln & Cooler Main Stack : Baghouse 2E-40

These emission units shall comply with all applicable provisions of the 40 CFR 60 New Source Performance Standards for Portland Cement Plants, Subpart F **[Rule 62-204.800, F.A.C].**

EMISSION LIMITATIONS

B1. The maximum allowable emission rates for the No. 2 kiln, clinker cooler, raw mill, shaft dryer heater and preheater/precalciner shall not exceed the limits listed in Table 1-2. Air Pollutant Standards and Terms (attached). **[Rule 62-210.200(198) and 62-212.400, F.A.C.]**

B2. In order to minimize excess emissions during startup/shutdown/malfunction this emission units shall adhere to best operational practices. **[Rule 62-210.700, F.A.C. and 40 CFR 60.7]**

OPERATIONAL LIMITATIONS

B3. These emission units are allowed to operate continuously (8760 hours/year) **[Rule 62-210.200(223), F.A.C.]** Definitions-Potential to emit (PTE).

B4. *PROCESS OPERATING RATES*

The No. 2 kiln clinker production rate shall not exceed 104.2 tons per hour (TPH), 2500 tons per day (TPD) and 912,500 tons per year (TPY) based upon 8,760 hours of operation per year. The permitted maximum preheater feed is 173.2 TPH, which is equivalent to a maximum kiln feed rate of 159.4 TPH. **[Rule 62-210.200(223), F.A.C.]**

B5. *FUEL COMBUSTION*

(1) Fuels fired in No. 2 kiln and precalciner shall not exceed a total heat input rate of 325 MMBtu/hr and shall consist <u>only</u> of:

a. Coal and whole tires, tire derived fuel (shredded tires), and natural gas for normal operation.

b. Natural gas, all grades (meeting 1.5% sulfur limit) of virgin fuel oil, and/or blends (meeting 1.5% sulfur limit) of virgin fuel oil and on-spec used oils for startup.

c. Fuels fired in the shaft dryer heater shall not exceed a total input of 30 MMBtu/hr and shall consist only of all grades of virgin fuel oil (meeting 1.5% sulfur limit) for startup and normal operation.

COAL

(2) The coal usage rate shall not exceed 13.8 TPH or 120,888 TPY based on continuous operation.

TIRES

(3) Whole tires and tire derived fuel may be fed continuously at the kiln inlet at the base of the precalciner at a rate not to exceed 48.75 MMBtu/hr (15% of total kiln and precalciner fuel input) or 1.44 TPH and 11,952 tons per year based on 8300 hours per year.

(4) Before initiating tire firing, the gases exiting the kiln shall reach a minimum temperature of 1400 degrees F for one hour and the oxygen level in the kiln, as measured at the cement plant induced draft fan, shall reach at least 3 percent (1-hour average). Upon reaching steady state conditions, and within 6 hours, gases exiting the kiln shall be maintained at an outlet temperature of at least 1750 degrees F.

FUEL OIL

(5) The sulfur content of the fuel oil blend shall not exceed 1.5% by weight. The constituents and properties of the on-spec used oil shall comply with the following allowable concentration levels, as stipulated and defined in 40 CFR 266.40 (July 1, 1992 version), which is adopted by reference in **Rule 62-730.181, Florida Administrative Code (F.A.C.)**:

Constituent/Property	Allowable Concentration
Cadmium	2 ppm maximum
Arsenic	5 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash Point	140 ° F minimum
Polychlorinated	Less than 2 ppm
Byphenyls (PCBs)	

(6) On-spec used oil to be blended and burned at this facility shall not be a hazardous waste as defined by Rule 62-730.030, F.A.C., or 40 CFR Part 261 (July 1, 1992 version). It shall not include fuels or blended fuels consisting in whole or in part of hazardous waste or which include mixture of any solid waste generated from the treatment, storage, or disposal of hazardous waste. The on-spec used oil shall be burned in compliance with Section 403.769(3), Florida Statutes.

(7) The on-spec used oil to be blended with the unused fuel oil in the cement kiln fuel storage tank shall be obtained only from the used oil storage tanks located at the FCS Gregg Mine and CPL Plant. The used oil sample from Specific Condition No. B5(5) and B22 shall be analyzed for the following constituent/property, associated unit, and using the test methods indicated:

Constituent/Property	Unit	Test Method
Cadmium	ppm	EPA SW-846(6010)
Arsenic	ppm	EPA SW-846(6010)
Chromium	ppm	EPA SW-846(6010)
Lead	ppm	EPA SW-846(6010)
Total Halogens	ppm	EPA SW-846(9252)
Sulfur	percent	ASTM D129 or ASTM D1552
Flash Point	degree F	EPA SW-846(1010)
Heat of Combustion	Btu/gal	ASTM D240
Density	lbs/gal	
Polychlorinated Byphenyls		
(PCB's)	ppm	

NOTE: Other test methods may be used only after receiving written prior approval from the Department.

(8) The maximum on-specification used oil concentration in the final storage tank blend of on-specification used oil and purchased unused oil shall not exceed 15 percent by volume.

B6. Any other operating parameters (including control equipment operating parameters) established during compliance testing and/or inspection that will confirm the proper operation of each emission unit shall be included in the operating permit **[Rule 62-297.310, F.A.C. and 62-4.070(3), F.A.C.]**

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

MONITORING OF OPERATIONS

B7. The owner or operator shall record the daily production and the preheater-kiln system feed rate. **[Rule 62-204.800, F.A.C., 40 CFR 60.63(a)]**

B8. The owner or operator shall install, calibrate, maintain, and operate in accordance with 40 CFR 60.13 a *continuous opacity monitoring system* to measure the opacity of emissions from the cement kiln and clinker cooler control device stack. **[Rule 62-204.800, F.A.C., 40 CFR 60.63(b)]**

B9. Continuous process monitors shall be installed for CO or O_2 to insure proper combustion practices and for use in determining plant operating parameters to optimize emissions of CO, NO_x, and SO_2. **[Rule 62-212.400(5), and 62-4.070(3) F.A.C.]**

B10. Continuous monitoring equipment shall also be installed, calibrated, maintained, operated, and used to determine compliance for NO_x and SO_2. Continuous emission monitors must be installed and certified, before the initial performance test, and operated in compliance with 40 CFR 60, Appendix F, Quality Assurance Procedures (1994 version) or other Department approved QA plan; 40 CFR 60, Appendix B, Performance Specification 1, 2, and 3 (1994 version). **[Rule 62-204.800, F.A.C.]**

Compliance By Continuous Emission Monitoring System (CEMS)

B11. Compliance with the emission limits for NO_x and SO_2 in Table 1-2 shall be demonstrated by the continuous emission monitoring system (CEMS). The CEMS shall calculate and record emission rates in units of pounds of NO_x (and SO_2) per hour as well as pounds NO_x (and SO_2) per ton of clinker. Clinker production rates shall be recorded each hour. The permittee may establish a relationship between material feed rates and production rates of clinker if material feed rates are measured more accurately than clinker production rates and the relationship is accurate within 10%.

Each monitored operating hour a 24 hour block average shall be calculated for the previous 24 successive monitored operating hours. A monitored operating hour is each hour in which fuel is fired in the unit and at least two emission measurements are recorded at least 15 minutes apart. Data taken during periods of startup, or when fuel is not fired to the unit, or when the CEMS is not calibrated shall be excluded from the 24 hour block average.

For compliance with the emission limit in Table 1-2 the 24 hour rolling average shall not include data from periods of startup. Startup shall not exceed 2 hours without notifying the Department pursuant to 62-210.700 F.A.C. Data recorded during periods of shutdown, malfunction, load change, and continuous operating periods shall be included in the 24 hour rolling average.

To the extent the monitoring system is available to record emissions data, the CEMS shall be operated and shall record data at all operating hours when fuel is fired in the unit, including periods of startup, shutdown, load change, continuous operation and malfunction.
Monitor downtimes, and excess emissions based on 24 hour rolling hour averages, which includes startup emissions, shall be reported on a quarterly basis using the SUMMARY REPORT in 40 CFR 60.7. A detailed report of the cause, duration, magnitude, and corrective action taken or preventative measures adopted for each excess emission occurrence, and a listing of monitor downtime occurrences shall accompany the SUMMARY REPORT when the total duration of excess emissions is 1% or greater or if the monitoring system downtime is 5% or greater of the total monitored operating hours.

Mass emission rates (lb/hr, and lb/ton clinker) shall be calculated based on source specific and fuel specific F factors calculated using 40 CFR 60 Appendix A, Method 19. These F factors shall be recalculated when fuel properties vary significantly from those used in the previously calculated F factors but not less than once per year.

B12. The monitoring devices shall meet the applicable requirements of Chapter 62-204, F.A.C., 40 CFR 60, Appendix F, and 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) Notification Requirements. Data on monitoring equipment specifications, manufacturer, type calibration and maintenance requirements, and the proposed location of each monitor shall be provided to the Department's Southwest District office for review at least 90 days prior to installation of a new CEMS. **[Rule 62-204.800, F.A.C.]**

TEST METHODS AND PROCEDURES

B13. Compliance with the allowable emission limiting standards listed in Table 1-2 shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A (1994, version) and 40 CFR 61 Appendix B 1994, version) adopted by reference in Chapter 62-204, F.A.C.

Method 5 Determination of Particulate Matter Emissions from Stationary Sources (I) and (A).
Method 8 Determination of Sulfuric Acid Mist from Stationary Sources (I).
Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 10 Determination of Carbon Monoxide Emissions from Stationary Sources (I) and (A).
Method 25 Determination of Volatile Organic Compound Emissions from Stationary Sources (I).
Method 29 Determination of Lead, Cadmium, and Mercury from Stationary Sources (proposed) (I).
Method 104 Determination of Beryllium Emissions from Stationary Sources (I).

Emission testing shall be performed at the No. 2 kiln/cooler main stack (baghouse 2E-40) during a period when the No. 2 kiln precalciner, cooler, shaft dryer/heater, raw mill and preheater are operating simultaneously and under normal operating conditions. The measured emission rates will be the combined rates from the kiln and clinker cooler determined at the stack. EPA-reference methods for sampling pollutants shall consist of the average of 3 consecutive test runs, each of one hour duration.

These emission units (026 and 027) shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Test Requirements and 40 CFR 60.8. Performance Tests. Table 2-1, Compliance Requirements (attached) also lists the EPA methods.

Testing of emissions shall be conducted with the emission unit operating at capacity (85% coal and 15% tires). Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the unit may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C., and 40 CFR 60 Appendix A and 40 CFR 60.8, Subpart A].**

B14. The visible emissions test shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur **[40 CFR 60.11 and Rule 62-297.310 (7), F.A.C.].**

B15. Compliance with the particulate matter standard contained in Table 1-2 (attached) shall be determined using EPA Method 5. The emission rate (E) of particulate matter shall be computed for each run using the following equation:

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

where:

E = emission rate of particulate matter, kg/metric ton (lb/ton) of kiln feed
c_s = concentration of particulate matter, g/dscm (g/dscf)
Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr)
P = total kiln feed (dry basis) rate, metric ton/hr (ton/hr)
K = conversion factor, 1000 g/kg (453.6 g/lb)

B16. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30.0 dscf) for the kiln and at least 60 minutes and 1.15 dscm (40.6 dscf) for the clinker cooler. **[Rules 62-204.800 and 62-297.401, F.A.C. 40 CFR 60.64(b)(1) - (3)].**

B17. Suitable methods shall be used to determine the kiln feed rate (P), except fuels, for each run. Material balance over the production system shall be used to confirm the feed rate **[40 CFR 60.64(3)].**

B18. Operating procedures shall include good combustion practices and proper training of all operators and supervisors. The good combustion practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. **[Rule 62-4.070(3), F.A.C.].**

RECORDKEEPING AND REPORTING REQUIREMENTS

B19. The owner or operator shall submit reports of excess emissions based upon data from the continuous opacity monitoring system. Periods of excess emissions that shall be reported are defined as all 6 minute periods during which the average opacity exceeds that allowed in the BACT determination. The content of these reports must comply with the requirements in 40 CFR 60.7(d). Such reports shall be submitted quarterly pursuant to 40 CFR 60.7 (c). **[Rule 62-204.800, F.A.C.; 40 CFR 60.63(d), 60.65(a) and 40 CFR 60.7].**

B20. In order to document compliance with Specific Condition No. B5(3) TIRES:

a. A log shall be established and maintained for the hours of operation using tires as supplemental fuels. The log shall include the daily tire usage (hours) as supplemental fuel at the facility, a monthly running total of the tire usage (hours), and a cumulative 12 month running total (hours), to ensure that the annual limit is not exceeded. The log shall be maintained on file for at least five (5) years and shall be made available to the Department upon request.

b. A log that includes the date of all tire deliveries to the facility, and the total quantity (nearest 0.1 tons) of tires received.

c. A tire usage-control system shall be installed to assure that the tire usage as supplemental fuel at the facility does not exceed the maximum of 15% of the total Btu heat input to the No. 2 kiln and precalciner or 1.44 tons per hour. The control system shall include a verification method and a log that insures and documents that the tires usage and heat input limits are not exceeded.

d. A log for the utilization rate (tons per hour) of tires. The utilization rate of tires as supplemental fuel shall be determined by a continuous weighing method and shall be recorded.

e. The logs shall be maintained on file for at least five (5) years and shall be made available to the Department upon request.

FCS shall record, as a minimum, the daily dry feed rate into the No. 2 kiln (TPH), and the clinker production rate. The above records shall be retained for a period of five (5) years and made available to the Department upon request.

B21. In order to document compliance with Specific Condition No. B5(2) COAL:

A coal usage control system shall be established to assure that the coal usage does not exceed a maximum of 13.8 TPH.

B22. In order to document compliance with Specific Conditions No. B5(5) through B5(8)FUEL OILS, the following used oil control system shall be used, as a minimum:

a. Record the transfer of used oil and unused oil to the blend tanks (dates and gallons).

b. Record the final blend quantities of on-spec used oil and unused oil (gallons)

c. Calculate and record the final percentage of on-spec used oil in the tank blend of on-spec used oil and unused oil, and verify that the percentage does not exceed 15.0 percent, by volume.

These records shall be maintained on file for at least five (5) years and shall be made available to the Department upon request. [Rule 62-4.070(3), F.A.C. and FCS letter on Used Oil Sampling].

B23. Recordkeeping requirement when burning on-spec used oil shall be in accordance with 40 CFR 266.43 (b) and (6) (July 1, 1992 version). The results of each sample analysis shall be submitted to the Department Southwest District office and the Hernando County Planning offices within 30-days after a sample is taken. The dates and quantities of both on-spec purchased fuel oil transferred to the facility storage tank shall be reported quarterly (i.e., Jan-Mar, April-June, July-Sept, and Oct-Dec). The report is due in the month following the ending quarter. All records shall be kept for a minimum of five (5) years period for public and regulatory agency inspection.

B24. All measurements, records, and other data required to be maintained by the permittee shall be reported to the Southwest District office on a quarterly basis with the start of commercial operation in accordance with 40 CFR 60.7. All measurements, records and other data required to be maintained by the permittee shall be retained for at least 5 years following the date on which such measurements, records, or data are recorded. The data shall be available to Department staff as requested. **[40 CFR 60.7]**

B25. The owner or operator shall submit reports of the malfunction information required to be recorded by 40 CFR 60.7(b). These reports shall include the frequency, duration, and cause of any incident resulting in deenergization of any device controlling kiln emissions or in the venting of emissions directly to the atmosphere. **[Rule 62-204.800, F.A.C., 40 CFR 60.65 (c)]**

Daily Operation and Maintenance (O&M) Log:

B26. This facility shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. Operators shall keep a daily O&M log to include, at a minimum, the following information:

The data collected from in-stack monitoring instruments.

The records on daily feed rates and clinker production rate.

The amount and type of fuel burned.

Total quantity (by weight) of tire used as supplemental fuel.

The results of all source tests.

Calibration logs for all instruments.

Maintenance/repair logs for any work performed on equipment or instrument which is subject to this permit;

Total coal, natural gas, and oil usage.

All measurements, records, and other data required to be maintained by FCS shall be retained for at least five (5) years following the data on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. The Department's Southwest District office shall be notified in writing at least 15 days prior to the testing (auditing) of any instrument required to be operated by these specific conditions of certification in order to allow witnessing by authorized personnel. **[Rule 62-4.070(3), F.A.C.]**

DRAFT

Table 1-2. Air Pollutant Standards and Terms.

FACILITY ID NUMBER: 0530021

Permittee:

Florida Crushed Stone, Company

DRAFT Permit No.: AC27-274892(A) and PSD-FL-227(A)

Portland Cement Plant No. 2 and Associated Equipment

Emission Unit 026 - Kiln No. 2
Emission Unit 027 - Cooler No. 2

				Allowable Emissions			
E.U. ID#	Description	Pollutant ID	Fuel(s) (2)	BACT limits	lb/hr	TPY	Basis
026	Kiln No. 2	PM/PM_{10}	coal/gas/WTDF/oil	0.20 lb/ton kiln feed*	31.9	140	BACT
026	Kiln No. 2	SO_2	coal/gas/WTDF/oil	0.23 lb/ton clinker	23.9	105	BACT
026	Kiln No. 2	NO_x	coal/gas/WTDF/oil	2.8 lb/ton clinker	291.7	1278	BACT
026	Kiln No. 2	CO	coal/gas/WTDF/oil	2.0 lb/ton clinker	208.3	913	BACT
026	Kiln No. 2	VOC	coal/gas/WTDF/oil	0.09 lb/ton clinker	8.85	38.8	FCS/DEP
026	Kiln No. 2	H_2SO_4	coal/gas/WTDF/oil	0.014 lb/ton clinker	1.45	6.39	FCS DATA
026	Kiln No. 2	Beryllium	coal/gas/WTDF/oil	8.2 E-07 lb/ton clinker	8.85 E-05	3.88 E-04	FCS/DEP
026	Kiln No. 2	Mercury	coal/gas/WTDF/oil	2.4 E-05 lb/ton clinker	2.50 E-03	1.10 E-02	FCS DATA
026	Kiln No. 2	Lead	coal/gas/WTDF/oil	5.2 E-04 lb/ton clinker	5.42 E-02	2.37 E-01	FCS DATA
026	Kiln No. 2	VE	coal/gas/WTDF/oil	10% opacity			BACT
027	Cooler No. 2	PM/PM_{10}	coal/gas/WTDF/oil	0.1 lb/ton kiln feed*	15.93	69.80	BACT-NSPS
027	Cooler No. 2	VE	coal/gas/WTDF/oil	10% opacity			BACT

ALLOWABLE OPERATING RATES

		KILN No. 2	Cooler No.2
Hours of operation		8760	8760
Kiln preheater feed rate	TPH	173.2	
Kiln feed rate *	TPH	159.4	

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

		KILN No. 2	Cooler No.2
Kiln Heat Input	MMBtu/hr	325	
Clinker Production (1)	TPH	104.2	
Cooler throughput rate	TPH	104.2	

NOTES

(1) At a maximum design clinker production rate of 104.2 TPH and preheater feed rate of 173.2 TPH, utilizing a conversion factor of 0.602: (173.2 x 0.602 = 104.2).
(2) Fuel oil burning as specified in Specific Condition No. 8 is allowable for startup only. WDTF and whole tires (15% heat input) are allowed to be burned at this kiln.

DRAFT

Table 2-1. Compliance Requirements.

FACILITY ID NUMBER: 0530021

DRAFT Permit No.: AC27-274892(A)
and PSD-FL-227(A)

Permittee:
Florida Crushed Stone, Company
Portland Cement Plant No. 2 and Associated Equipment

E.U. ID#	Description	Pollutant Name or parameter	Fuel(s) [1]	EPA/Reference Method/CMS *	Testing Time Frequency	Min. Compliance Test Duration	CMS * Compliance
026	Kiln No. 2	PM/PM_{10}	Oil/Coal /Gas/WTDF	5	initial/annual	3 one-hr run	
026	Kiln No. 2	VE	Oil/Coal/Gas/WTDF	9/COMS	initial/annual/COMS	3 one-hr run	No [4]
026	Kiln No. 2	SO_2	Oil/Coal/Gas/WTDF	CEMS	24-hr rolling average	continuous	Yes [6]
026	Kiln No. 2	NOx	Oil/Coal/Gas/WTDF	CEMS	24-hr rolling average	continuous	Yes [3]
026	Kiln No. 2	CO	Oil/Coal/Gas/WTDF	10 [5]	initial/annual	3 one-hr run	
026	Kiln No. 2	VOC	Oil/Coal/Gas/WTDF	25 or 25A [2]	initial	3 one-hr run	
026	Kiln No. 2	H_2SO_4 mist	Oil/Coal/Gas/WTDF	8	initial	3 one-hr run	
026	Kiln No. 2	Hg, Pb	Oil/Coal/Gas/WTDF	29	initial	3 one-hr run	
026	Kiln No. 2	Be	Oil/Coal/Gas/WTDF	104	initial	3 one-hr run	
031	Fugitive sources	VE	Oil/Coal/Gas/WTDF	22	Protocol [7]		
025/028/029/030	Minor Sources	VE	Oil/Coal/Gas/WTDF	9	initial/annual	3 one-hr run	
027	Cooler No. 2	PM/PM_{10}	Oil/Coal/Gas/WTDF	5	initial/annual	3 one-hr run	
027	Cooler No. 2	VE	Oil/Coal/Gas/WTDF	9/COMS	initial/annual/COMS	3 one-hr run	No [4]

Notes:

[1] Testing of emissions shall be conducted while burning coal, 85% coal and 15% tires (permitted capacity). The kiln is allowed to burn virgin fuel oil and a blend of virgin fuel oil and on-spec used oil for startup. See specific conditions No. 3.

[2] VOC emission shall be tested initially to comply with the condition of this permit. Thereafter, compliance will be assumed provided the CO allowable emission rate is reached.

[3] NO_x - The continuous emission monitor (CEM) data shall be used for Kiln No. 2 compliance requirement. The CEM calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[4] Pursuant to 40 CFR 60, Subpart F, the kiln/cooler exhaust system shall be equipped with continuous opacity monitor system (COMS) to record the opacity at the stack to indicate proper maintenance and operation. Monitoring of the opacity of emissions shall be demonstrated by COMS pursuant to 40 CFR 60.63. Notification and recordkeeping shall be in accordance with 40 CFR 60.7 and 40 CFR 60.65.

[5] Continuous process monitors for CO and/or O_2 to optimize combustion conditions for pollution control shall be part of the process.

[6] SO_2 - The continuous emission monitor (CEM) data shall be used for Kiln No. 2 compliance requirement. The CEM calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[7] Protocol as approved by the Southwest District Ofiice.

* CMS [=] compliance demonstrated by a continuous monitoring system: CEMS or COMS.

SUBSECTION C. SPECIFIC CONDITIONS

The following Specific Conditions apply to the following emission units:

EMISSIONS UNIT NO.	SYSTEM	EMISSIONS UNITS DESCRIPTION
031	Raw Materials Processed	Material Handling (Fugitive) Handling and Storage (Fugitive)
025	Raw Mill System	Filter Dust Bin Transport, Raw Meal Transport, Raw Meal Storage, Homogenizing Silos
028	Finish Mill	Gypsum Storage Bin, Clinker Transport, Belt Conveyor, Finish Mill Discharge Vent, Finish Mill Sepal Separator, Clinker Storage Silo :
029	Cement Handling	Cement Storage Silo A, Cement Storage Silo B, Cement Silo Discharge Hopper A, Cement Silo Di
030	Coal Handling	Coal Handling and Storage (Fugitives) Coal Dust Bin, Coal Mill.

EMISSION LIMITATIONS

C1. The permittee shall not cause or allow to be discharged into the atmosphere visible emissions which exceed the limits given in Table 1-1 Allowable Opacity Limits. **[Rule 62-210.200(198) and 62.212.400, F.A.C.]**

C2. In order to minimize excess emissions during startup/shutdown/malfunction these emission units shall adhere to best operational practices. **[Rule 62-210.700, F.A.C. and 40 CFR 60.7]**

OPERATIONAL LIMITATIONS

C3. Cement Plant No.2 and associated equipment is allowed to operate continuously (8760 hours/year) [Rule 62-210.200(223), F.A.C. Definitions-Potential to emit (PTE)].

C4. *Process operating rates*:

The maximum material handling rates are as specified in Table 1-1. Allowable Opacity Limits.

TEST METHODS AND COMPLIANCE PROCEDURES

C5. The maximum permitted allowable particulate emission rate (lbs/hr and gr/dscf) from these emissions units are as stated in Table 1-1 Allowable Opacity Limits. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, and because these sources are equipped with a baghouse control device, the Department pursuant to the authority granted under Rule 62-297.620(4), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate stack test. **[Rule 62-297.620(4), F.A.C.]**

C6. Compliance with the allowable emission limiting standards listed in Table 1-1 shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A (1995, version) adopted by reference in Chapter 62-204, F.A.C.

Method 9 Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 22 Visual Determination of Fugitive Emissions from Material Sources.

A protocol to determine compliance with EPA Method 22 shall be submitted to the District office before applying for the Title V operating permit for this Cement Plant No. 2.

Testing of emissions must be accomplished within 90 to 100% of the permitted capacity **[Rule 62-297.310(2), F.A.C]**. Failure to submit the input rates and actual operating conditions may invalidate the test **[Rule 62-297.310 (2), F.A.C.]**.

These emission units shall comply with all applicable requirements of Rule 62-297.310 General Test Requirements and 40 CFR 60.8, Subpart A, Performance Tests.

C7. The visible emissions test, EPA Method 9, shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.**[Rule 62-297.310, F.A.C.]**

C8. Should the Department have reason to believe the particulate matter standards set forth in Table 1-1 are not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing (applicable emission unit) in accordance with Rule 62-297.620 (4) F.A.C. **[Rule 62-297.620(4) and 62-297.310, F.A.C.]**

C9. Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. **[Rule 62-4.070(3), F.A.C.].**

C10. Particulate emissions from coal handling facilities related to the No. 2 kiln shall be minimized by following the procedures listed below: **[Rule 62-296.320(4)(c), F.A.C.]**

a. All conveyers and transfer points shall be enclosed to preclude particulate emissions (except those directly associated with coal stacking/reclaiming).

b. Coal storage piles shall be shaped, compacted and oriented to minimize wind erosion.

c. Water sprays or chemical wetting agents and stabilizers shall be applied to storage piles, handling equipment, etc., during dry periods and as necessary to all facilities to maintain an opacity of less than 5 percent, except when adding, moving or removing coal from the coal pile, during which the opacity shall be no more than 20%.

C11. The part of the fly ash handling system related to the No. 2 kiln (including transfer equipment, flyash bin, and pneumatic system exhaust) will be totally enclosed and vented through fabric filters.

RECORDKEEPING AND REPORTING REQUIREMENTS

Daily Operation and Maintenance (O&M) Log:

C12. This facility shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. Operators shall keep a daily O&M log to include, at a minimum, the following information:

The results of all source tests.

Calibration logs for all instruments.

Maintenance/repair logs for any work performed on equipment or instrument which is subject to this permit.

All measurements, records, and other data required to be maintained by FCS shall be retained for at least five (5) years following the data on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. The Department's Southwest District office shall be notified in writing at least 15 days prior to the testing (auditing) of any instrument required to be operated by these specific conditions of certification in order to allow witnessing by authorized personnel. **[Rule 62-4.070(3), F.A.C.]**

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Table 1-1
Allowable Opacity Limits (Minor Particulate Sources)
Florida Crushed Stone

Description	Control	Emission Unit Equipment	Grain Loading (gr/dscf)	OPACITY	lb/hr
Emission Unit: Raw Material Processed Process Rate = 245 TPH					
Material Processing (Fugitive)				10	
Handling and Storage (Fugitive)				10	
Emission Unit: Raw Mill System Process Rate = 173.2 TPH Preheater Feed					
Filter Dust Bin Transport	Baghouse	2E-67	0.01	5	0.302
Raw Meal Transport	Baghouse	2F-02	0.01	5	0.208
Raw Mill Storage and Homogenizing Silos	Baghouse	2G-01	0.01	5	1.178
Emission Unit: Kiln Operations Process Rate = 159.4 TPH Kiln Dry Feed					
Kiln Feed System	Baghouse	2H-05, 2E-66	0.01	5	0.499
Emission Unit: Finish Mill Process Rate = 104.2 TPH Clinker					
Gypsum Storage Bin	Baghouse	2L-14	0.01	5	0.320
Clinker Transport	Baghouse	2L-03	0.01	5	0.253
Belt Conveyor	Baghouse	2M-04	0.01	5	0.485
Finish Mill Discharge Vent	Baghouse	2N-02	0.01	5	2.640
Finish Mill Sepol Separator	Baghouse	2N-08	0.01	5	8.270
Clinker Storage Silo	Baghouse	2L-05	0.01	5	0.253
Clinker Bin	Baghouse	2M-15	0.01	5	0.624
Emission Unit: Cement Handling Process Rate: ~ 115 TPH Portland Cement					
Cement Storage Silo A	Baghouse	2Q-18	0.01	5	0.499
Cement Storage Silo B	Baghouse	2Q-18	0.01	5	0.499
Cement Silo Discharge Hopper A	Baghouse	2Q-28	0.01	5	0.208
Cement Silo Discharge Hopper B	Baghouse	2Q-38	0.01	5	0.208
Emission Unit: Coal Handling Process Rate = 13.8 TPH					
Coal Mill	Baghouse	2S-15	0.01	5	1.745
Coal Dust Bin	Baghouse	2S-20	0.01	5	0.145
Coal Handling and Storage (Fugitive)				5/20/10	
TOTAL					18.336

SECTION IV. PERMITTING HISTORY

CEMENT PLANT

06-13-83	PA 82-17	Original PPS Certification
07-25-83	PA 82-17	Modification, limestone injection
11-10-83	AC27-61016	Original air construction permit
03-27-84	PSD-FL-091	EPA PSD permit
06-29-86	PA 82-17	Modification, limestone calciner
08-26-86	AC27-118674 PSD-FL-091	Modification, reduced emission limits
04-30-90	AC27-118674 PSD-FL-091A	Intent to Issue, testing shredded tires
06-06-90	AC27-118674 PSD-FL-091A	Amendment, testing shredded tires
09-24-90	AC27-118674 PSD-FL-091	Amendment, testing JEA sediment
05-24-91	AO27-183508	Original air operation permit
08-30-91	AC27-118674 PSD-FL-091B	Intent to Issue, use of shredded tires
10-09-91	AC27-118674 PSD-FL-091	Amendment, testing shredded tires for NO_x measurements
10-25-91	AC27-118674 PSD-FL-091	Amendment, testing whole tires
07-20-92	AC27-118674 PSD-FL-091C	Amendment, additional testing with whole tires
11-18-92	AC27-118674 PSD-FL-091A	Modification, use of shredded tires

SECTION IV. PERMITTING HISTORY

11-24-92	AC27-118674 PSD-FL-091	Intent to Issue, use of whole tires
12-21-92	AC27-118674	Modification, use of whole tires
12-17-93	AC27-222095 PSD-FL-091D	Modification, use of used oil
03-11-94	AO27-231888	Modification, use of used oil, and tires (whole and shredded)
08-10-94	AC27-222095 PSD-FL-091E	Modification, use of used oil w/ PCB limit condition
08-30-94	AO27-231888A	Modification, used oil test method
POWER PLANT		
06-13-83	PA 82-17	Original PPS Certification
07-25-83	PA 82-17	Modification, limestone injection
08-03-83	PA 82-17	Modification
03-27-84	PSD-FL-090	EPA PSD permit
02-20-85	PA 82-17	Modification
06-29-86	PA 82-17	Modification, limestone calciner
06-02-94	PA 82-17	Revision to transfer authorization from SWFWMD to DEP for dike construction
10-06-94	PSD-FL-090A	Amendment, testing at 133 MW
05-23-95	PSD-FL-090D	Intent to Issue, for operation of power at 1850 MMBtu/hr input

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

FLORIDA CRUSHED STONE COMPANY
PORTLAND CEMENT PLANT NO. 2 AND ASSOCIATED EQUIPMENT
Brooksville, Florida
Hernando County

The applicant, Florida Crushed Stone Company (FCS), plans to construct a 104.2 ton per hour (maximum TPH as clinker) dry process portland cement kiln with a *preheater/precalciner design* at its existing cement plant approximately 3.5 miles northwest of Brooksville, Hernando County, Florida. The project includes a single kiln and clinker cooler along with raw mill, finish mill, cement and clinker handling equipment, coal handling equipment, silos, and air pollution control equipment. The facility will produce 912,500 tons per year (maximum TPY as clinker) and approximately 1,004,000 TPY of portland cement.

The Department issued a construction permit and a BACT determination for Cement Plant No. 2 utilizing the preheater (PH) design (1995). This revised BACT analysis will consider the proposed preheater/precalciner (PH/PC) design which may be utilized by FCS in lieu of the permitted PH kiln. An extensive analysis supporting the BACT determination requested by FCS was submitted with the original application and is included by reference along with the original BACT Determination made by the Department and the additional information submitted with the present application.

A detailed process description is included in the Technical Evaluation and Preliminary Determination.

Following is the BACT determination proposed by the applicant:

BACT DETERMINATION REQUESTED BY THE APPLICANT:

POLLUTANT	EMISSION LIMIT
Particulate Matter (kiln)	0.2 lb/ton of dry kiln feed
Particulate Matter (cooler)	0.1 lb/ton of dry kiln feed
Particulate Matter (material handling, conveying, storage	0.01 gr/dscf, baghouses
Sulfur Dioxide (kiln)	0.23 lb/ton clinker
Nitrogen Oxides (kiln)	2.8 lb/ton clinker
Carbon Monoxide (kiln)	1.31 lb/ton clinker

A single, large, fabric filter system (baghouse) will be used to capture particulate matter from the kiln and the cooler. Baghouses will also be used to limit particulate emissions from other process emission points. Table 1-1 is a list of the emission units to be controlled by baghouses.

Portland cement installations are among the major facilities listed in Table 212.400-1, F.A.C., "Major Facilities Categories." A BACT determination is required for each pollutant exceeding the significant emission rates in Table 212.400-2, "Regulated Air Pollutants Significant Emissions Rates," which in this case are particulate matter (PM), sulfur dioxide (SO_2), carbon monoxide (CO), and nitrogen oxides (NOx).

This facility is also subject to the following requirements given in Rule 62-208.800, F.A.C., "Federal Regulations adopted by Reference:"

- 40 CFR 60, Subpart F - Standards of Performance for Portland Cement Plants.
- 40 CFR 51, Subpart P - Protection of Visibility.

Date of Receipt of a BACT Application:

September 11, 1996

Review Group Members:

Teresa Heron and A. A. Linero of the New Source Review Section.

BACT DETERMINATION PROCEDURE

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (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. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of BACT pursuant to Section 169, 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.

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determination of any other state.

(d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from this facility can be grouped into categories based upon the control equipment and techniques that are available to control emissions from these emission units. Using this approach, the emissions can be classified as follows:

- Particulate matter from kilns and coolers (PM/PM_{10} and VE). Controlled generally by add-on particulate collection equipment such as baghouses or electrostatic precipitators.

- Products of combustion and incomplete combustion (e.g., SO_2, NO_x, CO, VOC). Control is largely achieved by good combustion practices, reactions with clinker and raw materials and removal in add-on control equipment.

- Emissions from materials handling, conveyance, and storage (primarily PM). Controlled generally by fabric filters and reasonable precautions.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting standard as a result of PSD review, the control of "non-regulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., PM, SO_2, H_2SO_4, fluorides, etc.), if a reduction in "non-regulated "air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

BACT DETERMINATION ANALYSIS:

PARTICULATE MATTER (PM/PM_{10})

Particulate Matter is generated by the various physical and chemical processes at a cement manufacturing plant. Sources of particulate matter at cement plants include (1) quarrying and crushing, (2) raw material storage, (3) grinding and blending, 4) clinker production, 5) finish grinding, and 6) packaging and loading. Additional sources of PM are raw material storage piles, conveyers, storage silos, and unloading facilities. The largest emission source of PM within cement plants is the pyroprocessing system that includes the kiln and clinker cooler exhaust stacks (in this case, common kiln/cooler stack). Emissions from kilns are affected by several factors, including differences in convective patterns, material movement patterns, burner locations and insertion lengths, heat transfer mechanisms, and the type of clinker cooler that supplies secondary air to the kiln for combustion. Typically, dust from the pollution control equipment servicing the kiln and cooler is collected and recycled into the kiln and thus incorporated into the clinker. According to FCS, virtually all of the cement kiln dust (CKD) generated from Cement Plant 1 is captured in the baghouse and returned to the pyroprocessing system as raw material. A small amount is removed every few weeks and sold to avoid build-up of thallium in the product. It is expected that most of the CKD from Cement Plant 2 will be recycled, while any excess will be stored in a silo for sale.

Common control devices for stack gases include settling chambers, inertial separators, impingement separators, wet scrubbers, fabric filters, and electrostatic precipitators. Fabric filters (baghouses) and electrostatic precipitator (ESPs) are generally considered equivalent for particulate control. Both types of devices can achieve removal efficiencies of over 99%. ESPs and baghouses are used extensively as control devices at cement plants. ESPs are generally specified for kiln and clinker cooler exhaust gases because of their ability to operate effectively at varying temperatures. Baghouses are also used at facilities for particulate control from kilns and coolers. Both types of control equipment provide for the recovery/recycling of collected dust back into the process stream. Baghouses are also used to control particulate emissions from most other material processing operations at cement plants.

Common controls to limit particulate emissions from fugitive sources (such as roadways, stockpiles, and material processing and conveying equipment) include wet suppression, sweeping, application of surfactants, paving of roads and covering of stockpiles to reduce wind erosion. Wet suppression of fugitive particulate emissions is considered as BACT for most material handling operations and unpaved roads. Dust from stockpiles can be minimized by relatively high material moisture content with additional water spraying as necessary.

Small quantities of beryllium (Be), mercury (Hg) and lead (Pb) are generated by the combustion of coal and fuel oil blends. Be and Pb will be generated as particulate emissions from the combustion of fuels, and will be removed by incorporation into the product clinker or controlled by the kiln/cooler baghouse. Hg can exist in both particulate and gaseous form and can only be partially removed by the process and control equipment The applicant projects such low emissions of these metals that they will not be subject to BACT.

A review of the BACT Clearinghouse indicates that baghouses and ESPs are widely used to control particulate matter from process emission units at cement plants. They are commonly accepted as BACT.

The applicant has proposed kiln particulate emissions of 0.2 pounds per ton of dry kiln feed (lb/ton kiln feed) and cooler particulate emissions equal to the New Source Performance Standards (NSPS) limit of 0.1 lb/ton kiln feed as BACT for this source. This compares with the proposed values in the original application for the PH kiln of 0.3 and 0.1 lb/ton kiln feed for the two units, respectively.

PRODUCTS OF COMBUSTION AND INCOMPLETE COMBUSTION

Nitrogen Oxides

Emissions of NO_x from dry process cement plants with a PH/PC include the kiln, the calcining loop, and any fuel-fired support operation. NO_x is generated during fuel combustion by oxidation of chemically bound nitrogen in the fuel (fuel NO_x) and by thermal fixation of nitrogen in the combustion air (thermal NO_x). As flame temperature increases, the amount of thermally generated NO_x increases. Fuel type affects the quantity and type of NO_x generated. Generally, natural gas is low in nitrogen. However it causes higher flame temperatures and generates more thermal NO_x than oil or coal, which have higher fuel nitrogen content, but exhibit lower flame temperatures.

NO_x emissions represent a significant portion of the total emissions generated by this project, and must be minimized using BACT.

The emissions of NO_x can potentially be reduced at Portland cement plants by two methods:

1. Minimizing the quantity of NO_x generated during combustion (combustion modifications).

2. Reducing the quantity of NO_x in the flue gas stream (flue gas controls).

A review of EPA BACT/LAER Clearinghouse (BACT Clearinghouse) information indicates that NO_x emissions at most facilities are minimized by process control and good combustion practices.

The applicant stated that NO_x emissions at this facility will be controlled through "proper combustion practices" such as burner design with primary combustion air control. Burning a portion of the fuel in the PC, introduction of tires in the material feed end of the kiln, and indirect firing will spread out the thermal load will help minimize NO_x emissions.

In its original submittal, the applicant ruled out Selective Catalytic Reduction (SCR) and Selective Non-Catalytic Reduction (SNCR) as technically unfeasible or cost prohibitive. The applicant gave subsequent consideration to other possible control methods following a request by the Department for additional details justifying the selected method. The applicant rejected Low NO_x Burners, low Nitrogen Fuel, Flue Gas Recirculation, Fuel Reburning, and Contemporaneous Reductions from the on-site power plant and cement kiln as options which are ineffective, undemonstrated, or beyond the control of the applicant.

The applicant has proposed for this kiln with a PH/PC design a NO_x emission rate of 292 lb/hr and 2.8 lb/ton clinker. This value is substantially less than the one FCS proposed in its original application (4.3 lb/ton clinker) and, on a unit basis, is equal to the BACT Determination made by the Department in 1995. It is compared below with previous determinations documented by the BACT Clearinghouse.

Previous BACT Determinations

BASIS	Least Stringent	Most Stringent	Proposed
	Year 1978	Year 1981	Year 1996
lb/ton clinker	11.13	0.85	2.8

It is important to note that the facility which was given the 0.85 lb/ton clinker NO_x limit has not been able to meet it since construction. A dry process plant with PH/PC received a NO_x limit of 1.11 lb/ton clinker but was never built. Another dry process plant with PH/PC received a BACT determination of 2.09 lb NO_x/ton clinker. However, it appears that since that time a less stringent standard was applied. One dry process PH/PC kiln in California received a NO_x BACT determination of 2.5 lb/ton clinker. The Department made a BACT Determination of 2.8 lb/ton clinker in 1995 for the proposed Florida Rock Industries Cement Plant in Newberry, Florida. The main reason it was higher than the one for the California plant was that Florida limestone is wetter and requires more heat input to dry. A claim by the kiln manufacturer that differences in volatility between Eastern and Western coal should be reflected in an even higher emission limit for the Florida kiln was rejected by the Department.

A review of the NO_x emission rate summary indicates that the applicant's proposal is representative of the most stringent BACT determinations made to date for plants utilizing dry processes. The dry process with

PH/PC is considered to be the most energy-efficient process. Therefore it is expected that the lower fuel use will result in relatively low NO_x. Additionally, the lower flame temperature realized when burning coal, spreading the thermal load over various burn points, indirect firing, as well as documented reductions from tire burning, are further reasons to a expect low emission rate from the proposed PH/PC kiln.

The Department also reviewed a paper presented at the Air and Waste Management Association (AWMA) International Specialty Conference on Waste Combustion in Boilers and Industrial Furnaces. The paper, "Reduction of NO_x Emissions from Cement Kiln/Calciner through the Use of the NOxOUT Process," which was written by representatives of Nalco and Ash Grove Cement, suggests that SNCR is a viable control method. A level as low as 1.0 lb/ton of clinker was reached based on demonstration tests conducted at the Ash Grove cement plant in Seattle, Washington. However the process has not been demonstrated on a long term basis and FCS' kiln designer, Polysius, has not been willing to guarantee its performance or the quality of cement produced when using this control process.

Recently a proposed cement plant (Great Star Cement, Clark County, Nevada) was permitted with the urea-based SNCR/NOxOUT process as BACT. The process relies on the reaction between ammonia and NOx to yield molecular nitrogen. The delivery system consists of urea injectors in one of the preheater sections. The objective was to achieve 50% reduction of NO_x emissions. At that level there should be no ammonia slip while meeting a BACT limit of 3.1 lb/ton clinker.

A survey of stack test data from various kilns around the country, operating for more than three years, suggests that the proposed emission limit for NO_x is low but achievable

The USEPA Technology Transfer Network (TTN) BACT/LAER/RACT Clearinghouse database was reviewed for more recent data. Review of this data does not change the Department's original review.

Sulfur Dioxide

Sulfur dioxide (SO_2) may be generated both from sulfur compounds such as sulfates in the raw materials and from sulfur in the fuel. The sulfur content of both raw materials and fuels varies from plant to plant and with geographic location. Sulfur dioxide at this facility will be generated by the combustion of coal and tires in the kiln and generation of sulfur gases from the raw materials.

The exhaust gas from a cement kiln can contain varying amounts of SO_2. Under low oxygen conditions, sulfates in the raw materials can be converted to SO_2. At high temperature and excess air conditions, some of the sulfur introduced into the cement kiln with the raw materials, and most of the sulfur contained in the fuel, are converted to SO_2. Most of the SO_2 subsequently reacts with oxygen and alkali compounds (such as Na_2O and K_2O vaporized at sintering temperatures) to form alkali sulfates, which are found in cement clinker and in kiln dust. The amount of SO_2 released in the kiln flue gases will vary with the amount of excess alkali available for absorption. Additional SO_2 may be removed through contact with the incoming raw materials and, to some extent, in the particulate control equipment.

SO_2 control processes can be classified into five categories: fuel/material sulfur content limitations, absorption by a solution, adsorption on a solid bed, direct conversion to sulfur, or direct conversion to sulfuric acid.

FCS proposes to limit SO_2 emissions by taking advantage of the alkaline environment in the kiln, preheater, and raw mill to effect substantial removal of SO_2. Ultimately the sulfur is incorporated into the clinker lattice structure, thus minimizing the amount emitted to the atmosphere. Some additional SO_2 removal through contact with particulate matter may also take place in the kiln/cooler baghouse.

A review of the BACT determinations for cement plants as contained in the BACT Clearinghouse indicates SO_2 reduction levels from 70 to 96% (percent) from facilities utilizing the dry processes. The Department did not find instances of BACT involving measures beyond those proposed by FCS. Some plants use baghouses as proposed by FCS instead of Electrostatic Precipitators (ESPs) for particulate control. It is possible that the filter cake on the bags enhances SO_2 removal compared with an ESP. However, the difference is marginal compared with the primary removal mechanism involving oxidation of SO_2 to SO_3, alkali reactions, and subsequent removal of sulfates as particulate matter and with the clinker.

The SO_2 limit proposed by the applicant, 0.23 lb/ton clinker, is substantially less than the 0.55 lb/ton value proposed in the original application submitted by FCS in 1995 and is equal to the BACT emission limit (on a unit basis) set by the Department in its review of the previous PH kiln proposal. A survey of stack test data from different facilities around the country operating for at least three years demonstrates that the proposed limit is low but achievable.

Carbon Monoxide and Volatile Organic Compounds

Carbon monoxide (CO) is a pollutant formed by the incomplete combustion (oxidation) of carbon containing compounds in the cement kiln fuel and during the transformation of cement raw materials to cement clinker. When insufficient oxygen is provided, more CO and less CO_2 are formed than under excess air conditions. Substantial quantities of CO and CO_2 are also generated through calcining of limestone and other calcareous material. This calcining process thermally decomposes $CaCO_3$ to CaO and CO_2. The calcining of limestone in the cement manufacturing process liberates large amounts of CO_2, which is available for dissociation into CO.

Emissions of CO can potentially be reduced at portland cement plants by two main methods: utilization of proper combustion practices to maximize the oxidation of CO to CO_2 and reducing the quantity of CO in the flue gas stream (flue gas control).

VOC is also a pollutant formed by the incomplete combustion of fuel or hydrocarbons contained in the raw materials. The temperatures of the gases in the kiln will reach between 3700 to 3800 degrees Fahrenheit. At these high temperatures, virtually all VOCs will be consumed or destroyed regardless of their source (limestone, mill scale, coal, fuel oil, etc.). Clinker production requires certain temperatures, residence time, and turbulence within the kiln. These factors are sufficient to ensure the destruction of almost all VOCs at cement plants.

Emissions of VOC can be controlled by add-on control devices by the mechanisms of adsorption, absorption, or incineration (afterburning). Incineration processes include flame incineration, thermal incineration, and catalytic incineration. No add-on controls for CO or VOC have been demonstrated for cement plants.

The high temperatures and control of excess air and fuel, typically results in simultaneous optimization for control of products of incomplete combustion and NO_x. The applicant proposes proper combustion practices as BACT to control emissions of CO from this plant. The applicant estimates low emissions of VOC such that the new kiln will not be subject to BACT for this pollutant.

A review of the BACT Clearinghouse reveals that for CO and VOC, BACT from cement plants for these pollutants is proper combustion practices.

DEPARTMENT BACT DETERMINATION:

Particulate Matter

BACT for visible emissions was determined to be more stringent than the NSPS for Portland Cement Plants, 40 CFR 60, Subpart F. With respect to the kiln, BACT for PM was also determined to be more stringent than the NSPS for Portland Cement Plants, 40 CFR 60, Subpart F. This value of 0.2 lb/ton kiln feed is equal to the Department's previous BACT determination for the PH kiln and equal to the proposed determinations made for the Florida Rock Industries kiln in Newberry and the Southdown Cement Plants in Brooksville.

Based on actual data the kiln and cooler PM limits are considered to be low and achievable.

For each small baghouse in the material handling process the exhaust gases must not exhibit greater than 5 percent opacity. The Department has determined that 5 percent opacity is BACT, and is attainable with a baghouse.

Nitrogen Oxides Determination

The Department has determined that the NO_x level proposed by the applicant is similar to the lowest emission limits from plants already in operation throughout the country and reflects recent BACT determinations for Florida portland cement plants.

FCS previously ruled out SNCR as unfeasible for the previous PH design because the "optimum temperature range to drive the SNCR reactions between 1600-2000 degrees F is encountered in a typical kiln system only in the kiln itself." FCS contended that injection of ammonia/urea in the kiln will cause increases in NO_x. In the new PH/PC arrangement, the temperature range for SNCR will occur outside of the kiln and its use is at least plausible.

The Department believes that the proposed NO_x limit of 2.8 lb/ton clinker (at 104.2 TPH clinker production) is BACT for this plant. Therefore, BACT for NO_x emissions from the cement kiln is determined to be equal to 2.8 lb/tons of clinker. The Department believes that this limit can be achieved by the technology proposed by FCS. If it is not met within the time allotted in the proposed construction permit, then FCS must examine the option of employing SNCR or propose an alternative technology to accomplish the same end.

Sulfur Dioxide Determination

The Department has also determined that the SO_2 BACT limit proposed by the applicant is also one of the lowest in the country and is equal to recent BACT Determinations by the Department for this pollutant. It is the conclusion of the Department that the key factors in SO_2 removal are maintaining proper ratios of sulfur and alkali in the kiln environment and intimate contact between raw materials and exhaust gases. This is considered by the Department to be the mechanism by which the proposed limit of 0.23 lb/ton clinker will be achieved.

The Department believes that FCS will meet the SO_2 limits as proposed. This is substantiated by the letter of October 28, 1983 from Sholtes and Koogler, Environmental Consultants, regarding the existing PH kiln at FCS. Per page 13, "Polysius (cement plant designer) states that if only sulfur dioxide from the cement plant were considered, sulfur dioxide emissions as low as 20 pounds per hour could be expected from the cement plant." This is further proved by actual emissions tests from the original kiln which average about 10 lb of SO_2 per hour or approximately 0.1 lb/ton clinker.

The Department has also concluded that sulfuric acid mist emissions are not expected to be significant because free sulfite (SO_3) will preferentially react with clinker and kiln dust in the alkali environment of the kiln. Also, little water is available to complete the reaction to acid mist. No BACT determination was required for sulfuric acid mist (H_2SO_4).

An emission limit of 0.23 lb SO_2/ton clinker will insure that ambient SO_2 concentration increases will be less than the applicable National Park Service Significant Impact Level. Although it appears that FCS can achieve even lower values, it would be prudent to allow sufficient flexibility such that emissions of all combustion products can be minimized simultaneously. To provide further assurance that this limit will be met, the Department proposes a limit on the sulfur content of the coal of 1.25 percent.

CO Determination

BACT for CO was determined to be 2.0 lb/ton clinker. This value is equivalent to that proposed by FCS and the Department's previous BACT determination for Cement Plant 2. It is lower than the value given in AP-42 and will provide sufficient flexibility to minimize NO_x and SO_2 emissions. The Department requests that FCS continue to be judicious in its procurement of raw materials such as coal ash with low levels of unburned carbon to minimize CO generation in the PH.

Other Pollutants

No BACT determination was required for VOC as it will not be emitted in significant amounts.

No BACT determination was required for Pb. The limit requested by FCS insures BACT will not be triggered. Removal will be accomplished by the particulate control system and incorporation into the clinker matrix.

No BACT was required for Be. The adopted value will result in emissions less than the PSD significant threshold value. The particulate control system will remove Be which will also be largely incorporated into the clinker matrix.

No BACT was required for Hg. The estimate provided by FCS will result in emissions less than the applicable BACT threshold. This is consistent with information available to the Department on mercury levels in raw materials and coal as well as tests conducted at kilns in Florida.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

The BACT emissions established by the Department are summarized as follows:

SOURCE	**POLLUTANT EMISSION LIMIT**
KILN	
Kiln (PM/PM_{10})	0.2 lb/ton kiln feed (dry basis) and 0.3 lb/ton clinker - 1 hour average
Kiln (VE)	Visible emissions not to exceed 10 percent opacity
Kiln (SO_2)	0.23 lb/ton clinker 24 hr rolling average
Kiln (NOx)	2.8 lb/ton clinker - 24 hr rolling average
Kiln (CO)	2.0 lb/ton clinker - 1 hr average
Kiln (SO_3)	0.014 lb/ton clinker (non-BACT)
Kiln (VOC)	0.085 lb/ton clinker (non-BACT)
Kiln (Be)	8.2×10^{-7} lb/ton clinker (non-BACT)
Kiln (Hg)	2.4×10^{-5} lb/ton clinker (non-BACT)
Kiln (Pb)	5.2×10^{-4} lb/ton clinker (non-BACT)
Fuels	Coal (1.25 % S), blend of fuel oil and on-spec used oil (1.5 % S), tires (up to 15% of heat input), and natural gas are the <u>only</u> fuels allowed
COOLER	
Cooler (PM/PM_{10})	0.1 lb/ton kiln feed (dry basis) and 0.15 lb/ton clinker
Cooler (VE)	Visible emissions not to exceed 10% opacity

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ASSOCIATED EQUIPMENT

Minor points with baghouses	Visible emissions not to exceed 5% opacity

FUGITIVES SOURCES

Fugitive sources	Visible emissions not to exceed 10% opacity

COMPLIANCE

Compliance with the particulate emission limitations shall be demonstrated using EPA Reference Method 5 as contained in Appendix A, 40 CFR 60, and set forth in Subsection 60.64 of the NSPS for Portland Cement Plants, 40 CFR 60.

Compliance with opacity standards (minor sources controlled by baghouses) shall be determined by conducting observations in accordance with 40 CFR 60, Appendix A, Method 9.

Continuous Opacity Monitors (kiln and cooler) shall meet the requirements of the 40 CFR 60, Appendix B and 40 CFR 60, Subpart F, NSPS for Portland Cement Plants. Compliance with the opacity standard for the kiln and cooler shall be demonstrated by EPA Reference Method 9 as contained in Appendix A, 40 CFR 60.

Compliance with the opacity standards for fugitive sources shall be determined by EPA reference Method 22 as contained in Appendix A, 40 CFR 60.

Compliance with the SO_2 and NO_x emission limitations shall be demonstrated using CEMs. The CEMs shall meet all the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

Compliance with the CO limitations shall be demonstrated by 3 one-hour tests using EPA Method 10.

Pursuant to F.A.C. 62-4.070(3), 62-212.400(6) and 62-296.520, the kiln/cooler exhaust system shall be equipped with continuous monitors to record NO_x and SO_2 for the purposes of compliance; opacity at the stack to indicate proper maintenance and operation; and CO and/or O_2 to optimize combustion conditions for pollution control.

Compliance with the VOC limitations shall be demonstrated (on a one time basis) by three one hour stack tests using Method 25 or 25A to confirm emission rate is less than the PSD significant emission rate.

Compliance with the Pb, Hg, and Be limitations shall be demonstrated (on a one time basis) by three one-hour stack tests using EPA Method 29 to confirm emission rate is less than the PSD significant emission rate.

DRAFT

BACT/LAER/RACT CLEARINGHOUSE DATABASE COMPARISON

The following table is to be used for reference and comparison with portland cement facilities listed in the BACT/LAER/RACT Clearinghouse database:

POLLUTANT	lb/ton clinker	lb/ton $kiln_{ph}$ feed	lb/ton kiln feed	lb/MM BTU
PM/PM_{10} (kiln)	0.3	0.18	0.2	0.09
SO_2 (kiln)	0.23	0.14	0.15	0.07
NO_x (kiln)	2.80	1.68	1.83	0.89
CO (kiln)	2.0	1.20	1.31	0.64
VOC (kiln)	0.09	0.05	0.06	0.03
H_2SO_4 (kiln)	0.014	8.37 E-03	0.009	4.46 E-03
Be (kiln)	8.2 E-07	4.90 E-07	5.56 E-07	2.65 E-07
Hg (kiln)	2.4 E-05	1.44 E-05	1.57 E-05	7.69 E-06
Pb (kiln)	5.2 E-04	3.13 E-04	3.40 E-04	1.67 E-04
PM/PM_{10} (Cooler)	0.15	0.09	0.1	0.04

Based on the following FCS process rates:
Preheater feed rate ($kiln_{ph}$ feed) : 173.2 TPH
Kiln feed rate : 159.4 TPH
Clinker production : 104.2 TPH
Heat Input : 325 MMBTU/hr

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING

Teresa Heron, Review Engineer,
A. A. Linero, P.E., Administrator
New Source Review Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended By:

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

Date:

Approved By:

Howard L. Rhodes, Director
Division of Air Resources Management

Date:

G.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.

G.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 or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

G.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.

G.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.

G.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.

G.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.

G.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:

Have access to and copy and records that must be kept under the conditions of the permit;
Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
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.

G.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 description of and cause of non-compliance; and
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.

G.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 extend it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

G.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.

G.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.

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

G.13 This permit also constitutes:

Determination of Best Available Control Technology (X) - Attached as incorporated as a condition of this permit.
Determination of Prevention of Significant Deterioration (X); and
Compliance with New Source Performance Standards (X).

G.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:

The date, exact place, and time of sampling or measurements;
The person responsible for performing the sampling or measurements;
The dates analyses were performed;
The person responsible for performing the analyses;
The analytical techniques or methods used; and
The results of such analyses.

G.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.

Memorandum

Florida Department of Environmental Protection

TO: Clair Fancy

THRU: Al Linero AA Linero 11/6

FROM Teresa Heron TH.

DATE: November 6, 1996

SUBJECT: Florida Crushed Stone, PSD-Fl-227(A) and AC27-274892(A)
Project Modification and Production Increase

Attached is a draft construction permit for this facility. The permit will provide for a change in the kiln technology (adds a precalciner) and a production increase for the previously proposed and permitted Portland Cement Plant No. 2.

The revised project includes a dry process kiln with a preheater/precalciner, clinker cooler, crushers, raw mill, finish mill, material and fuel handling equipment, silos, and shipping facilities. Pollution control equipment includes a common fabric filter system (baghouse) for particulate emissions from the kiln and cooler; absorption of sulfur compounds and metals into the product; combustion controls for volatile organic compounds (VOC) and CO; combustion controls for NO_x with additional controls to be specified as needed to meet permit limits; and baghouses for particulate emissions from other process emission units.

The BACT determination is the same on a unit basis as the one previously approved in the existing permit.

I recommend your approval and signature

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

P.E. Certification Statement

Permittee:
Florida Crushed Stone Company
Brooksville Facility
Brooksville, Florida

File No.: 0530021-001-AC and PSD-Fl-227(A)
Facility ID No.: 0530021

Project type: Application for Revised Permit Incorporating Modern Kiln Technology and Production Increase - Portland Cement Plant No. 2 and Associated Equipment

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

AA Linero 11/6

A.A. Linero, P.E. Date
Registration Number: 26032

Department of Environmental Protection
Bureau of Air Regulation
New Source Review Section
2600 Blair Stone Road, MS 5505
Tallahassee, Florida 32301
Phone (904) 488-1344
Fax (904) 922-6979

A. A. LINERO
CERTIFICATE
NO. 26032
aal 11/6
STATE OF
FLORIDA
REGISTERED ENGINEER

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

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NOV 06 1996
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AIR REGULATION

4APT-ARB

Mr. A. A. Linero, P.E.
Administrator
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJ: Florida Crushed Stone Company, Inc. (PSD-FL-227)

Dear Mr. Linero:

This is to acknowledge receipt of an application to modifiy the previously issued Prevention of Significant Deterioration (PSD) permit for the above referenced facility. As requested by your letter dated September 20, 1996, we have reviewed the application. The applicant proposes to switch the technology for kiln #2 from a direct-fired preheater kiln to an indirect-fired precalciner kiln. Production capabililty will also increase as a result of this modification. The control technology and emission rates proposed by the applicant are consistent with the most recently issued permits for similar sources. We have no adverse comments on this application.

Thank you for the opportunity to review and comment on this application. If you have any questions, please contact Mr. Gregg Worley of my staff at (404) 562-9141.

Sincerely yours,

Douglas Neeley

R. Douglas Neeley
Chief
Air and Radiation
Technology Branch

cc: NPS
SWD
Hernando Co
Buck Oven, PPS
Don Elias, RTP
Tom Mountain, FCS
Lawrence Austin, HEK
Teresa Heron, BAR

RTP ENVIRONMENTAL ASSOCIATES INC.®

AIR • WATER • SOLID WASTE CONSULTANTS

239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

(908) 968-9600
Fax: (908) 968-9603

October 29, 1996

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BUREAU OF
AIR REGULATION

Ms. Teresa Heron
Florida Dept. of Environmental Protection
Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Completeness Review of Air Construction Permit Application to Modify the Approved Second Cement Kiln for Florida Crushed Stone (FCS)

Dear Ms. Heron:

In response to our recent telephone conversations, provided herein is information regarding fugitive particulate matter (PM) emissions for the proposed second cement kiln. Material processing, storage, and handling operations were discussed in Sections 1.0 and 3.0 of the air permit application. Most PM emissions are generated by the kiln, clinker cooler, and raw material processing, which are controlled by main and bypass baghouses. Most other material processing, storage, and handling operations will be controlled with fabric filter baghouses as shown on Table 1-3 of the air permit application. Fugitive emissions associated with on-site mobile sources were discussed in Section 3.3 of the air permit application. As discussed in our May 10, 1995 letter responding to the Department's comments, raw material storage piles are not considered to be major fugitive PM sources due to their high moisture content. Also, most raw material storage piles are housed under a roofed structure (other raw materials as well as the final cement are stored in silos with PM emissions controlled by baghouses). Since many potential sources of fugitive PM emissions are eliminated by the facility design (i.e., PM emissions from most material processing, storage, and handling operations controlled by baghouses), fugitive PM emissions are relatively minor.

Therefore, in response to your comment, annual fugitive PM emissions associated with the following activities are as follows:

Material Processing (Fugitive)	< 5 tons per year
Handling and Storage (Fugitive)	< 5 tons per year.

Material processing, handling, and storage activities would total 245 tons per hour. Also, please correct the coal throughput rate as shown on the bottom of Table 1 in our proposed revisions to the final permit (Appendix A to the air permit application) to 13.8 tph of coal.

Please contact us at 908-968-9600 if you have any additional questions or need any additional information.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias

Donald F. Elias
Principal

DFE/WEC/wec

cc: C. Fancy, H. Oven, A. Linero, C. Holladay/FDEP
T. Mountain, C. Allen/FCS
L. Curtin, Esq./Holland & Knight
M. Hober, W. Corbin, M. Lewis, FCS3 Project File/RTP

EPA
NPS
SWD
Hernando Co

FCS

FLORIDA CRUSHED STONE COMPANY
CEMENT PLANT

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BUREAU OF
AIR REGULATION

October 28, 1996

Mr. Hamilton S. Oven, Jr., P.E.
Administrator, Siting Coordination Office
Florida Dept. of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Fl. 32399-2400

Re: October 17, 1996, letter from Don Elias, RTP- Professional P.E. Signature and Seal

Mr. Oven:

At the request of Teresa Heron, FDEP, a copy of the above referenced letter signed and sealed by Mr. Larry Roberts, P.E. is being provided for the record. Mr. Roberts is the Certified Professional Engineer identified in the FCS air permit application dated September 9, 1996. Ms. Heron informed FCS that the completeness review responses to the FDEP's comments required the signature and seal of the professional engineer identified in the air permit application.

Please call me at the number below if you have any questions.

Tom Mountain

Tom Mountain
Environmental Manager

copy: C. Fancy, T. Heron, A. Linero, C. Holladay / FDEP
C. Allen / FCS
L. Curtain Esq. / H & K
M. Hober, W. Corbin, M. Lewis / RTP

P.O. BOX 1508 / 10311 CEMENT PLANT ROAD / BROOKSVILLE, FL 34605-1508 / PHONE (904) 799-7881 / FAX (904) 796-6281

T. Mountain

Best Available Copy

RTP ENVIRONMENTAL ASSOCIATES INC.®

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239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

(908) 968-9600
Fax: (908) 968-9603

October 17, 1996

Mr. Hamilton S. Oven, Jr., P.E.
Administrator, Siting Coordination Office
Florida Dept. of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Completeness Review of Air Construction Permit Application to Modify the Approved Second Cement Kiln for Florida Crushed Stone (FCS)

Dear Mr. Oven:

As requested in your letter to Mr. Tom Mountain dated October 2, 1996, please find enclosed a copy of the permit application submitted September 11th to the Bureau of Air Regulation. Our responses to your comments in the letter are as follows:

(1) The main baghouse proposed for the kiln and clinker cooler is designed to an outlet particulate matter (PM) grain loading of 0.01 grains per actual cubic foot (gr/acf) of exhaust gas, which is equivalent to a 99.9% control efficiency. A separate baghouse similarly designed to 0.01 gr/acf is proposed for the kiln bypass system. Exhaust gases from both baghouses merge before exhausting through the main vent. Therefore, worst-case PM emissions will be the highest flow conditions from the main vent. This condition, as shown on Table 6-2 of the September air permit application, is 460,204 actual cubic feet per minute (acfm) when the shaft dryer is off, the bypass system is on, and the clinker cooler experiences upset conditions. For conservatism, a 20% safety factor is added to the design outlet grain loading to provide a margin of error to account for short-term fluctuations in baghouse performance and for upset conditions. Maximum PM emissions will therefore be given by:

$$\frac{0.012 \text{ gr}}{\text{acf}} \times \frac{460{,}204 \text{ acf}}{\text{min}} \times \frac{60 \text{ min}}{\text{hr}} \times \frac{\text{lb}}{7000 \text{ gr}} = \frac{47.335 \text{ lb}}{\text{hr}}$$

$$\frac{47.335 \text{ lb}}{\text{hr}} \times \frac{\text{hr}}{104\text{-}1/6 \text{ tons of clinker}} = \frac{0.454 \text{ lb}}{\text{ton}}$$

These baghouse design levels (with a 20% safety factor) are less than the proposed BACT emission levels of 47.813 lb/hour and 0.459 lb/ton of clinker for both kiln and clinker cooler. These preliminary design specifications therefore provide reasonable assurance that the baghouses will meet the proposed PM emission rates.

The existing FCS baghouse (similar to the proposed baghouse) had a worst-case PM emission rate of 24.20 lb/hour based on stack tests of the existing FCS kiln from 1990 through 1994 (see attachments to our July 11, 1995 letter to the Department). This is equivalent to 0.367 lb/ton of clinker at the clinker production rate of 66 tons/hour (tph) measured during this worst-case test. Thus, based on stack test measurements for the existing FCS baghouse and the preliminary design specifications for the proposed FCS baghouse systems, there is reasonable assurance that the proposed BACT emission levels for particulates are achievable.

(2) Whole tires and tire derived fuel (TDF, i.e., shredded tires) are fed to the kiln at the raw material inlet side of the kiln at the base of the preheater/precalciner through an airlock. Attached is a process flow diagram showing the tire feeder mechanism. The existing tire feed conveyor system for the existing FCS kiln will be modified to include a second conveyor system for delivering tires to the proposed second kiln. Also attached is an October 10th letter from Mr. Charles Allen describing the modifications required to the existing tire feeder mechanism and the operation of the airlock for the proposed kiln.

(3) As described in A&WMA's Air Pollution Engineering Manual (formerly AP-40), operation of the pyroprocessing system receives particularly close attention since clinker and cement quality is largely determined in the kiln. Proper process conditions and kiln temperatures must be maintained within strict tolerances if the clinker is to meet required specifications. Operation of modern cement plants is almost exclusively controlled by digital computers which continuously monitor process variables and frequent chemical and physical tests are made on the raw materials and final product. Kiln operations are optimized to the maximum extent possible to prevent upset and other transient conditions which affect clinker quality. Proper operation of the kiln and systems to prevent transient and upset conditions also minimizes emissions of nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), and volatile organic compounds (VOCs).

The extreme temperatures required for pyroprocessing minimizes products of incomplete combustion (PICs) such as CO and VOC. Maintaining sufficient air (i.e., oxygen) to calcine calcium carbonate to calcium oxide (releasing CO_2 in the process) provides sufficient oxygen to ensure nearly complete combustion of CO and VOCs and minimize formation of PICs. As noted in the A&WMA reference, PICs are usually of environmental interest only when hazardous waste is combusted. Summaries of stack test data for CO and total hydrocarbons (THC) taken during 1990 through 1994 for the existing FCS kiln were provided in our July 11, 1995 letter to the Department. Maximum emissions for the existing FCS kiln were 79.9 lb/hour for CO at 77 tph of clinker (1.038 lb/ton of clinker) and 3.6 lb/hour for THC at 78 tph of clinker (0.046 lb/ton of clinker), less than the proposed BACT levels for CO and VOC of 2.000 and 0.085 lb/ton of clinker, respectively. Existing FCS kiln test data provide reasonable assurance of meeting the proposed CO and VOC emission limits.

The operating characteristics and higher thermal efficiency of the precalciner kiln compared to the previously approved Gepol tower kiln should lower SO_2 and NO_x emissions on a lb/ton basis for several reasons. The amount of fuel consumed per ton of clinker is less, reducing fuel sulfur and nitrogen. As reported in the A&WMA reference, short-term spikes of NO_x emissions occur during process upsets due to the higher heat inputs required to restore equilibrium and stable kiln operation as found in a precalciner system appears to reduce long-term NO_x emissions. The use of indirect-fired burners for the precalciner and kiln should minimize NO_x formation by minimizing available oxygen in the flame region. Finally, the precalciner design has been shown to reduce emissions of NO_x in comparison to other kiln designs.

For the NO_x emission limits, the proposed BACT limits are extremely aggressive limits imposed by the Department on the previously approved (Gepol tower) kiln design. As noted in the approved permit, the applicant and project vendor will have up to 18 months to optimize the facility operation to meet the NO_x emission limits. Existing continuous emission monitor (CEM) data for a nearby Gepol tower preheater cement kiln shows that only one day out of over three months had emissions greater than 2.8 lb/ton of clinker.

The more efficient thermal design of the precalciner system, the expected reduction in NO_x emissions for a precalciner design as compared to other types of cement kilns, the use of indirect-fired burners, and the 18-month optimization period should provide reasonable assurance that the proposed kiln will be able to meet and maintain the proposed BACT limit for NO_x within the optimization period. Reasonable assurance for SO_2 emissions are described in the following response.

(4) As noted in AP-42, the alkaline nature of the materials provides for direct absorption of SO_2, with absorption rates of about 70% to more than 95% depending on the process and source of sulfur. Also, AP-42 reports that as much as 50% of the SO_2 can be removed from the pyroprocessing system exhaust gases when this gas steam is used in the raw mill for heat recovery and drying (like the proposed system). Thus, the proposed cement kiln will have a highly alkaline internal environment that provides substantial SO_2 control.

Summaries of stack test data SO_2 taken during 1990 through 1994 for the existing FCS kiln were provided in our July 11, 1995 letter to the Department. The maximum measured SO_2 emissions was 5.23 lb/hour at 66 tph of clinker production (0.079 lb/ton of clinker). Thus, the nature of the kiln process and stack test data for the existing FCS kiln should provide reasonable assurance of meeting the proposed SO_2 BACT limit for SO_2 of 0.230 lb/ton of clinker. Since compliance with the SO_2 limits for the proposed kiln will be determined by CEM, the proposed BACT limit for SO_2 was not reduced further since available data for the existing FCS kiln are limited (testing requirements for the existing cement kiln are annual stack tests only).

Please contact us at 908-968-9600 if you have any additional questions or need any additional information.

Sincerely,

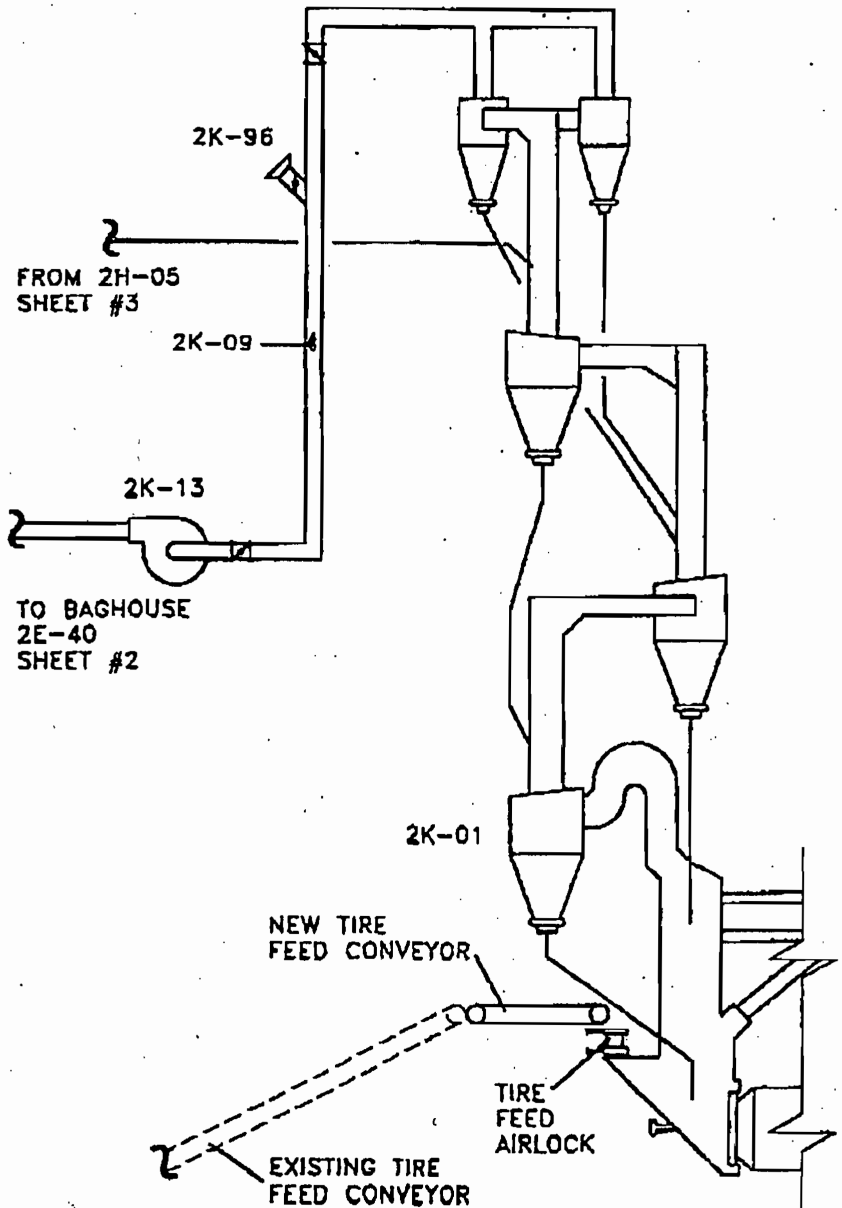
RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

Enclosure/Attachments

cc (w/o Enclosure): C. Fancy, T. Heron, A. Linero, C. Holladay/FDEP
(w/ Attachments) T. Mountain, C. Allen/FCS
L. Curtin, Esq./Holland & Knight
M. Hober, W. Corbin, M. Lewis, FCS3 Project File/RTP

10/30/96



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COX	9/15/95	NONE

POLYSIUS

FCS 6840-2200

PREHEATER TIRE
FEED SYSTEM
FLORIDA CRUSHED STONE

COMPUTER GENERATED DRAWING

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

IN REPLY REFER TO:

October 11, 1996

RECEIVED
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BUREAU OF
AIR REGULATION

Mr. C. H. Fancy
Chief, Bureau of Air Regulation
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road, MS 48
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

We have reviewed the Prevention of Significant Deterioration Application for the proposed permit modification of Florida Crushed Stone's (FCS) Kiln #2 in Brooksville. The Brooksville facility is located 20 km southeast of Chassahowitzka Wilderness Wilderness Area, a Class I air quality area, administered by the Fish and Wildlife Service (FWS). Comments from the FWS Air Quality Branch follow:

Best Available Control Technology (BACT) Analysis

The BACT analysis is complete. We are pleased that FCS has decided to install a preheater/precalciner kiln. The high thermal efficiency achieved by these types of kilns results in less heat and fuel consumed, and therefore, less NO_x produced. We agree that 2.8 pounds NO_x per ton clinker is a reasonable emission rate for the kiln. However, recent BACT determinations for Roanoke Cement and Lone Star Industries have required emission limits as low as 2.5 pounds of NO_x per ton of clinker. Therefore, although we agree time is needed after initiating commercial operation to attain a representative NO_x limit for the kiln, we are very interested in the emission rate FCS's kiln ultimately achieves. Please forward to us any test results which indicate what emission rate can be achieved on a continuous basis.

FCS's analysis for Class I area impacts is complete.

Thank you for giving us the opportunity to comment on this permit application. We appreciate your cooperation in notifying us of proposed projects with the potential to impact the air quality and related resources of our Class I air quality areas. If you have questions, please contact Ms. Ellen Porter of our Air Quality Branch in Denver at 303/969-2617.

Sincerely yours,

Noreen K. Clough

Noreen K. Clough
Regional Director

CC: Teresa Heron
B. Thomas, SWD
EPA
Hernando Co.
D. Elias RTP
T. Mountain
B. Oven

FLORIDA CRUSHED STONE COMPANY

CEMENT PLANT

October 10, 1996

RTP Environmental Associates Inc.
Attn: Mr. Bill Corbin
Highway 22 East
Green Brook, New Jersey 08812

Dear Mr. Corbin,

The Tire feeder mechanism is composed of two horizontally mounted slide gates. These gates are pneumatically operated and working in sequence provide a lock to prevent false air from entering the Pyro-processing system as tires are discharged into the preheater just above the kiln inlet. The top or upper slide gate acts as a weather gate and opens allowing a tire to enter the chamber between gates. After entry, the upper gate closes and the lower gate operates to allow passage of the tire without air infiltration.

The tire feeder system is composed of the following equipment:

- B-01 Supply conveyor (modified) (exits) - supplies maximum 1.33 TPH to kiln line (1) and 1.44 TPH to kiln line (2).
- B-02 weigh scale (modified) (exists) - PC controlled and remotely operated by plant control system to supply both kiln lines.
- B-03 Incline conveyor (modified) (exists) - Accepts tires from B-02 scale and delivers to kiln line (1) or 2B-06 diverter.
- 2B-06 Diverter (New) - Diverts tires from B-03 incline conveyor to 2B-03 conveyor (line 2)
- 2B-03 Conveyor (New) - Delivers tires from 2B-06 diverter to 2B-04 weather gate.
- 2B-04 Weather Gate (New) - Works in sequence with 2B-05 gate to provide air lock for line 2 preheater.
- 2B-05 Slide gate (New) - Works in sequence with 2B-04.

10311 CEMENT PLANT ROAD (34601) / P.O. BOX 1508 / BROOKSVILLE, FL 34605-1508 USA / PHONE (352) 799-7881 / FAX (352) 796-6281

Modifications to the Bailey Network 90 Plant Control System will allow for contol of TDF Firing to both Kiln lines. The existing equipment will be upgraded to handle the additional tonnage. The newly installed 2B-06 Diverter will act in conjunction with B-02 weigh scale to send tires to line 2 preheater.

If you have any questions, please call me.

Sincerely,

Charles E. Allen

Charles E. Allen

CEA/kab

Florida Department of

Memorandum Environmental Protection

TO: Buck Oven

THROUGH: A. A. Linero *AA Linero*

FROM: Teresa Heron

DATE: October 2, 1996

SUBJECT: Florida Crushed Stone - Cement Plant No. 2
Permits No. AC27-274892 and PSD-FL-227 (A)
Application submitted on September 11, 1996
Completeness/Sufficiency Review

Please forward these comments to Florida Crushed Stone. Please copy Brian Beals at EPA Region IV, John Bunyak of the Park Service in Denver, Don Elias of RTP Associates, and L. Roberts, P.E. of FCS. Let us know if you prefer that we write FCS directly on subsequent matters and copy you.

The Bureau of Air Regulation has conducted a completeness/sufficiency review of the Air Construction Permit application to modify the approved project, site certification, construction permit and PSD permit applicable to the second cement kiln planned by Florida Crushed Stone for the proposed for completeness/sufficiency.

The review encompassed the original application submitted on March 13, 1995, subsequent completeness letters, applicant's responses, the previously issued Technical Evaluations, Final BACT Determination and permit as well as the additional information provided in the application of September 11, 1996. After reviewing the above information, the Department, pursuant to Rule 62-04. 070 (1) and (3), F.A.C., needs clarification in the following issues:

1. Provide the Department with reasonable assurance that the particulate control system for the kiln and cooler will comply with the emission limits requested. Examples of reasonable assurance can be based on a manufacturer's guarantee, preliminary design information, tests results at similar plants, etc.

2. Provide a description and diagram of the tire feeder mechanism. Provide the technical specifications for the proposed tire feeder system.

3. Describe the process design and good combustion practices (GCP) that will be used to optimize control of proposed emissions of NO_x, CO, SO_2, and VOCs (e.g., process controls such as oxygen levels and temperature).

4. Provide reasonable assurance that the SO_2 emission limit proposed (0.23 lb/ton clinker) will be met. This may include test results at similar plants, removal phenomena such as alkali/sulfate reactions, kiln design, etc.

We will forward any comments received from other agencies as soon. We expect to hear from Hernando County who regularly comment on all cement projects in the County. We will also pass along any comments received from the National Park Service and EPA.

If you have any questions on this matter, please call Teresa Heron (review engineer), A. A. Linero, P.E., or Cleve Holladay (meteorologist) at (904) 488-1344.

cc: Clair Fancy, BAR
Bill Thomas, SWD

RTP ENVIRONMENTAL ASSOCIATES INC.
AIR • WATER • SOLID WASTE CONSULTANTS
239 U.S. Highway 22 East • Green Brook, New Jersey 08812

DATE: 09-27-96

FAX#: (904) 922-6979

TO: Ms. Teresa Heron
Florida Dept. of Environmental Protection

FROM: Donald F. Elias

PROJECT NAME: FCS3

PAGES TO FOLLOW: 1

NOTES: The following is a copy of the transmittal that accompanied the Florida Crushed Sone proposed modification to Mr. Larry Jennings of Hernando County.

IF YOU SHOULD HAVE ANY QUESTIONS OR PROBLEMS, PLEASE CONTACT Don or Mary AT (908) 968-9600.

RTP FAX NO.: (908) 968-9603

RTP ENVIRONMENTAL ASSOCIATES INC.
AIR • WATER • SOLID WASTE CONSULTANTS
239 U.S. Highway 22 East • Green Brook, New Jersey 08812
(908) 968-9600

LETTER OF TRANSMITTAL

TO Mr. Larry Jennings
Hernando County Planning Dept.
20 North Main Street, Room 262
Brooksville, FL 34601-2807

Date: 9/23/96 Proj. ID: FCS3

WE ARE SENDING YOU: [xx] Attached [ ] Under separate cover
VIA: [ ] 1st Class Mail [xx] Federal Express [ ] Hand Delivery [ ] Other AM Delivery
THE FOLLOWING ITEMS:

Copies	Date	No.	Description
1	09/06/96		Proposed Modifications to Air Construction Permit AC27-274892
			to Construct a Second Cement Kiln for Florida Crushed Stone

THESE ARE TRANSMITTED AS CHECKED BELOW:
[ ] For approval [ ] For review and comment [ ] Resubmit ____ copies for approval
[xx] For your use [ ] Copies returned after loan [ ] For signature
[ ] As requested [ ] Returned for corrections

REMARKS

COPY TO:

SIGNED:

If enclosures are not as noted, kindly notify us at once.

RTP ENVIRONMENTAL ASSOCIATES INC.®

AIR • WATER • SOLID WASTE CONSULTANTS

239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

(908) 968-9600
Fax: (908) 968-9603

RECEIVED
SEP 23 1996
BUREAU OF
AIR REGULATION

September 18, 1996

Mr. Clair Fancy
Florida Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia, Suite 4
Tallahassee, FL 32301

RE: Florida Crushed Stone Company PSD Permit Application

Dear Mr. Fancy:

As discussed in our meeting on September 11, 1996, we have forwarded copies of the air permit application for the above-referenced facility to the National Park Service, the USEPA Region IV office, and the FDEP Southwest District Office. Attached are copies of the Letters of Transmittal which accompanied the applications.

Should you have any questions or require additional information, please contact me at the above telephone number.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias

Donald F. Elias
Principal

DFE/mpj

cc: A. Linero
T. Mountain
M. Hober
W. Corbin
Proj. File: FCS3

RTP ENVIRONMENTAL ASSOCIATES INC.
AIR • WATER • SOLID WASTE CONSULTANTS
239 U.S. Highway 22 East • Green Brook, New Jersey 08812
(908) 968-9600

LETTER OF TRANSMITTAL

TO Mr. Jerry Kissel
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

Date: 09-17-96 Proj. ID: FCS3

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover
VIA: ☐ 1st Class Mail ☒ Federal Express 2nd Day ☐ Hand Delivery ☐ Other
THE FOLLOWING ITEMS:

Copies	Date	No.	Description
1	09-06-96		Copy of PSD Permit Application For Florida Crushed Stone Company
			(as submitted to FDEP)

THESE ARE TRANSMITTED AS CHECKED BELOW:

☐ For approval ☐ For review and comment ☐ Resubmit ____ copies for approval
☒ For your use ☐ Copies returned after loan ☐ For signature
☐ As requested ☐ Returned for corrections

REMARKS

COPY TO:

SIGNED: Mary P. Jordan

If enclosures are not as noted, kindly notify us at once.

RTP ENVIRONMENTAL ASSOCIATES INC.
AIR • WATER • SOLID WASTE CONSULTANTS
239 U.S. Highway 22 East • Green Brook, New Jersey 08812
(908) 968-9600

LETTER OF TRANSMITTAL

TO Ms. Jewel Harper
USEPA - Air Division - PSD Programs
100 Alabama Street, S.W.
Atlanta, GA 30303

Date: 09-16-96 Proj. ID: FCS3

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover

VIA: ☐ 1st Class Mail ☒ Federal Express 2nd Day ☐ Hand Delivery ☐ Other

THE FOLLOWING ITEMS:

Copies	Date	No.	Description
1	09-06-96		Copy of PSD Air Permit Application for Florida Crushed Stone Company (as submitted to Florida Department of Environmental Protection)

THESE ARE TRANSMITTED AS CHECKED BELOW:

☐ For approval ☐ For review and comment ☐ Resubmit ____ copies for approval
☒ For your use ☐ Copies returned after loan ☐ For signature
☐ As requested ☐ Returned for corrections

REMARKS

COPY TO:

SIGNED Mary P. Jordan

If enclosures are not as noted, kindly notify us at once.

RTP ENVIRONMENTAL ASSOCIATES INC.
AIR • WATER • SOLID WASTE CONSULTANTS
239 U.S. Highway 22 East • Green Brook, New Jersey 08812
(908) 968-9600

LETTER OF TRANSMITTAL

TO Mr. John Bunyak
National Park Service
12795 W. Alameda Parkway
Lakewood, CO 80228

Date: 09-16-96 Proj. ID: FCS3

WE ARE SENDING YOU: [X] Attached [ ] Under separate cover
VIA: [ ] 1st Class Mail [X] Federal Express 2nd Day [ ] Hand Delivery [ ] Other
THE FOLLOWING ITEMS:

Copies	Date	No.	Description
1	09-06-96		PSD Air Permit Application for Florida Crushed Stone Company
			(as submitted to Florida Department of Environmental
			Protection)

THESE ARE TRANSMITTED AS CHECKED BELOW:

[ ] For approval [ ] For review and comment [ ] Resubmit ____ copies for approval
[XX] For your use [ ] Copies returned after loan [ ] For signature
[ ] As requested [ ] Returned for corrections

REMARKS

COPY TO:

SIGNED: Mary P. Jordan

If enclosures are not as noted, kindly notify us at once.

RTP ENVIRONMENTAL ASSOCIATES INC.®

AIR • WATER • SOLID WASTE CONSULTANTS

239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

(908) 968-9600
Fax: (908) 968-9603

RECEIVED
BUREAU OF AIR REGULATION

September 11, 1996

Mr. Clair Fancy
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Florida Crushed Stone Company - Application to Modify Air Construction Permit AC27-274892 to Construct a Second Cement Kiln at the Florida Crushed Stone Company Facility in Brooksville, Florida

Dear Mr. Fancy:

Enclosed for processing are the original and three (3) copies of Florida Crushed Stone Company's application to modify Air Construction Permit AC27-274892 to construct a second cement kiln at the site of an existing (Unit I) kiln and cogeneration facility located in Brooksville, Florida. At this time, Florida Crushed Stone Company does not seek to have the existing permit rescinded but rather requests permission to construct either cement kiln technology (i.e., either a Gepol preheater kiln or a preheater/precalciner kiln). As shown in the previous application and the analyses contained in this application, either technology can be implemented and comply with existing environmental limitations at the property boundary and the nearby Class I Area.

We will be in contact with Buck Oven this week to discuss any related matters concerning the Conditions of Certification. We will coordinate any changes with both of you.

If you have any questions or require additional information, please contact either Mr. Thomas Mountain of Florida Crushed Stone at (352) 799-7881 or myself at the above telephone number.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias

Donald F. Elias
Principal

RECEIVED
SEP 11 1996
BUREAU OF AIR REGULATION

MJH/mpj
cc: T. Mountain/C. Allen/L. Curtin/M. Hober/W. Corbin/M. Lewis/Proj. File: FCS3

PROPOSED MODIFICATIONS TO
AIR CONSTRUCTION PERMIT
AC27-274892
TO CONSTRUCT A SECOND
CEMENT KILN

At

The Florida Crushed Stone Facility
10311 Cement Plant Road
Hernando County
Brooksville, Florida 34601

By

RTP Environmental Associates, Inc.
239 U.S. Highway 22 East
Green Brook, New Jersey 08812
(908) 968-9600

September 6, 1996

*PROPOSED MODIFICATIONS TO
AIR CONSTRUCTION PERMIT
AC27-274892
TO CONSTRUCT A SECOND
CEMENT KILN*

At

*The Florida Crushed Stone Facility
10311 Cement Plant Road
Hernando County
Brooksville, Florida 34601*

By

*RTP Environmental Associates, Inc.
239 U.S. Highway 22 East
Green Brook, New Jersey 08812
(908) 968-9600*

September 6, 1996

EXECUTIVE SUMMARY

Florida Crushed Stone (FCS) is applying for permit modifications to revise the kiln technology for the proposed second cement plant at the Brooksville facility from a gepol tower preheater kiln to a precalciner kiln. The following physical changes will result from the modification:

Revised Sources and Equipment:

- Un-fired gepol tower preheater replaced with indirect-fired precalciner fueled by coal, oil, and/or natural gas;
- Direct-fired kiln burner replaced with indirect-fired kiln burner fueled by coal, oil, and/or natural gas; and
- Miscellaneous changes to minor PM sources (stack height, flowrate, etc.).

New Sources and Equipment:

- Shaft dryer heater fired with oil;
- Bypass system exhausted through dedicated baghouse to main stack;
- Coal milling system added to supply indirect-fired sources;
- Additional cement discharge hopper with dust collector; and
- Clinker storage silo and clinker bin with dust collectors.

Deleted Sources and Equipment:

- Use of existing kiln equipment for certain raw material feeds, thereby deleting the flyash, lime, and filter dust silos (and filter dust silo and lime silo dust collectors) from design; and
- Removal of dust collectors from iron ore and coal storage bins, and coal feed conveyor.

These physical changes are described in Sections 1.0 and 3.0 of the application. Maximum production rates for the proposed precalciner kiln are 104.2 tons/hour of clinker (versus 83 tons/hour for gepol tower kiln) with similar increases in feed and cement production rates. Therefore, while the overall emission rates in lbs/ton proposed for the precalciner kiln remain the same or are less than the BACT limits for the permitted kiln (Sections 1.0 and 4.0), there will be increases in lb/hour and ton/year pollutant emissions for the new kiln technology due to the increase in production rates. Modeling analyses of the proposed kiln in Sections 6.0 and 7.0 demonstrate compliance with all ambient standards.

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(Concluded)

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1.0 INTRODUCTION

Florida Crushed Stone (FCS) is applying for permit modifications to change the kiln technology currently permitted for the second cement kiln at the Brooksville facility from a preheater kiln to a precalciner kiln. This report contains a description of the proposed changes to the permitted facility (Section 1.0); the applicable air quality regulations (Section 2.0); emission estimates (Section 3.0); Best Available Control Technology (Section 4.0); existing air quality (Section 5.0); modeling analyses (Section 6.0); and air quality related values (Section 7.0). Attached to this report are permit application forms in accordance with Florida Administrative Code (FAC) 62-210.900. Also attached are copies of the current construction permit with hand-written updates added to reflect the changes necessary for the proposed revisions.

1.1 PROPOSED REVISIONS TO PERMITTED EQUIPMENT

FCS received a construction permit (AC27-274892 and PSD-FL-227) in November 1995 to build a second cement plant at the Brooksville facility in Hernando County. The permitted facility includes a dry process kiln with a gepol preheater, clinker cooler, crushers, raw and finish mills, and associated material and fuel handling equipment, silos, and shipping facilities. For normal operations, the kiln is currently permitted to burn coal and natural gas in a single direct-fired burner (located at the kiln outlet) and supplement the fuel by utilizing tires and/or tire derived fuel (i.e., shredded tires), which are fed at the kiln inlet (i.e., at the base of the preheater). The current construction permit allows the use of natural gas, virgin fuel oil, and on-specification used oil from the Greg Mine and power plant for kiln startup.

This permit application provides the necessary information to revise the permitted project from a preheater kiln to a precalciner kiln. Associated changes in production rates are described below in Section 1.2. Equipment changes resulting from the change in kiln technology consist of the following:

- Replacement of the gepol tower preheater with a preheater/precalciner, which consists of a set of cascading cyclones with a separate indirect-fired burner.
- Replacement of the direct-fired kiln burner with an indirect fired kiln burner.
- Addition of a shaft dryer to the raw mill system, including a separate combustion source (i.e., air heater), which increases the number of cyclones and slightly changes the course of air flow and raw material feed through the raw mill system.
- Addition of a bypass system, which vents air from the base of the precalciner through a dedicated baghouse directly to the main kiln stack. This system is common in

precalciner systems and removes undesirable volatile constituents in the exhaust gases that might condense and cause scaling which can restrict process and gas flows.
- Since the kiln and precalciner burners are indirect fired, the coal handling system will require changes to reduce the air used to supply pulverized coal to the combustion system. This will require an additional coal storage silo (2S-20) and create two new minor particulate matter (PM) sources (2S-17 and 2S-21).

Both the preheater and proposed precalciner kilns are dry process systems and the dimensions of the kiln itself will not be appreciably affected by the change in technology. The proposed kiln will have the same general equipment and arrangement as the permitted kiln (raw mill and material handling system, kiln and clinker cooler, finish mill system, and coal and cement handling systems) and will have the same countercurrent flow of material and air. The same fuels (i.e., coal and natural gas supplemented with tires and/or tire derived fuel for normal operations and natural gas, fuel oil, and on-spec used oil for startup operations) are proposed for the kiln and precalciner (fuel oil used in shaft dryer). The cement manufacturing process is described in detail in the original permit application.

The major change involved in the change in kiln technology is the additional indirect-fired burner in the precalciner and the replacement of the direct-fired kiln burner with an indirect-fired burner. Thermal efficiencies will be improved in the precalciner kiln and the amount of fuel combusted per ton of clinker produced is expected to be reduced. The change to a precalciner kiln will lower the temperature of the exhaust gases used to dry the raw materials prior to the raw mill, so a shaft dryer incorporating an additional air heater is added to the design as noted above. Besides the changes to the coal handling system described above, other proposed revisions to the raw material and clinker handling systems are:

- Removal from the design of three dust collectors (2D-63, 2S-07, and 2S-04), one each for the iron ore storage bin (2D-61), coal storage bin (2S-10), and coal feed conveyor (2S-03). Based on the operation of the existing cement kiln, dust collectors are not necessary for these sources.
- Use of existing storage bins for the existing cement kiln I system for flyash, lime, and filter dust feed materials. This will eliminate three sources (i.e., silos) from the design (2D-64, 2F-21, and 2D-72) and two associated flyash silo dust collectors (2D-67 and 2F-30). The currently permitted filter dust silo dust collector (2D-72) will be retained for use in controlling PM emissions from the feed system used to convey filter dust from the existing silo to the new kiln.
- Addition of a clinker storage silo (2L-05) with an associated dust collector (2L-06) and clinker storage bin (2M-15) with an associated dust collector (2M-18).
- Change to the general arrangement of cement storage silos to utilize existing lime silos and dust collectors from the existing cement kiln for cement storage and loadout.

- Addition of one additional cement discharge hopper (2Q-38) with a related dust collector (2Q-17).
- Minor changes to the exit temperatures, flowrates, stack diameters, discharge heights, equipment numbers, and cloth areas for numerous sources as shown by underlines on Table 1-3.

These changes are reflected in the following section on emission changes and in the mechanical process flow sheets attached to the permit application forms.

1.2 PROPOSED REVISIONS TO PERMITTED EMISSIONS

The proposed change in technology from the permitted gepol tower kiln to a precalciner kiln will be accompanied by an increase in kiln feed and production rates. A comparison of the changes in feed and production rates are shown below:

	Permitted Maximum Rates			Proposed Maximum Rates		
	/Hour	/Day	/Year	/Hour	/Day	/Year
Tons Preheater Feed	138.0	-	-	173.2	-	-
Tons Kiln Feed	127.0	-	-	159.4	-	-
Tons Clinker	83.0	1,992	727,080	104.2	2,500	912,500
Tons Cement	-	-	800,000	-	-	1,004,000

The high temperature combustion process used to produce cement in a kiln results in the emission of air pollutants. Table 1-1 compares the air pollutant emission estimates from the permitted gepol tower kiln to those expected for the proposed precalciner kiln. The currently permitted gepol tower kiln was subject to Prevention of Significant Deterioration (PSD) requirements for total suspended particulates (TSP), particulate matter less than 10 microns in aerodynamic diameter (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO). Other pollutants permitted to be emitted, but at levels below the PSD significant emission rates, include volatile organic compounds (VOC), mercury (Hg), beryllium (Be), lead (Pb), and sulfuric acid mist (SAM or H_2SO_4).

Emission limits for nearly all pollutants are identical to the currently permitted limits when measured as lbs per ton of clinker produced or lbs per ton of kiln feed (lb/ton). Proposed lb/ton emission limits for three pollutants, SO_2, VOC, and Be, were decreased from the permitted levels. The increase in feed and production rates associated with the proposed change in kiln technology will result in an increase in potential emissions when measured as lbs per hour (lb/hr) or tons per year (tons/yr or tpy). The new kiln will be subject to PSD requirements for the same pollutants as the permitted kiln, namely TSP, PM_{10}, SO_2, NO_2, and CO.

Minor PM sources currently permitted are shown on Table 1-2. The currently permitted minor PM sources have total TSP/PM_{10} emissions of 68 tpy. Proposed revisions to the minor PM sources, as described above in Section 1.1, are shown on Table 1-3 as underlined values. The proposed minor PM sources will have total TSP/PM_{10} emissions of 80 tpy, an increase of 12 tpy. Like the currently permitted minor PM sources, all of the proposed minor PM sources will be controlled by dust collectors equipped with pulse-jet polyester fabric filters designed for a minimum control efficiency of 99.9%. Permit conditions requested for the proposed minor PM sources are identical to the current permit conditions; namely, the same 0.01 grains per dry standard cubic foot (gr/dscf) emission limit and compliance to be determined by USEPA Method 9 visible emission tests demonstrating visible emissions less than 5% opacity (visible emissions equal to or greater than 5% opacity shall require stack tests demonstrating compliance with the 0.01 gr/dscf emission limit).

Emissions for the proposed revisions to the second FCS kiln are described in more detail in Section 3.0 of this permit application.

1.3 REFERENCES

Florida Department of Environmental Protection (FDEP), 1995. Permit for No. 2 Cement Kiln and Associated Equipment, AC27-274892 & PSD-FL-227. November 17, 1995.

RTP Environmental Associates, Inc. (RTP), 1995a. Application to Construct a Second 600,000 Ton Per Year Cement Kiln at the Florida Crushed Stone Company Facility in Brooksville, Florida. March, 1995.

RTP, 1995b. May 10, 1995 letter from Donald F. Elias to Hamilton S. Oven (Minor PM sources and design specifications).

RTP, 1995c. July 11, 1995 letter from Donald F. Elias to Clair H. Fancy (Process flow diagrams for Gepol tower kiln and minor PM sources).

RTP, 1995d. July 17, 1995 letter from Donald F. Elias to Clair H. Fancy (Proposed permit conditions for minor PM sources).

RTP, 1995e. August 22, 1995 letter from Donald F. Elias to Clair H. Fancy (Minor PM sources and design specifications).

TABLE 1-1
EMISSIONS COMPARISON FOR FLORIDA CRUSHED STONE

POLLUTANT	PSD Sig. Emissions (tons/yr)	PERMITTED PROJECT[a]				REVISED PROJECT[b]				NET CHANGE
		lb/ton[c]	lb/hr	tons/yr	PSD?	lb/ton[c]	lb/hr	tons/yr	PSD?	tons/yr
PM/PM_{10} (kiln)	25/15	0.2	25.400	111.250	Yes/ Yes	0.2	31.875	139.613	Yes/ Yes	28.363
PM/PM_{10} (cooler)		0.1	12.700	55.620		0.1	15.938	69.806		14.186
PM/PM_{10} (minor)		-	15.519	67.973		-	18.293	80.123		12.150
SO_2	40	0.27	22.410	98.156	Yes	<u>0.23</u>	23.958	104.938	Yes	6.782
NO_x	40	2.8	232.400	1017.912	Yes	2.8	291.667	1277.500	Yes	259.588
CO	100	2.0	166.000	727.080	Yes	2.0	208.333	912.500	Yes	185.420
VOC	40	0.1	8.300	36.354	No	<u>0.085</u>	8.854	38.781	No	2.427
H_2SO_4	7	0.014	1.162	5.090	No	0.014	1.458	6.388	No	1.298
Be	0.0004	9.9E-7	8.22E-5	3.60E-4	No	<u>8.5E-7</u>	8.85E-5	3.88E-4	No	2.80E-5
Hg	0.1	2.4E-5	1.99E-3	8.72E-3	No	2.4E-5	2.50E-3	1.10E-2	No	2.23E-3
Pb	0.6	5.2E-4	4.32E-2	1.89E-1	No	5.2E-4	5.42E-2	2.37E-1	No	4.83E-2

[a]Permitted lb/hr and tons/yr emission rates based on 83 tons/hour of clinker production (or 127 tons/hour of kiln feed for PM/PM_{10} emissions) and 8760 hours/year of operation.

[b]Revised lb/hr and tons/yr emission rates based on 104-1/6 tons/hour of clinker production (or 159-3/8 tons/hour of kiln feed for PM/PM_{10} emissions) and 8760 hours/year of operation.

[c]lb/ton emission rates are lbs/ton of kiln feed for PM/PM_{10} and lbs/ton of clinker production for other pollutants. Reductions in the lb/ton permitted emission rates for the revised kiln are <u>underlined</u>.

TABLE 1-2
PERMITTED MINOR PARTICULATE SOURCES

Minor Particulate Source	Equip No.	Equip Process Rate (tons/hr)	Bag/ Vent No.	Air: Cloth Ratio	Total Cloth Area (ft²)	-Stack Characteristics-				--Flowrates--		---Emissions---	
						Height (ft)	Diam (ft)	% Moist	Temp (°F)	ACFM	dSCFM	(lb/hr)	(tpy)
RAW MILL SYSTEM													
Iron Ore Bin	2D-61	2.0	2D-63	6:1	500	89	1.4	2-3%	100	3,000	2,772	0.238	1.04
Fly Ash Bin	2D-64	7.0	2D-67	6:1	567	124	1.7	2-3%	100	3,400	3,142	0.269	1.18
Filter Dust Bin	2D-72	25.0	2D-75	6:1	750	124	1.7	2-3%	200	4,500	3,528	0.302	1.32
Raw Meal Transport	2F-03/11	160.0	2F-14	6:1	167	30	1.1	2-3%	180	1,000	809	0.069	0.30
Lime Storage Silo	2F-21	300.0	2F-30	6:1	667	160	1.6	2-3%	200	4,000	3,136	0.269	1.18
Raw Mill Storage and Homog. Silos	2G-01	160.0	2G-12	6:1	2,833	219	3.3	2-3%	180	17,000	13,745	1.178	5.16
KILN OPERATIONS													
Kiln Feed System	2H-05/2E-66	130.0	2H-15	6:1	1,200	73	2.1	2-3%	180	7,200	5,821	0.499	2.19
FINISH MILL													
Gypsum Storage Bin	2L-14	150.0	2L-08	6:1	333	110	1.1	2-3%	70	2,000	1,953	0.167	0.73
Clinker Transport	2L-03	75.0	2L-16	6:1	333	32	1.1	2-3%	180	2,000	1,617	0.139	0.61
Belt Conveyor	2M-04	120.0	2M-08	6:1	750	40	1.7	2-3%	180	4,500	3,638	0.312	1.37
Discharge Vent	2N-02/12	15.0	2N-13	4:1	10,000	123	5.0	2-3%	200	40,000	31,360	2.688	11.77
Sepol Separator	2N-08	120.0	2N-20/23	4:1	28,750	123	8.6	2-3%	160	115,000	95,977	8.227	36.03

TABLE 1-2 (Concluded)
PERMITTED MINOR PARTICULATE SOURCES

Minor Particulate Source	Equip No.	Equip Process Rate (tons/hr)	Bag/ Vent No.	Air: Cloth Ratio	Total Cloth Area (ft²)	-Stack Characteristics-				--Flowrates--		---Emissions---	
						Height (ft)	Diam (ft)	% Moist	Temp (°F)	ACFM	dSCFM	(lb/hr)	(tpy)
CEMENT HANDLING													
Cement Storage Silos A	2Q-01A/20	120.0	2Q-15A	6:1	770	203	1.7	2-3%	200	4,620	3,622	0.310	1.36
Cement Storage Silos B	2Q-01B/20	120.0	2Q-15B	6:1	770	203	1.7	2-3%	200	4,620	3,622	0.310	1.36
Silo Discharge Hopper	2Q-08	540.0	2Q-17	6:1	600	30	1.5	2-3%	180	3,000	2,426	0.208	0.91
COAL HANDLING													
Coal Transport Conveyor	2S-03	100.0	2S-04	4.5:1	444	5	1.1	2-3%	70	2,000	1,953	0.167	0.73
Coal Storage Bin	2S-10	100.0	2S-07	4.5:1	444	5	1.1	2-3%	70	2,000	1,953	0.167	0.74
TOTALS:												15.519	67.973

TABLE 1-3
PROPOSED MINOR PARTICULATE SOURCES

Minor Particulate Source	Equip No.	Equip Process Rate (tons/hr)	Bag/ Vent No.	Air: Cloth Ratio	Total Cloth Area (ft²)	-Stack Characteristics-				--Flowrates--		---Emissions---	
						Height (ft)	Diam (ft)	% Moist	Temp (°F)	ACFM	dSCFM	(lb/hr)	(tpy)
RAW MILL SYSTEM													
Iron Ore Bin	---------------------------- *Dust Collector Deleted from Design* ----------------------------												
Fly Ash Bin	*Proposed Kiln Feed Revised to Utilize Existing Kiln Systems - Dust Collector No Longer Required*												
Filter Dust Bin Transport	2E-67	24	2D-75	6:1	750	102	1.7	2-3%	200	4,500	3,528	0.302	1.32
Raw Meal Transport	2F-02/11	234	2F-14	6:1	500	30	1.4	2-3%	180	3,000	2,426	0.208	0.91
Lime Storage Silo	-------------------- *Source (silo) and Dust Collector Deleted from Design* --------------------												
Raw Mill Storage and Homog. Silos	2G-01	170	2G-12	6:1	2,833	219	3.3	2-3%	180	17,000	13,745	1.178	5.16
KILN OPERATIONS													
Kiln Feed System	2H-05/2E-66	170	2H-15	6:1	1,200	73	2.1	2-3%	180	7,200	5,821	0.499	2.19
FINISH MILL													
Gypsum Storage Bin	2L-14	150	2L-08	6:1	667	110	1.6	2-3%	95	4,000	3,729	0.320	1.40
Clinker Transport	2L-03	100	2L-16	6:1	667	32	1.6	2-3%	240	4,000	2,957	0.253	1.11
Clinker Storage Silo (NEW)	2L-05	100	2L-06	6:1	667	203	1.6	2-3%	240	4,000	2,957	0.253	1.11
Clinker Bin (NEW)	2M-15	114	2M-18	6:1	1,500	110	2.4	2-3%	180	9,000	7,277	0.624	2.73
Belt Conveyor	2M-04	120	2M-09	6:1	1,167	15	2.1	2-3%	180	7,000	5,660	0.485	2.12
Discharge Vent	2N-02/08	195	2N-13	4:1	10,000	123	5.0	2-3%	212	40,000	30,800	2.640	11.56
Sepol Separator	2N-08	195	2N-20/23	4:1	28,750	123	8.6	2-3%	160	115,000	95,977	8.227	36.03

Proposed Revisions are underlined.

TABLE 1-3 (Concluded)
PROPOSED MINOR PARTICULATE SOURCES

Minor Particulate Source	Equip No.	Equip Process Rate (tons/hr)	Bag/ Vent No.	Air: Cloth Ratio	Total Cloth Area (ft²)	-Stack Characteristics-				--Flowrates--		---Emissions---	
						Height (ft)	Diam (ft)	% Moist	Temp (°F)	ACFM	dSCFM	(lb/hr)	(tpy)
CEMENT HANDLING													
Cement Storage Silos A	2Q-18	150	2Q-13	6:1	1,200	203	2.1	2-3%	180	7,200	5,821	0.499	2.19
Cement Storage Silos B	2Q-18	150	2Q-14	6:1	1,200	203	2.1	2-3%	180	7,200	5,821	0.499	2.19
Silo Discharge Hopper A	2Q-28	540	2Q-16	6:1	500	30	1.4	2-3%	180	3,000	2,426	0.208	0.91
Silo Discharge Hopper B (NEW)	2Q-38	540	2Q-17	6:1	500	30	1.4	2-3%	180	3,000	2,426	0.208	0.91
COAL HANDLING													
Coal Transport Conveyor	---------------------------- *Dust Collector Deleted from Design* ----------------------------												
Coal Storage Bin	---------------------------- *Dust Collector Deleted from Design* ----------------------------												
Coal Mill (NEW)	2S-15	18.0	2S-17/19	4.5:1	5,333	40	3.9	2-3%	150	24,000	20,358	1.745	7.64
Coal Dust Bin (NEW)	2S-20	16.5	2S-21	4.5:1	444	40	1.1	2-3%	150	2,000	1,697	0.145	0.64
											TOTALS:	18.293	80.12

Proposed Revisions are underlined.

2.0 AIR QUALITY REGULATIONS

This section will discuss revisions to Section 2.0 Air Quality Regulations contained in the original air permit application for the Unit II kiln.

2.1 SUMMARY OF APPLICABLE REGULATIONS

This proposed modification to the kiln has been reviewed for compliance with applicable regulations, as detailed in Section 2.1 of the original application for the Unit II kiln. The discussion in that document concerning applicability of Federal and State regulations to that project remains essentially unchanged for this modification, except as described in the following comments:

This proposed modification will result in emissions of total suspended particulate (TSP)/particulate matter less than 10 microns (PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_x), and carbon monoxide (CO) at levels exceeding the Prevention of Significant Deterioration (PSD) significant emission rates. Proposed emissions of volatile organic compounds (VOC), sulfuric acid (H_2SO_4), beryllium (Be), mercury (Hg), and lead (Pb) will not exceed PSD significant emission rates. Table 1-1 compares the original permitted emission levels to the proposed kiln emission levels. The proposed kiln is subject to PSD requirements for the same pollutants as the original Unit II kiln permit.

References were made in the original permit application (Section 2.1.5) to facility applicability to the proposed Enhanced Monitoring Rule (40 CFR Part 64). The United States Environmental Protection Agency (USEPA) significantly modified this rule. The modification, known as the Compliance Assurance Monitoring rule, is currently in the proposal stage. Florida Crushed Stone will implement the applicable requirements of the final rule as necessary.

References were also made in the original permit application (Section 2.1.6) to the facility applicability to 62-296.310 Florida Administrative Code (F.A.C.), *General Particulate Emissions Limiting Standards*. This rule has been repealed and the requirements of the rule are now included in 62-296.320 F.A.C., *General Pollutant Emissions Limiting Standards*.

The Florida Department of Environmental Protection (FDEP) published a document titled "Title V Core List," on March 25, 1996. This is a list of rules and regulations to which all Title V sources are presumptively subject. The following regulations from the Core List, were not referenced in the original permit application, would be applicable to this modification:

62-4 F.A.C.	Permits
62-103 F.A.C.	Rules of Administrative Procedure
62-204 F.A.C.	Air Pollution Control General Provisions
62-213 F.A.C.	Operation Permits for Major Sources of Air Pollution

2.2 EXISTING PERMITS

A list of equipment currently operating at the facility, and the associated operating or construction permit number, is provided in Table 2-1, updated from Table 2-2 in the original permit application.

2.3 CONCLUSIONS

The original permit application contained a detailed discussion of applicable regulations. Except for the clarifying comments in this section, the discussion in that original application remains unchanged. A list of applicable regulations is contained in the FDEP *Application For Air Permit - Long Form* appended to this document.

2.4 REFERENCES

Florida Department of Environmental Protection (FDEP), 1995. Permit for No. 2 Cement Kiln and Associated Equipment, AC27-274892 & PSD-FL-227. November 17, 1995.

RTP Environmental Associates, Inc. (RTP), 1995a. Application to Construct a Second 600,000 Ton Per Year Cement Kiln at the Florida Crushed Stone Company Facility in Brooksville, Florida. March, 1995.

RTP, 1995b. May 10, 1995 letter from Donald F. Elias to Hamilton S. Oven.

RTP, 1995c. July 11, 1995 letter from Donald F. Elias to Clair H. Fancy (permitting history summary).

RTP, 1995d. August 22, 1995 letter from Donald F. Elias to Clair H. Fancy.

TABLE 2-1
EXISTING FCS PERMITS

Operating or Construction Permit #	**Equipment Description**
AC27-274892	Cement Plant Kiln, (Unit II) and Associated Equipment
A027-231888A	Cement Plant Kiln, Clinker Cooler, Raw Mill and Limestone Dryer
PA 82-17*	Power Plant
AO27-162737	Fly Ash Bin (D-75)
AO27-162738	Fly Ash Bin (D-67)
AO27-162739	Raw Mill Transfer Bin (F-14)
AO27-162741	Blending Silo (G-12)
AO27-162742	Kiln Feed Surge Bin (H-15)
AO27-162744	Kiln Feed Surge Bin (D-63)
AO27-162746	Clinker Silo (L-06) & Finish Mill Silo (L-07)
AO27-162747	Gypsum and Limestone Bins (L-08)
AO27-162748	Silo Discharge (Q-15)
AO27-162749	Finish Mill (N-13)
AO27-162750	Cement Silo Discharge (Q-17)
AO27-162751	Two Cement Silos (Q-15)
AO27-186145	Lime Silo Discharge System (Z-17)
AO27-186146	Lime Storage Bins (Z-15)
AO27-189351	Clinker Receiving System
AO27-207331	Quick Lime Storage Silo and Truck Loadout System
AO27-208722	Finish Mill Feed Belt With Baghouse
AO27-199744	Conveyor Belt With Baghouse
AO27-228926	Cement Railcar Loadout System
AO27-231257	Fly Ash/Equilibrium Catalyst Storage Silo (D-67)
AO27-237401	Cement Railcar Loadout System
AO27-162740	Lime Rock Bin (D-38)
AO27-162743	Contaminated Fly Ash & Filter Dust Bin (D-31)
AO27-167363	Coal Handling and Storage
AO27-186140	Limestone Screening System (D-39)
AO27-186141	Limestone Fines Storage Bin (D-13)
AO27-186143	Limedust Storage Bin (Z-31)
AO27-186144	Limestone Dryer Discharge Transfer Point (D-46)
AC27-192927	Limestone Dryer Discharge Transfer Point (D-46)
AC27-189081	Quick Lime Storage Silo and Truck Loadout System
AC27-196812	Two Quicklime Drum Coolers
AO27-187370	Lime Bagging Operation
AO27-187371	Bulk Truck Loadout Operation
AO27-177928	Lime Hydrator

* Case number for power plant certification.

3.0 AIR POLLUTANT EMISSIONS ESTIMATES

This section provides emissions estimates and documentation for the proposed new kiln technology. The previous application provided substantial documentation that, in general, is not changing. The Unit II kiln flue gas flows will remain separate from the flue gas flows of the Unit I kiln and the FCS power plant. The component operations of the Unit II kiln will remain essentially the same with some small variations. These variations were discussed previously in Section 1.0. Since the recent submission of the previous application, no new data is available regarding emissions from preheater/precalciner kilns. Thus, information from the previous application will not be repeated here, but referenced where necessary. The previous application identified emissions from three areas:

- Kiln and clinker cooler;
- Raw feed and finished product processes (minor PM sources); and
- Automobile, truck, and rail traffic (secondary sources).

3.1 KILN AND CLINKER COOLER

3.1.1 Emissions Sources

FCS is proposing to revise the kiln technology from a preheater kiln to a preheater/precalciner kiln. Thermal efficiency and material productivity will be increased by adding a calciner vessel at the base of the preheater tower (i.e., the preheater/precalciner process). A substantial amount of fuel is used in the precalciner (up to 40% of the thermal energy required in the rotary kiln). This allows for better heat transfer and heat utilization and reduces the time necessary to form clinker in the rotary kiln. As an example of the improved heat efficiency, the kiln designer expects the heat consumption for the preheater/precalciner system to be approximately 3.12 MMBTU/per ton of clinker (MMBTU/ton) versus 3.65 MMBTU/ton for the previous preheater kiln design.

As a result of the improved thermal efficiency, less latent heating is available to dry the raw materials. Hence, an additional heat source is necessary to dry raw materials upstream of the precalciner/preheater. This "shaft dryer" is a cylindrical drum that utilizes no moving parts.

Raw materials are moved countercurrent to air heated by an external combustion source. Thus, hot gases enter the dryer at the bottom of the shaft and are drawn upwards and out of the top as moisture laden materials move in the opposite direction within the gas flow. The velocity of the hot gas stream is maintained at a rate which allows for partial air suspension of the material being dried. The oversized material exits through the bottom of the shaft dryer while the main portion exits through the top of the dryer with the hot gases. Separation of the entrained material is made by baghouses positioned downstream of the shaft dryer.

Thus, the revision in technology will add two primary emissions sources, the shaft dryer and the precalciner. Both of these new sources are combustion sources that are integral in the preparation of the raw material feed and the cement clinker production. The shaft dryer contains a 30 MMBTU/hour combustion source, to be fired on No. 2 light fuel oil. The combined gross heat input to the precalciner and the kiln is 325 MMBTU/hour, to be fired on coal, natural gas, and/or tires or tire-derived fuel (start-up with natural gas, fuel oil, and/or on-spec used oil). Flue gases and emissions from each of the combustion sources (shaft dryer, precalciner, and kiln) do not have separate emission points, but instead will be intermingled to dry raw material feed prior to exhausting through the Unit II baghouse to the stack. Also, the bypass system, which removes volatile constituents that might condense and cause scaling, removes up to 15% of the air from the base of the precalciner. This air is vented through a separate baghouse and then exhausted to the main Unit II stack. Thus, emissions from these three combustion sources, as well as the bypass system, will be dealt with as a combined single stack emission point in defining permit emission limits.

3.1.2 Emissions Controls

Emissions controls for the kiln will not change from that previously permitted for the Unit II kiln. As described in detail in the original permit application, control of cement kiln emissions is achieved by three means: the alkaline environment of the flue gases; the fabric filter baghouse; and the high temperature combustion operation of the cement kiln. Acid gases formed by the oxidation of precursors in the fuel and raw materials during the combustion process are controlled by the alkaline nature of the cement kiln flue gases. Because of the basic reverse flow of kiln materials and combustion gases (combustion gases used to preheat the raw materials in the raw mill and preheater), most acid gases will be absorbed in the raw feed and retained by the final clinker product. Particulate matter (PM) will be controlled by the two reverse-air fiberglass fabric filter baghouses (main system and bypass system) which will be designed to achieve a minimum control efficiency (by weight) of 99.9%. Additional absorption of acid gases remaining in the flue gas at the baghouses may also occur on the unreacted alkaline by-products in the filter cake which coats the fabric filter bags. Also, other minor pollutants such as lead (Pb), mercury (Hg), and beryllium (Be) will be controlled to some degree by the fabric filter baghouses.

Nitrogen oxides (NO_x) are formed in the combustion process due to the high temperature oxidation of atmospheric nitrogen (thermal NO_x formation) and combustion of fuels containing nitrogen (fuel NO_x formation). The preheater/precalciner kiln design has shown the ability to produce low emissions of NO_x in comparison to other cement kiln designs. Emissions of other combustion-related pollutants, such as VOC and CO, result from incomplete combustion. Cement kilns typically do not have high emissions of VOC or CO due to the extremely high temperatures required to produce cement clinker (2500-3000°F). These high temperatures ensure the nearly complete combustion of VOC and CO.

3.1.3 Revised Kiln Emission Rates

Emission rates for the proposed change in kiln technology are based primarily on the emission limits recently determined by the Florida Department of Environmental Protection (FDEP) to represent Best Available Control Technology (BACT) for the permitted Unit II kiln. The BACT determinations are discussed in Section 4.0 of this application and the final permit issued by the FDEP. Emission estimates for existing sources at the Florida Crushed Stone facility (power plant and cement kiln Unit I) were contained in the original permit application. Table 1-1 contains revised emissions estimates for the Prevention of Significant Deterioration (PSD) pollutants. Table 3-1 contains revised emissions estimates for toxic air pollutants.

The emission factors (in pounds per ton clinker or pounds per ton kiln feed) presented in Table 1-1 for TSP, PM_{10}, NO_x, CO, H_2SO_4, Hg, and Pb are those established by the FDEP in the final permit for the Unit II kiln, dated November 17, 1995. Kiln emissions, in pounds per hour (lbs/hr) and tons per year (tons/yr), were revised for the increase in production rates due to the new kiln technology. Based on the change in technology and review of available data, FCS is able to modify the emission factors for three pollutants, SO_2, VOC, and Be. All were adjusted downward to maintain uniformity with the conclusions presented in the previous application.

Sulfur Dioxide

The SO_2 emission limit of 0.27 pounds per ton (lbs/ton) of clinker was determined by FDEP to represent BACT in the final air construction permit for the permitted FCS Unit II kiln. This determination was based on letter correspondence from Sholtes and Koogler regarding the expected performance of the FCS Unit I kiln. FCS is proposing to reduce the SO_2 emission level to 0.23 lbs/ton clinker. FCS anticipates better SO_2 control with the preheater/precalciner design over the previous preheater design. In addition, test data from similar facilities have shown SO_2 emission values consistently attainable at this level. Thus, FCS proposes a lower SO_2 emission level (0.23 lbs/ton clinker) than that previously specified by FDEP as BACT.

Volatile Organic Compounds

The VOC emission limit of 0.1 lbs/ton of clinker was established by FDEP in the final air construction permit and BACT determination for the permitted FCS Unit II kiln. FCS is proposing to reduce this value to 0.085 lbs/ton of clinker so that the proposed increase in plant throughput will result in VOC emissions less that the PSD significant threshold value. A recent review of the BACT/LAER Clearinghouse and other USEPA databases did not present any new data that would require changing the previous emission factor determinations. FCS does not anticipate difficulty in achieving the lower emission value due to the VOC control inherent in the high temperature operation of the cement kiln. Thus, FCS proposes to reduce the VOC emission factor to 0.085 lbs/ton of clinker.

Beryllium

The beryllium emission limit of 9.9 x 10^{-7} lbs/ton of clinker produced was established by the FDEP in the final air construction permit and BACT determination for the permitted FCS Unit II kiln based on the PSD significant emission rate. FCS is proposing to reduce this value to 8.5 x 10^{-7} lbs/ton of clinker produced. This value is being reduced to ensure that the proposed increase in plant throughput will result in Be emissions less than the PSD significant emission rate. A review of the updated BACT/LAER Clearinghouse and other USEPA databases did not present any new data that would require changing the previous emission factor determinations. FCS does not anticipate difficulty in achieving the lower emission value due to the high control efficiency expected with the plant baghouse. Thus, FCS proposes to reduce the Be emission factor to 8.5 x 10^{-7} lbs/ton of clinker produced.

3.2 MINOR PM SOURCES

Some changes have been made in the minor PM sources and emission rates as dictated by the design change from a preheater kiln to a preheater/precalciner kiln as described in Section 1.0. Like the currently permitted minor PM sources, all of the proposed minor PM sources will be controlled by dust collectors equipped with pulse-jet polyester fabric filters designed for a minimum control efficiency of 99.9%. Permit conditions requested for the proposed minor PM sources are identical to the current permit conditions; namely, the same 0.01 grains per dry standard cubic foot (gr/dscf) emission limit and compliance to be determined by USEPA Method 9 visible emission tests demonstrating visible emissions less than 5% opacity (visible emissions equal to or greater than 5% opacity shall require stack tests demonstrating compliance with the 0.01 gr/dscf emission limit).

3.3 SECONDARY SOURCES

Automobile, truck, and rail traffic will increase with the increase in plant capacity proposed with this modification. The previous application provided estimates of automobile, truck, and rail traffic, based on information included in the Power Plant Siting Act (PPSA) application. Previously, it was assumed that the addition of the Unit II kiln, originally proposed as identical to the existing Unit I kiln, would effectively double the automobile, truck, and rail traffic assumed in the PPSA. The proposed modification to construct a preheater/precalciner kiln will result in an increase in throughput of roughly 25% over that previously proposed for a preheater kiln identical to the existing Unit I. Thus, it would be reasonable to estimate that emissions from automobile, truck, and rail traffic would increase roughly 25% over that determined for the previous kiln design. Total emissions from these mobile sources for activities associated with both kilns would then increase to:

- Particulate Matter - 2.7 tpy
- Carbon Monoxide - 15.1 tpy
- Volatile Organic Compounds - 3.8 tpy
- Nitrogen Oxides - 10.4 tpy
- Sulfur Dioxide - 1.6 tpy

As stated previously, these emissions are minor relative to facility stack emissions.

3.4 EMISSIONS SUMMARY

As stated initially, the proposed modification will increase total facility emissions due to an increase in production. However, FCS is proposing the same or lower emission factors for pollutants specified in the previous permit application and final permit. Estimated emissions of PSD significant pollutants are provided in Table 1-1 and emissions estimates of toxic pollutants are listed in Table 3-1.

3.5 REFERENCES

Florida Department of Environmental Protection (FDEP), 1995. Permit for No. 2 Cement Kiln and Associated Equipment, AC27-274892 & PSD-FL-227. November 17, 1995.

RTP Environmental Associates, Inc. (RTP), 1995a. Application to Construct a Second 600,000 Ton Per Year Cement Kiln at the Florida Crushed Stone Facility in Brooksville, Florida. March, 1995.

RTP, 1995b. May 10, 1995 letter from Donald F. Elias to Hamilton S. Oven (HAP emissions).

RTP, 1995c. July 11, 1995 letter from Donald F. Elias to Clair H. Fancy (secondary emissions).

RTP, 1995d. August 22, 1995 letter from Donald F. Elias to Clair H. Fancy (revised HAP emissions, secondary emissions).

United States Environmental Protection Agency (USEPA), 1996. August 8, 1996 search of RACT/BACT/LAER Clearinghouse (main and transient databases) on the Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN) Bulletin Board System.

USEPA, 1995. Compilation of Air Pollutant Emission Factors, Fifth Edition. January, 1995

USEPA, 1994. Emission Factor Documentation for AP-42 Section 11.6, Portland Cement Manufacturing, Final Report. May, 1994.

TABLE 3-1
AIR TOXIC EMISSION FACTORS
For Volatile Organic Compounds

NO.	COMPOUND	EMISSION FACTOR[a] (lbs/ton Clinker)	EMISSION FACTOR[a] (lbs/hr)	ANNUAL EMISSIONS[a] (tons/year)	SOURCE[b]
1.	Benzene	1.9×10^{-2}	1.98	8.67	(1)
2.	Biphenyl	7.8×10^{-6}	8.1×10^{-4}	0.0036	(1)
3.	Carbon disulfide	2.5×10^{-3}	0.26	1.14	(2)
4.	Chlorobenzene	3.9×10^{-4}	0.04	0.18	(2)
5.	Chrysene	2.0×10^{-7}	2.1×10^{-5}	9.1×10^{-5}	(1)
6.	Ethylbenzene	1.8×10^{-4}	0.02	0.082	(2)
7.	2-Ethyl hexyl phthalate	2.1×10^{-4}	0.02	0.096	(1)
8.	Formaldehyde	5.4×10^{-4}	0.06	0.25	(1)
9.	Hexane	5.7×10^{-5}	0.006	0.026	(3)
10	Hydrogen chloride[c]	1.0×10^{-2}	1.04	4.56	(3)
11.	Methyl chloride	3.6×10^{-4}	0.04	0.16	(2)
12	Methylene chloride	7.8×10^{-4}	0.08	0.36	(1)
13	Methyl ethyl ketone	3.0×10^{-5}	0.003	0.014	(1)
14.	Naphthalene	3.9×10^{-3}	0.41	1.78	(1)
15.	Phenol	1.1×10^{-4}	0.01	0.05	(1)
16.	Styrene	5.2×10^{-4}	0.054	0.24	(2)
17.	2,3,7,8-TCDD[d]	6.5×10^{-10}	6.8×10^{-8}	3.0×10^{-7}	(2)
18.	Toluene	2.4×10^{-3}	0.25	1.095	(2)
19.	Trichloroethene	4.3×10^{-6}	4.5×10^{-4}	2.0×10^{-3}	(1)
20.	1,1,1-Trichloroethane	2.4×10^{-5}	2.5×10^{-2}	0.11	(2)
21.	Xylenes	6.9×10^{-4}	0.07	0.31	(2)
TOTAL				**14.47**	

[a] Values revised to reflect increase in clinker production to 104.17 tons per hour.

[b] (1) Emission data from the USEPA *Emission Factor Documentation for AP-42, Section 11.6 - Portland Cement Manufacturing*. May, 1994.

(2) Emission test data of FCS Unit I kiln, power plant, and lime plant operating simultaneously.

(3) Emission test data of cement plant similar to FCS Unit I.

[c] HCl is not a Volatile Organic Compound.

[d] Total penta through octa dioxin and furan emissions as 2,3,7,8-TCDD equivalents.

TABLE 3-1 (Concluded)
AIR TOXIC EMISSION FACTORS
For Metals

NO.	COMPOUND	EMISSION FACTOR[a] (lbs/ton Clinker)	EMISSION FACTOR (lbs/hr)	ANNUAL EMISSIONS[a] (tons/year)	SOURCE[b]
1.	Arsenic	4.8×10^{-5}	0.005	0.022	(1)
2.	Beryllium	8.5×10^{-7}	8.85×10^{-5}	3.88×10^{-4}	(2)
3.	Cadmium	6.0×10^{-5}	6.25×10^{-3}	0.027	(1)
4.	Chromium	2.5×10^{-4}	0.026	0.114	(2)
5.	Cobalt	6.0×10^{-5}	6.25×10^{-3}	0.027	(1)
6.	Lead	5.2×10^{-4}	0.054	0.24	(1)
7.	Manganese	1.1×10^{-3}	0.114	0.50	(2)
8.	Mercury	2.4×10^{-5}	2.5×10^{-3}	0.011	(1)
9.	Nickel	2.4×10^{-4}	0.025	0.11	(1)
10	Selenium	2.6×10^{-4}	0.027	0.12	(2)
TOTAL (VOCs and METALS)				**1.17**	

[a] Values revised to reflect increase in clinker production to 104.17 tons per hour.
[b] (1) Emission test data of FCS Unit I kiln, power plant, and lime plant operating simultaneously.
(2) Emission data from the USEPA *Emission Factor Documentation for AP-42. Section 11.6 - Portland Cement Manufacturing*. May, 1994.

4.0 BEST AVAILABLE CONTROL TECHNOLOGY

The previous application and subsequent submittals provide extensive analyses supporting the determinations of Best Available Control Technology (BACT) for the originally proposed Florida Crushed Stone (FCS) Unit II cement kiln. The Florida Department of Environmental Protection (FDEP) compiled this and other available data in establishing the BACT pollutant emission levels presented in the final air permit to construct the Unit II kiln. Thus, the information previously presented is included by reference.

The kiln design modification proposed herein will have little effect on the previous BACT determination for the kiln. In addition, the BACT/Lowest Achievable Emission Rate (LAER) Clearinghouse and other United States Environmental Protection Agency (USEPA) databases were reviewed for more recent data than that available at the time of the permitting. Review of this data did not indicate that any significant changes in the proposed emission values or proposed control technologies for the FCS facility were warranted.

The proposed increase in throughput resulting from the design change will result in increased facility emissions. However, the pollutants exceeding Prevention of Significant Deterioration (PSD) significant emission rates will not change from the previous application. The facility will have PSD significant emissions for sulfur dioxide (SO_2), total suspended particulates (TSP), particulate matter less than 10 microns (PM_{10}), carbon monoxide (CO), and nitrogen oxides (NO_x). The facility will not have PSD significant emissions for volatile organic compounds (VOC), lead (Pb), mercury (Hg), or sulfuric acid (H_2SO_4). Thus, no new analysis for PSD significant pollutants will be necessary for the modification. Table 1-1 lists the PSD pollutants compared to the PSD significant emission rates.

4.1 RECENT BACT DETERMINATIONS

Two facilities appear to have been updated in the USEPA Technology Transfer Network (TTN) BACT/LAER database. Table 4-1 presents the facilities and recent determinations. These are the National Cement Company of California and the Great Star Cement Corporation of Nevada. As can be seen, it appears that no change has occurred to what is considered BACT since FDEP approval of the original permit application for cement kiln Unit II.

4.2 PROPOSED BACT

The proposed BACT for the new kiln design will not change from that proposed in the previous application. BACT control was defined for groups of air pollutants with similar formation mechanisms:

- Combustion Products (e.g., SO_2, NO_x, and PM). Controlled generally by good combustion of clean fuels, reactions with clinker and raw materials, and removal in the baghouse flue gas control equipment.
- Products of Incomplete Combustion (e.g., CO and VOC). Control is largely achieved by proper combustion techniques and the high temperatures necessary for cement production.
- Emissions from materials handling, conveyance, and storage (primarily PM). Controlled by fabric filters and good operating practices.

In addition, the control of "non-regulated" air pollutants is considered by establishing a more stringent BACT limit on a "regulated" pollutant (i.e., PM, SO_2, etc.) that would be controlled in the same manner.

4.3 PROPOSED BACT EMISSION LEVELS

Table 4-2 provides the proposed BACT emission levels for the PSD significant pollutants as excerpted from Table II of the existing permit and updated as described in Section 3.0. FCS considers the proposed NO_x BACT emission limit of 2.8 pounds per ton (lbs/ton) clinker to be an extremely aggressive NO_x standard that very few plants have demonstrated the ability to meet. Furthermore, existing data of facilities emitting NO_x at these levels has been shown to be of questionable quality. FCS has proposed to change the kiln technology to a type that typically exhibits lower NO_x emissions, but there is still risk associated with this type of kiln and the feed materials used at FCS. Thus, FCS considers it imperative to have at least eighteen (18) months after initiating commercial operation to optimize facility operations in order to meet the specified NO_x permit limit.

4.4 REFERENCES

Florida Department of Environmental Protection (FDEP), 1995. Permit for No. 2 Cement Kiln and Associated Equipment, AC27-274892 & PSD-FL-227. November 17, 1995.

RTP Environmental Associates, Inc. (RTP), 1995a. Application to Construct a Second 600,000 Ton Per Year Cement Kiln at the Florida Crushed Stone Facility in Brooksville, Florida. March, 1995.

RTP, 1995b. May 10, 1995 letter from Donald F. Elias to Hamilton S. Oven.

RTP, 1995c. July 11, 1995 letter from Donald F. Elias to Clair H. Fancy.

RTP, 1995d. August 22, 1995 letter from Donald F. Elias to Clair H. Fancy.

United States Environmental Protection Agency (USEPA), 1996. August 8, 1996 search of RACT/BACT/LAER Clearinghouse (main and transient databases) on the Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN) Bulletin Board System.

USEPA, 1995. Compilation of Air Pollutant Emission Factors, Fifth Edition. January, 1995.

USEPA, 1994. Emission Factor Documentation for AP-42 Section 11.6, Portland Cement Manufacturing, Final Report. May, 1994.

TABLE 4-1
USEPA BACT/LAER INFORMATION DATABASE SEARCH

FACILITY	STATE	PERMIT DATE	PROCESS	THRUPUT	UNITS	POLLUTANT	EMISSIONS	UNITS	EQUIPMENT	PROCESS MODIFICATION
National Cement Co.	CA	09/05/95[a]	Kiln	340	MMBTU/hr	SO_x	3.4	lbs/ton clinker	N/A	Precalciner Addition
Great Star Cement	NV	10/24/95[b]	Kiln Calcining	1.6	Million Tons kiln feed/yr	PM_{10}	23.7	lbs/hr	Baghouse @ 0.015 gr/dscf efficiency	
Great Star Cement	NV	10/24/95[b]	Kiln/Clinker Cooler	1.6	Million Tons kiln feed/yr	NO_x	3.1	lbs/ton clinker	SNCR @ 50% efficiency	
Great Star Cement.	NV	10/24/95[b]	Kiln/Clinker Cooler	1.6	Million Tons kiln feed/yr	SO_2	0.416	lbs/ton clinker	Coal - 1% sulfur @ 90% efficiency	
Great Star Cement	NV	10/24/95[b]	Kiln/Clinker Cooler	1.6	Million Tons kiln feed/yr	CO	5.67	lbs/ton clinker	Good Combustion	
Great Star Cement	NV	10/24/95[b]	Clinker Cooler	1.6	Million Tons kiln feed/yr	PM_{10}	21	lbs/hr	Baghouse @ 0.015 gr/dscf efficiency	

NOTE: SO_2 = Sulfur Dioxide; NO_x = Nitrogen Oxides; SO_x = Sulfur Oxides; PM_{10} = Particulate matter with a mean aerodynamic diameter less than 10 microns; CO = Carbon Monoxide; lb/hr = pounds per hour; lbs/ton = pounds per ton; MMBTU = Million British Thermal Units

[a]Last Update March 25, 1996.
[b]Last Update February 27, 1996.

SOURCE: USEPA BACT/LAER Information System (BLIS) Database

TABLE 4-2

PROPOSED BACT EMISSION LEVELS
MAIN STACK

POLLUTANT	BACT EMISSION LIMIT	
	lbs/ton clinker	lbs/ton dry feed
PM/PM_{10} (kiln)	0.306	0.200
PM/PM_{10} (cooler)	0.153	0.100
SO_2	0.230	0.150
NO_x*	2.800	1.830
CO	2.000	1.307
VOC	0.085	0.056
H_2SO_4	0.014	0.009
Beryllium	8.50E-07	5.56E-07
Mercury	2.40E-05	1.57E-05
Lead	5.20E-04	3.40E-04

Note: * FCS proposes to have up to 18 months after start-up of commercial operation to achieve this standard.

5.0 EXISTING AIR QUALITY

5.1 AMBIENT AIR QUALITY STANDARDS

Ambient air quality standards (AAQS) have been established for six criteria pollutants: sulfur dioxide (SO_2); nitrogen dioxide (NO_2); carbon monoxide (CO); particulate matter less than 10 microns in aerodynamic diameter (PM_{10}); lead (Pb); and ozone (O_3). The PM_{10} AAQS recently replaced AAQS for total suspended particulates (TSP), so both pollutants are considered. The AAQS are discussed and presented in the original air permit application. There have been no changes to the AAQS presented in the original permit application.

5.2 AMBIENT MONITORING SITES/MEASUREMENTS

Existing air quality can be evaluated by comparing ambient pollutant measurements to the AAQS. Existing air quality in the original permit application was generally based on 1991 through 1993 ambient pollutant measurements. Two complete years (1994 and 1995) of air quality data have become available since the original permit application was submitted. Also, PM_{10} concentration measurements at four locations in Hernando County were initiated in early (January or February) 1995. Table 5-1 shows the three new PM_{10} monitoring sites in Hernando County (the fourth PM_{10} monitor is located at the existing SO_2 monitoring site -- all previously existing monitoring sites in the project region were summarized in the original permit application). Table 5-2 shows the most recent three years of monitoring data (1993-1995) for the monitoring sites considered to be representative of the project location. These monitoring sites provide representative SO_2, TSP, and PM_{10} baseline data based on Hernando County measurements and O_3 baseline data based on Pasco County measurements.

Monitoring data for 1993 through 1995 are not available from nearby monitoring sites for NO_2, CO, and lead. In the original permit application, representative baseline concentrations for these pollutants were based on maximum ambient concentrations measured at a monitoring site in extreme northern Pinellas County (Tarpon Springs, 4380-002) during 1989-1991 (monitoring for these pollutants was discontinued in May or June 1992). These historic NO_2, CO, and lead data are considered by the Department to be adequate for purposes of this application (personal communication, Cleve Holladay, Bureau of Air Regulation, July 22, 1996). Monitoring data for each individual year of 1989-1992 at this monitoring site were shown in the original permit application.

Representative monitoring data for the project site are shown on Table 5-3. As can be seen, maximum representative ambient concentrations are less than all the applicable AAQS. Existing air quality, based on maximum Pasco County air quality measurements, are 79% of the O_3 AAQS. This is a conservative estimate of baseline O_3 air quality for the project site since maximum O_3 concentrations would be expected to be less in Hernando County. Maximum ambient TSP concentrations measured anywhere in Hernando County during 1995 are about one-half of the TSP AAQS. For all other pollutants, maximum ambient concentrations representative of the project site are less than 40% of the applicable AAQS.

5.3 ATTAINMENT STATUS

Hernando County is designated as attainment or unclassifiable (presumed to be in attainment) for all criteria pollutants. All of Florida is considered to be in attainment with the national AAQS for TSP, PM_{10}, SO_2, CO, and NO_2. Since the original permit application was submitted, the Tampa metropolitan region (Pinellas and Hillsborough Counties) has been redesignated from a marginal nonattainment area to a maintenance (i.e., attainment) area for O_3. Also since the original permit application was submitted, an area considered by the Department (but not USEPA) to be nonattainment for lead in Hillsborough County has been redesignated a maintenance (i.e., attainment) area. The entire state of Florida is now considered to attain the O_3 and lead AAQS. There is also a TSP maintenance area in Hillsborough County. The nearest boundaries of these O_3, Pb, and TSP maintenance areas are 45, 64, and 58 kilometers, respectively. A more complete description of attainment designations is contained in the original air permit application.

5.4 REFERENCES

Code of Federal Regulations, Title 40, Parts 50 and 81.

Florida Administrative Code, Chapter 62-204.

Florida Department of Environmental Protection (FDEP). ALLSUM Computer Report for 1993. Printed 02/29/96.[a]

FDEP. ALLSUM Computer Report for 1994. Printed 02/29/96.[a]

FDEP. ALLSUM Computer Report for 1995. Printed 03/11/96.

[a]1993 and 1994 ALLSUM computer summaries obtained from the Bureau of Air Monitoring and Mobile Sources Internet homepage (http://www.dep.state.fl.us/air/) on July 22-23, 1996.

TABLE 5-1
NEW AMBIENT AIR MONITORING SITES

Site ID	Pollutants Measured	UTM Coors (km)[a] East, North	Dist(km) & Dir[b] from Facility
1740-007	PM_{10}	354.982,3167.129	6.9, NW
1740-008	PM_{10}	380.921,3153.908	22.6, ESE
4210-002	PM_{10}	358.000,3157.000	5.8, SSW

[a]UTM coordinates obtained from Department (personal communication, Brian Kerckhoff, Bureau of Air Monitoring and Mobile Sources, July 22, 1996). All coordinates are for UTM zone 17.
[b]Distances and directions from the facility are based on facility UTM coordinates of 360.008 km East and 3162.398 km North.

TABLE 5-2
RECENT (1993-1995) AMBIENT AIR QUALITY MONITORING DATA

Pollutant/	Hernando County						Pasco Co
Avg.Time/Year	1740-004	1740-005	1740-006	1740-007	1740-008	4210-002	1815-001
SO_2/3-hour Second-Highest Concentration (ug/m^3)							
1993	--	--	77	--	--	--	--
1994	--	--	86	--	--	--	--
1995	--	--	70	--	--	--	--
SO_2/24-hour Second-Highest Concentration (ug/m^3)							
1993	--	--	21	--	--	--	--
1994	--	--	23	--	--	--	--
1995	--	--	17	--	--	--	--
SO_2/Annual Arithmetic Mean Concentration (ug/m^3)							
1993	--	--	4	--	--	--	--
1994	--	--	5	--	--	--	--
1995	--	--	4	--	--	--	--
PM_{10}/24-hour Second-Highest Concentration (ug/m^3)							
1995	--	--	25	36	36	39	--
PM_{10}/Annual Arithmetic Mean Concentration (ug/m^3)							
1995	--	--	16	19	17	18	--
TSP/24-hour Second-Highest Concentration (ug/m^3)							
1993	81	54	--	--	--	--	--
1994	65	66	--	--	--	--	--
1995	70	61	--	--	--	--	--
TSP/Annual Geometric Mean Concentration (ug/m^3)							
1993	29	28	--	--	--	--	--
1994	30	29	--	--	--	--	--
1995	33	33	--	--	--	--	--
O_3/1-hour Maximum Concentration, Second-Highest Day (ppm)							
1993	--	--	--	--	--	--	0.094
1994	--	--	--	--	--	--	0.085
1995	--	--	--	--	--	--	0.092

TABLE 5-3
COMPARISON OF BASELINE CONCENTRATIONS
TO AMBIENT AIR QUALITY STANDARDS

Pollutant/Avg.Time		Baseline Conc (ug/m^3)[a] and Year/Location	AAQS[b] (ug/m^3)	Baseline % of AAQS
SO_2	3-hour	86 (94/1740-006)	1300	7%
	24-hour	23 (94/1740-006)	260	9%
	Annual	5 (94/1740-006)	60	8%
NO_2	Annual	17 (90/4380-002)[c]	100	17%
CO	1-hour	6900 (89/4380-002)[c]	40000	17%
	8-hour	2300 (91/4380-002)[c]	10000	23%
PM_{10}	24-hour	39 (95/4210-002)	150	26%
	Annual	19 (95/1740-007)	50	38%
TSP	24-hour	81 (93/1740-004)	150	54%
	Annual	33 (95/1740-004)	60	55%
Lead	Quarter	0.0 (91/4380-002)[c]	1.5	0%
O_3	1-hour	185 (93/1815-001)	235	79%

[a]Maximum second-highest short-term and maximum annual/quarter concentrations for the last three available years of data for representative monitoring sites are shown.
[b]AAQS shows are the Florida AAQS, which are more restrictive than the National AAQS.
[c]Representative baseline concentrations for NO_2, CO, and lead in the original permit application were based on data measured at a monitoring site in extreme northern Pinellas County (Tarpon Springs, 4380-002) during 1989-1991 (monitoring for these pollutants was discontinued in May or June 1992). These data are considered by the Department to be adequate for purposes of this application (personal communication, Cleve Holladay, Bureau of Air Regulation, July 22, 1996).

6.0 AIR QUALITY MODELING ANALYSES

Modeling analyses were performed for the proposed cement plant at the Florida Crushed Stone (FCS) facility for comparison to significant impact levels (SILs). For those criteria pollutants with impacts greater than the SILs, additional modeling analyses are normally required to demonstrate compliance with Prevention of Significant Determination (PSD) increments and ambient air quality standards (AAQS) as appropriate. In addition, modeling analyses were performed for minor particulate sources (Section 6.5) and for noncriteria pollutants to demonstrate compliance with Florida's Ambient Reference Concentrations (Section 6.6). Additional analyses for air quality related values (AQRVs) are contained in Section 7.0.

6.1 MODEL SELECTION

Model selection depends on the types of pollutants to be modeled, the characteristics of the project vicinity, and the source characteristics. For the modeling analyses in this section, all pollutants will be considered to be inert (no analysis of ozone impacts was performed since volatile organic compound emissions from the proposed cement kiln are less than the PSD significant emission rate). All nitrogen oxides (NO_x) emissions will conservatively be assumed to be emitted as nitrogen dioxide (NO_2) for purposes of estimating ambient NO_2 impacts. Similarly, particulate matter less than 10 microns in aerodynamic diameter (PM_{10}) will conservatively be assumed to be equal to the total suspended particulate (TSP) emission rate.

The terrain around the project is flat to gently rolling, so no terrain will be considered in the modeling analysis. Since no complex terrain (areas with elevation above stack release height) occurs in the project vicinity, only simple terrain models are required in the modeling analysis. The facility is located in an overwhelmingly rural area based on the Auer land use methodology. Therefore, rural dispersion curves are required in all modeling analyses.

Emissions from the second cement kiln will be vented through a separate 14 foot diameter vent attached to the exterior of the main facility stack. Emissions heights for both the kiln vent and main facility stack are identical. Since the stack height of 320 feet, as shown in the original Power Plant Siting Act (PPSA) application, represents a GEP stack for regulatory purposes, building-induced downwash and cavity wake effects do not need to be considered in the model selection or analyses for the main facility stack or kiln vent.

Based the characteristics of the source, source vicinity, and pollutants, SCREEN3 and ISCST3 were selected for the modeling analyses. SCREEN3 (version 96043) was used to analyze the window of potential operating conditions for the proposed kiln for determining a worst-case source configuration. ISCST3 (version 96113) was then used to determine potential increases in facility impacts due to the proposed kiln.

6.2 SOURCE CHARACTERISTICS AND SCREENING ANALYSES

Emissions from the second cement kiln will be vented through a separate vent attached to the exterior of the main facility stack, which vents emissions from both the power plant and the existing cement kiln. Since the separation between the proposed and existing stacks is less than either stack diameter, modeling must account for the effective stack diameter and volumetric flows of both stacks for the sources in operation. Since the cement kiln now proposed is not identical to the existing cement kiln, the modeling analyses must now consider increases in facility impacts for the following five facility configurations:

Conf.	Proposed Facility Configuration		Existing Facility Configuration
1	Proposed Kiln	vs.	Existing Kiln
2	Proposed and Existing Kilns	vs.	Existing Kiln
3	Proposed Kiln and Power Plant	vs.	Power Plant
4	Proposed Kiln and Power Plant	vs.	Existing Kiln and Power Plant
5	Both Kilns and Power Plant	vs.	Existing Kiln and Power Plant

Stack and emission characteristics for existing FCS sources vented through the main facility stack are shown on Table 6-1. These characteristics cover the three types of existing facility conditions required to be analyzed. Worst-case source configurations (temperature and flow rates) for the existing cement kiln and for the power plant and existing cement kiln operating simultaneously were determined previously by screening analyses presented in the original permit application (RTP, 1995a). For the power plant only condition, temperature and flowrate were determined as the difference between the other two existing facility configurations as shown on Table 6-1.

Stack and emission characteristics for the proposed cement kiln are shown on Table 6-2. There is only one emission point to be modeled for the proposed cement kiln since all three combustion sources (i.e., shaft dryer heater, precalciner burner, and kiln burner) as well as the bypass system exhaust to the main vent (minor PM sources for the proposed cement plant are addressed later in Section 6.5). However, the proposed cement kiln has a predicted range of volumetric flows and exit temperatures depending on the operating conditions of the kiln components (i.e., shaft dryer heater on or off, bypass system on or off, and clinker cooler in upset or normal conditions). Therefore, worst-case characteristics for the proposed cement kiln were determined with the SCREEN3 model using the same assumptions as in the original permit application: namely, regulatory defaults for anemometer and mixing heights; full set of hypothetical meteorological conditions; rural dispersion; default ambient temperature (293K); no terrain; and the automated distance receptor array from the nearest property boundary (1000 meters) to 10,000 meters.

Maximum SCREEN3 impacts for the proposed cement kiln alone for a 1 gram/second emission rate for each source condition are shown on Table 6-3. As might be expected, the worst-case condition for the proposed cement kiln (dryer on, bypass off, and normal cooler conditions) has the lowest temperature and volumetric flow. Screening results for the proposed kiln only for each pollutant are compared on Table 6-3 to the USEPA PSD Class II significance levels. Impacts for averaging times other than the 1-hour screening concentrations are calculated by multiplying the maximum SCREEN3 impact by the USEPA averaging time ratios of 0.9, 0.7, 0.4, and 0.08 for 3-hour, 8-hour, 24-hour, and annual averaging times, respectively (USEPA, 1992, p. 4-16). Screening impacts for the proposed cement kiln alone are less than the USEPA PSD Class II SILs for all pollutants other than NO_2 for all proposed cement kiln conditions. Therefore, further analyses of criteria pollutants other than NO_2 in the source vicinity are not required.

Since the proposed cement kiln vent is attached to the main facility stack, source characteristics need to be determined for the proposed facility configurations listed above. The equivalent stack diameter of the existing stack and proposed cement kiln flue was calculated and is shown on Table 6-2. Also, the worst-case proposed cement kiln only stack characteristics (dryer on, bypass off, and normal cooler conditions) were combined with the existing source characteristics shown on Table 6-1 to determine the flowrate and temperature for the three proposed facility configurations to be analyzed in the refined ISCST3 analyses (proposed and existing kiln, proposed kiln and power plant, and proposed and existing kilns and power plant). These combined stack characteristics are included on Table 6-2. Combined emission rates can be determined by adding the emission rates for the proposed kiln on Table 6-2 to the emission rates on Table 6-1 for the appropriate existing facility configuration.

6.3 REFINED CLASS II ANALYSES

As noted above, refined analyses with ISCST3 of the site vicinity are required to determine the maximum increase in facility impacts due to the proposed kiln for NO_x emissions. Increases in facility annual NO_2 impacts were determined for the five facility configurations listed above. As described in detail in the original permit application, these increases in facility impacts are determined by modeling the proposed facility configuration with positive emissions together with the associated existing facility configuration with negative emissions. The refined ISCST3 analyses were performed identical to the original permit application: namely, regulatory default settings; rural dispersion; no pollutant decay; and flat terrain. Five years of meteorological data (1982 through 1986 in keeping with periods analyzed by other applicants using MESOPUFF) from the Tampa International Airport (anemometer height of 22 feet) were analyzed with two receptor grids (a discrete cartesian grid with 100 meter spacing along the property fenceline and a polar grid from the property fenceline to 10000 meters from the stack).

Maximum increases in annual facility NO_2 impacts are shown on Table 6-4 for both receptor grids and for all five facility configurations described above. Annual NO_2 impacts for the proposed kiln are the same or less than spacially coincident impacts for the existing kiln, which is shown on Table 6-4 as negative ("< 0.0") or near-zero increases in facility impacts for facility configuration 1 (proposed kiln vs. existing kiln). Maximum increases in facility impacts are predicted for facility configurations where the proposed kiln is operating in conjuction with a single existing source, either the existing kiln (configuration 2) or the power plant (configuration 3).

The maximum increases in annual NO_2 facility impacts due to the proposed kiln are predicted to occur with the 1986 meteorological data and 4 to 5 km east of the stack in the offsite polar receptor grid. Since the receptor spacing in this area is about 1 kilometer, facility configurations 2 and 3 were remodeled with the 1986 meteorological data and a fine receptor grid with 100 meter spacing. The fine receptor grid extended from the property fenceline to 5900 meters east of the stack along the east-west direction and 1000 meters north and south of the 90° radial. Results of these two ISCST3 runs are included on Table 6-4. The maximum increase in annual facility NO_2 impacts based on the fine receptor grid analysis is 0.188 ug/m^3 for facility configuration 2 (proposed and existing kiln vs. existing kiln). This increase is only 19% of the annual NO_2 SIL of 1 ug/m^3 for Class II areas.

Taken together with the above screening analyses, increases in facility impacts due to the proposed kiln have been shown to be insignificant for all criteria pollutants and therefore indistinguishable from background concentrations. Therefore, further refined analyses (such as multisource modeling analyses) of criteria pollutant impacts in the project vicinity are not required to demonstrate compliance with AAQS and PSD Class II increments. Increases in facility impacts due to a second cement kiln, as well as overall facility impacts for the kilns and power plant, were shown to be much less than the de mimimis monitoring levels in the original permit application. Since no appreciable changes to the modeled concentrations would be expected for the change in kiln technology, the applicant is requesting an exemption from pre- or post-construction PSD monitoring for this modification as allowed under FAC 62-212.400(3)(e). As noted in the original permit application, the applicant already maintains two TSP monitoring sites and one SO_2 monitoring site in the project vicinity, which are the two pollutants with the largest predicted increases in facility impacts when calculated as a percentage of the de minimis monitoring levels.

6.4 REFINED CLASS I ANALYSES

Refined analyses with ISCST3 of the nearest Class I area, Chassahowitzka National Wildlife Refuge (CNWR), is required to determine the maximum increase in facility impacts due to the proposed kiln for criteria pollutant emissions with PSD increments (SO_2, NO_2, and PM_{10}). The analyses were performed identical to the original permit application. Modeling procedures, model settings, and meteorological data are described above. The Class I receptor grid is the traditional set of thirteen discrete receptors placed along the nearest Class I boundary and was analyzed with all five years of meteorological data for all five facility configurations.

Maximum increases in facility impacts for each facility configuration are shown on Table 6-5. Like the refined Class II analyses for NO_2 described above, proposed kiln impacts are about the same or less than spacially and temporally coincident existing kiln impacts, which is shown on Table 6-5 as negative ("< 0.0") or very small increases in facility impacts for facility configuration 1 (proposed kiln vs. existing kiln). Maximum increases in facility impacts are predicted for facility configurations 2 (proposed kiln and existing kiln vs. existing kiln) and 4 (proposed kiln and power plant vs. existing kiln and power plant).

The maximum increase in facility impacts for any facility configuration are compared on Table 6-6 with the National Park Service (NPS) SILs. As can be seen, increases in facility impacts are less than the NPS SILs for all pollutants other than NO_2. Therefore, further analyses of Class I PSD increments for SO_2 and PM_{10} are not required. For NO_2, a multisource modeling analysis was performed using the inventory of major NO_x facilities within 130 km of CNWR as shown on Table 6-7 and the procedures described above and in the original permit application (RTP, 1995d). Since the existing FCS facility does not consume PSD increment for NO_2, the increase in facility impacts is of concern. Therefore, the multisource inventory was modeled with the facility configuration which gave the largest increases in facility impacts (configuration 2). Results of the multisource NO_2 analysis are shown on Table 6-8. The maximum annual multisource NO_2 impact is 40% of the Class I PSD increment of 2.5 ug/m^3. Therefore, the modeling analyses demonstrate compliance with the Class I PSD increments. Further analyses of air quality related values are contained in Section 7.0.

6.5 MINOR PM SOURCE IMPACTS

In the original permit application (RTP, 1995c), screening and refined modeling analyses were performed for the three largest minor PM sources, which accounted for the majority of minor source PM emissions. The analyses showed that PM impacts due to the minor PM sources associated with the permitted kiln would be small. A very small area of significant PM impacts was predicted to occur for 24-hour averaging times just outside the eastern property fenceline (all annual PM impacts were less than the SILs). Since FCS maintains a TSP monitoring site (1740-005) very close to the area of significant impacts, the Department determined that performing a multisource modeling analysis with other existing FCS particulate sources would serve no useful purpose (i.e., monitoring data includes PM impacts due to existing FCS sources and modeling would be double-counting emissions). Therefore, compliance with the PM (TSP and PM_{10}) AAQS was demonstrated by adding the maximum modeled minor source PM concentrations to the maximum measured TSP background for this monitoring site.

Emissions and stack characteristics for these three large minor PM sources have not been changed appreciably due to the change in kiln technology. Therefore, the results of the modeling analyses for the minor PM sources contained in the original permit application are still valid (maximum second-highest 24-hour and maximum annual PM impacts of 6.69 and 0.67 ug/m^3, respectively). Adding the maximum measured TSP background concentrations shown on Table 5-2 for this monitoring site to the above PM impacts gives maximum ambient concentrations which are 48% and 67% of the 24-hour and annual PM_{10} AAQS, which demonstrates compliance with the PM_{10} and TSP AAQS.

6.6 AIR TOXICS

Hazardous Air Pollutant (HAP) emissions were estimated as part of the original permit application in response to Department requests (RTP, 1995c and 1995e) and are described in more detail in Section 3.0 of this application. HAP impacts were calculated for comparison to the Ambient Reference Concentrations (ARCs) contained in version 4.0 of the Department's updated air toxics working list. Impacts for the proposed kiln were calculated based on the SCREEN3 screening analysis results contained in Section 6.2 above. Since HAP emissions given in Section 3.0 include emission factors for lb of pollutant per ton of clinker, HAP impacts for appropriate averaging times were calculated as follows:

$$\frac{X\ ug/m^3}{1\ gram/sec} \times \frac{Q\ lb\ HAP}{ton\ clinker} \times \frac{104\text{-}1/6\ ton\ clinker}{hour} \times \frac{0.126\ gram/sec}{lb/hour} = X\ ug/m^3$$

HAP impacts were also calculated for both kilns (existing and proposed kilns) operating simultaneously. A SCREEN3 analysis for both kilns was performed for 1 gram/second using the exact same SCREEN3 procedures used for the proposed kiln and as described in Section 6.2 together with the combined source characteristics for both kilns as shown on Table 6-2. The SCREEN3 analysis showed a maximum 1-hour impact for both operating kilns of 1.207 ug/m^3 for 1 gram/second emissions at 1109 meters from the stack during A stability and a 1.5 meter/second wind speed. This impact gives maximum unitized (1 gram/second) impacts of 0.845, 0.483, and 0.097 ug/m^3 for averaging times of 8-hours, 24-hours, and annual periods respectively. Facility pollutant impacts for both kilns operating simultaneously can be calculated from these unitized impacts using the equation above based on 187-1/6 tons of clinker per hour (83 tons/hour for existing kiln and 104-1/6 tons/hour for proposed kiln).

Results of the screening analyses for air toxics are shown on Table 6-9. Although not a HAP pollutant, sulfuric acid mist is included on Table 6-9 since it is a PSD pollutant with applicable ARCs. The vast majority of HAP pollutants are less than 0.5% of the ARCs. The largest impacts as a percentage of the ARCs are for benzene, arsenic, cadmium, hexavalent chromium, and nickel. All other pollutants are less than 10% of the ARCs. Maximum proposed kiln and facility (both kilns) impacts are less than the ARCs for all pollutants and all averaging times. Again, these HAP impacts are based on screening analyses and refined impact analyses with ISCST3 and actual meteorological data would likely show much smaller impacts.

6.7 REFERENCES

RTP Environmental Associates, Inc. (RTP). 1995a. Application to Construct a Second 600,000 Ton Per Year Cement Kiln at the Florida Crushed Stone Company Facility in Brooksville, Florida. March, 1995.

RTP, 1995b. April 12, 1995 letter from William E. Corbin to Cleve Holladay (shows receptor grids and property fenceline).

RTP, 1995c. May 10, 1995 letter from Donald F. Elias to Hamilton S. Oven (HAP emissions and impacts compared to No Threat Levels, and minor PM source impact analyses for original permit application).

RTP, 1995d. July 11, 1995 letter from Donald F. Elias to Clair H. Fancy (NO_x multisource Class I PSD increment modeling analysis for original permit application).

RTP, 1995e. August 22, 1995 letter from Donald F. Elias to Clair H. Fancy (revised HAP emissions).

United States Environmental Protection Agency (USEPA), 1992. Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised. EPA-454/R-92-019, October 1992.

USEPA, 1995a. SCREEN3 Model User's Guide. EPA-454/B-95-004, September 1995.

USEPA, 1995b. User's Guide for the Industrial Source Complex (ISC3) Dispersion Models. Volume I - User Instructions EPA-454/B-95-003a and Volume II - Description of Model Algorithms EPA-454/B-95-003b, September 1995.

TABLE 6-1
EXISTING SOURCE CHARACTERISTICS

Source Parameter	English Units	Metric Units
Stack Height	320 feet	97.54 meters
Stack Location (UTM Zone 17)		360.0 km East
		3162.5 km North
Existing Cement Kiln Only[a]		
SO_2 Permit Emissions:	50 lb/hr	6.30 g/s
NO_x Permit Emissions:	359 lb/hr	45.23 g/s
PM Permit Emissions:	49.5 lb/hr	6.24 g/s
CO Maximum Emissions:	127 lb/hr	16.00 g/s
Existing Stack Diameter	16.0 feet	4.88 meters
Worst-case Flow and	264,000 ACFM	6.67 m/s
Temperature[b]	234°F	385.4 Kelvins
Existing Cement Kiln and Power Plant[c]		
SO_2 Permit Emissions:	781 lb/hr	98.41 g/s
NO_x Permit Emissions:	1205 lb/hr	151.83 g/s
PM Permit Emissions:	86.52 lb/hr	10.90 g/s
CO Maximum Emissions:	1252 lb/hr	157.75 g/s
Existing Stack Diameter	16.0 feet	4.88 meters
Worst-case Flow and	850,000 ACFM	21.48 m/s
Temperature[b]	352°F	450.9 Kelvins
Power Plant Only		
SO_2 Permit Emissions:	770 lb/hr	97.02 g/s
NO_x Permit Emissions:	846 lb/hr	106.60 g/s
PM Permit Emissions:	37.02 lb/hr	4.66 g/s
CO Maximum Emissions:	1125 lb/hr	141.75 g/s
Existing Stack Diameter	16.0 feet	4.88 meters
Worst-case Flow and	585,760 ACFM	14.80 m/s
Temperature[d]	419°F	488.2 Kelvins

[a]Based on design data.
[b]Worst-case flow and temperature from original permit application screening analyses.
[c]Based on historical stack test data.
[d]Calculated as difference, weighting for SCFM flows and based on absolute temperatures, between (Power Plant and Existing Cement Kiln) and (Power Plant Only) cases above:
$SCFM_{PP} = SCFM_{PP+CP} - SCFM_{CP}$
$T_{PP} = [T_{PP+CP}SCFM_{PP+CP} - T_{CP}SCFM_{CP}] / [SCFM_{PP+CP} - SCFM_{CP}]$

TABLE 6-2
PROPOSED SOURCE CHARACTERISTICS

Source Parameter	English Units	Metric Units
Proposed Cement Kiln Only		
SO_2 Permit Emissions:	23.958 lb/hr	3.02 g/s
NO_x Permit Emissions:	291.667 lb/hr	36.75 g/s
PM Permit Emissions:	47.813 lb/hr	6.02 g/s
CO Maximum Emissions:	208.333 lb/hr	26.25 g/s
Proposed Vent Diameter	14.0 feet	4.27 meters
Proposed Cement Kiln Only Flowrates/Temperatures by Source Condition		
Dryer off, Bypass off, and	415,313 ACFM	13.71 m/s
Normal Cooler Conditions	421°F	489.3 Kelvins
Dryer on, Bypass off, and	312,523 ACFM	10.31 m/s
Normal Cooler Conditions	258°F	398.7 Kelvins
Dryer off, Bypass on, and	456,562 ACFM	15.07 m/s
Normal Cooler Conditions	482°F	523.2 Kelvins
Dryer on, Bypass on, and	405,381 ACFM	13.38 m/s
Normal Cooler Conditions	305°F	424.8 Kelvins
Dryer off, Bypass on, and	460,204 ACFM	15.19 m/s
Upset Cooler Conditions	482°F	523.2 Kelvins
Dryer on, Bypass on, and	415,188 ACFM	13.70 m/s
Upset Cooler Conditions	323°F	434.8 Kelvins
Proposed and Existing Cement Kilns[a]		
Equivalent Stack Diameter	21.26 feet	6.48 meters
Volumetric Flowrate	576,680 ACFM	8.25 m/s
Temperature	247°F	392.6 Kelvins
Proposed Cement Kiln and Power Plant[a]		
Equivalent Stack Diameter	21.26 feet	6.48 meters
Volumetric Flowrate	897,855 ACFM	12.85 m/s
Temperature	355°F	452.6 Kelvins
Proposed and Existing Cement Kilns and Power Plant[a]		
Equivalent Stack Diameter	21.26 feet	6.48 meters
Volumetric Flowrate	1,161,940 ACFM	16.63 m/s
Temperature	324°F	435.4 Kelvins

[a]Calculated as the sum, weighting for SCFM flows and based on absolute temperatures, of the worst-case Proposed Cement Kiln condition above and the appropriate existing facility configuration in Table 6-1:

$SCFM_{1+2} = SCFM_1 + SCFM_2 \qquad T_{1+2} = [T_1 SCFM_1 + T_2 SCFM_2] / [SCFM_1 + SCFM_2]$

TABLE 6-3
SCREEN3 RESULTS FOR PROPOSED KILN ONLY

Pollutant/ Avg.Time	--Max Kiln Impact (ug/m³) for Each Case-- Case1	Case2	Case3	Case4	Case5	Case6	SIL (ug/m^3)	Max % of SIL
SCREEN3 Results at 1 gram/second								
1-hour	1.079	1.900	0.964	1.368	0.963	1.287	-	-
3-hour	0.971	1.710	0.868	1.231	0.867	1.158	-	-
8-hour	0.755	1.330	0.675	0.958	0.674	0.901	-	-
24-hour	0.432	0.760	0.386	0.547	0.385	0.515	-	-
Annual	0.086	0.152	0.077	0.109	0.077	0.103	-	-
Max dist (m)	1147	1000	1076	1068	1076	1075		
Windspeed (m/s)[a]	1.5	1.5	2.0	1.5	2.0	1.5		
PG Stability	A	A	A	A	A	A		
SO_2								
3-hour	2.932	5.164	2.621	3.718	2.618	3.497	25	21%
24-hour	1.305	2.295	1.166	1.652	1.163	1.555	5	46%
Annual	0.260	0.459	0.233	0.329	0.233	0.311	1	46%
NO_x								
Annual	3.161	5.586	2.830	4.006	2.830	3.785	1	559%
TSP/PM_{10}								
24-hour	2.601	4.575	2.324	3.293	2.318	3.100	5	92%
Annual	0.518	0.915	0.464	0.656	0.464	0.620	1	92%
CO								
1-hour	28.32	49.88	25.31	35.91	25.28	33.78	2000	2%
8-hour	19.82	34.91	17.72	25.15	17.69	23.65	500	7%

Notes: The proposed cement kiln cases analyzed are: 1 = Dryer off, Bypass off, and Normal Cooler Conditions; 2 = Dryer on, Bypass off, and Normal Cooler Conditions; 3 = Dryer off, Bypass on, and Normal Cooler Conditions: 4 = Dryer on, Bypass on, and Normal Cooler Conditions; 5 = Dryer off, Bypass on, and Upset Cooler Conditions; and 6 = Dryer on, Bypass on, and Upset Cooler Conditions.

[a]Windspeeds at reference anemometer height of 10 meters.

TABLE 6-4
MAXIMUM INCREASES IN ANNUAL FACILITY NO_2 IMPACTS IN PROJECT VICINITY (CLASS II AREA)

-----PROPERTY FENCELINE RECEPTOR GRID RESULTS-----

	-Configuration 1-		-Configuration 2-		-Configuration 3-		-Configuration 4-		-Configuration 5-	
Year/Avg.Time	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)
1982/Annual	< 0.0	-	0.05847	-3102, 2564	0.04223	-6235, -628	< 0.0	-	0.02492	-6235, -628
1983/Annual	< 0.0	-	0.05876	-3124, 2290	0.04329	-6235, -969	< 0.0	-	0.02723	-5029, -208
1984/Annual	< 0.0	-	0.06722	-3185, 2481	0.04753	-2622, 3284	< 0.0	-	0.02575	-2609, 3586
1985/Annual	< 0.0	-	0.06882	1680, 2795	0.04293	-5536,-1458	< 0.0	-	0.02359	-6500,-1464
1986/Annual	< 0.0	-	0.07160	-4245,-1516	0.05110	-5029, -208	< 0.0	-	0.02350	-5136,-1459

-----OFFSITE POLAR RECEPTOR GRID RESULTS-----

	-Configuration 1-		-Configuration 2-		-Configuration 3-		-Configuration 4-		-Configuration 5-	
Year/Avg.Time	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)
1982/Annual	< 0.0	-	0.11077	3759, 1368	0.05989	4698, 1710	< 0.0	-	0.05128	5638, 2052
1983/Annual	< 0.0	-	0.09130	3759, 1368	0.05460	6000, 0	< 0.0	-	0.03669	5909, 1042
1984/Annual	< 0.0	-	0.10147	3464, 2000	0.06487	4698, 1710	< 0.0	-	0.04294	5638, 2052
1985/Annual	< 0.0	-	0.15111	3759, 1368	0.07576	4698, 1710	< 0.0	-	0.05908	5638, 2052
1986/Annual	< 0.0	-	0.18488	4000, 0	0.09387	5000, 0	< 0.0	-	0.07248	5638, 2052

-----FINE GRID RESULTS AT OFFSITE POLAR GRID MAXIMA-----

	-Configuration 1-		-Configuration 2-		-Configuration 3-		-Configuration 4-		-Configuration 5-	
Year/Avg.Time	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)	Concen	X,Y(m)
1986/Annual	-	-	0.18776	3900, 200	0.09611	5300, 200	-	-	-	-

Notes: Concentrations in ug/m³ and X,Y locations relative to source location at 360000, 3162500 m in UTM zone 17. The facility configurations analyzed are as follows: 1 = Proposed Kiln vs. Existing Kiln; 2 = Proposed Kiln + Existing Kiln vs. Existing Kiln; 3 = Proposed Kiln + Power Plant vs. Power Plant; 4 = Proposed Kiln + Power Plant vs. Existing Kiln + Power Plant; and 5 = Proposed Kiln + Existing Kiln + Power Plant vs. Existing Kiln + Power Plant.

TABLE 6-5
MAXIMUM INCREASES IN FACILITY IMPACTS IN CHASSAHOWITZKA NWR (CLASS I AREA)

Pollutant/Year/	-Configuration 1-		-Configuration 2-		-Configuration 3-		-Configuration 4-		-Configuration 5-	
Avg.Time	Concen	X,Y(km)	Concen	X,Y(km)	Concen	X,Y(km)	Concen	X,Y(km)	Concen	X,Y(km)
SO_2										
1982/Annual	< 0.0	-	0.00290	-28.5,20.9	< 0.0	-	0.00046	-19.3, 9.4	< 0.0	-
3-hr MAX	< 0.0	-	0.28451	-17.0,13.7	0.15351	-17.0,13.7	0.35034	-17.0,13.7	0.11641	-19.7, 7.3
3-hr H2H	< 0.0	-	0.24516	-19.7, 3.2	0.13813	-16.3,15.8	0.27839	-19.7, 7.3	0.09737	-18.0,11.5
24-hr MAX	< 0.0	-	0.06102	-18.0,11.5	0.02915	-18.0,11.5	0.06238	-19.7, 7.3	0.02913	-18.0,11.5
24-hr H2H	< 0.0	-	0.04209	-17.0,13.7	0.01726	-16.3,15.8	0.05621	-19.7, 7.3	0.01526	-19.7, 5.2
1983/Annual	< 0.0	-	0.00236	-18.0,11.5	< 0.0	-	< 0.0	-	< 0.0	-
3-hr MAX	< 0.0	-	0.22334	-18.0,11.5	0.19681	-19.7, 3.2	0.24403	-18.0,11.5	0.18353	-18.0,11.5
3-hr H2H	< 0.0	-	0.20647	-18.0,11.5	0.18000	-18.0,11.5	0.21316	-17.0,13.7	0.15272	-18.0,11.5
24-hr MAX	< 0.0	-	0.06355	-17.0,13.7	0.02766	-18.0,11.5	0.05082	-18.0,11.5	0.02761	-18.0,11.5
24-hr H2H	< 0.0	-	0.04006	-17.0,13.7	0.02205	-18.0,11.5	0.04528	-18.0,11.5	0.02206	-18.0,11.5
1984/Annual	< 0.0	-	0.00242	-19.7, 3.2	< 0.0	-	0.00074	-18.9,20.9	< 0.0	-
3-hr MAX	< 0.0	-	0.22246	-18.9,20.9	0.16329	-19.7, 5.2	0.33007	-17.0,13.7	0.16330	-19.7, 5.2
3-hr H2H	< 0.0	-	0.17993	-18.9,20.9	0.12240	-16.3,15.8	0.27510	-17.0,13.7	0.12212	-16.3,15.8
24-hr MAX	< 0.0	-	0.04710	-16.3,15.8	0.03083	-16.3,15.8	0.06191	-19.7, 7.3	0.03079	-16.3,15.8
24-hr H2H	< 0.0	-	0.03935	-19.7, 3.2	0.02116	-19.7, 7.3	0.05307	-19.7, 3.2	0.01913	-17.0,13.7
1985/Annual	< 0.0	-	0.00230	-28.5,20.9	< 0.0	-	0.00075	-21.0,20.9	< 0.0	-
3-hr MAX	< 0.0	-	0.23177	-19.7, 3.2	0.14125	-19.3, 9.4	0.41016	-19.7, 3.2	0.14109	-19.3, 9.4
3-hr H2H	< 0.0	-	0.21470	-17.0,13.7	0.12140	-18.0,11.5	0.32185	-19.7, 3.2	0.11617	-18.0,11.5
24-hr MAX	< 0.0	-	0.06445	-17.0,13.7	0.02501	-19.7, 7.3	0.06940	-19.7, 5.2	0.02216	-17.0,13.7
24-hr H2H	< 0.0	-	0.03459	-19.7, 3.2	0.01961	-17.0,13.7	0.04352	-19.7, 3.2	0.01857	-17.0,13.7
1986/Annual	< 0.0	-	0.00210	-26.0,20.9	< 0.0	-	< 0.0	-	< 0.0	-
3-hr MAX	< 0.0	-	0.23231	-17.0,13.7	0.16572	-19.3, 9.4	0.35000	-16.3,15.8	0.16552	-19.3, 9.4
3-hr H2H	< 0.0	-	0.19134	-19.3, 9.4	0.15487	-18.0,11.5	0.22618	-18.0,11.5	0.15469	-18.0,11.5
24-hr MAX	< 0.0	-	0.04872	-19.3, 9.4	0.03375	-19.3, 9.4	0.05272	-19.7, 3.2	0.03375	-19.3, 9.4
24-hr H2H	< 0.0	-	0.04705	-17.0,13.7	0.02688	-16.3,15.8	0.04355	-18.0,11.5	0.02685	-16.3,15.8

Notes: Concentrations in ug/m³ and X,Y locations relative to source location at 360.0, 3162.5 km in UTM zone 17. The facility configurations analyzed are as follows: 1 = Proposed Kiln vs. Existing Kiln; 2 = Proposed Kiln + Existing Kiln vs. Existing Kiln; 3 = Proposed Kiln + Power Plant vs. Power Plant; 4 = Proposed Kiln + Power Plant vs. Existing Kiln + Power Plant; and 5 = Proposed Kiln + Existing Kiln + Power Plant vs. Existing Kiln + Power Plant. Maximum increases in facility impacts for each facility configuration are underlined.

TABLE 6-5 (Concluded)
MAXIMUM INCREASES IN FACILITY IMPACTS IN CHASSAHOWITZKA NWR (CLASS I AREA)

Pollutant/Year/	-Configuration 1-		-Configuration 2-		-Configuration 3-		-Configuration 4-		-Configuration 5-	
Avg.Time	Concen	X,Y(km)	Concen	X,Y(km)	Concen	X,Y(km)	Concen	X,Y(km)	Concen	X,Y(km)
NO_2										
1982/Annual	< 0.0	-	0.05879	-18.0,11.5	0.02955	-19.7, 3.2	< 0.0	-	0.01962	-19.7, 7.3
1983/Annual	< 0.0	-	0.05306	-18.0,11.5	0.02754	-18.0,11.5	< 0.0	-	0.01935	-18.0,11.5
1984/Annual	< 0.0	-	0.05622	-19.7, 3.2	0.02847	-19.7, 3.2	< 0.0	-	0.01805	-17.0,13.7
1985/Annual	< 0.0	-	0.04953	-19.7, 3.2	0.02528	-17.0,13.7	< 0.0	-	0.02162	-19.7, 3.2
1986/Annual	< 0.0	-	0.04877	-17.0,13.7	0.02984	-17.0,13.7	< 0.0	-	0.01845	-19.3, 9.4
PM										
1982/Annual	< 0.0	-	0.01066	-18.0,11.5	0.00871	-19.7, 3.2	< 0.0	-	0.00618	-19.7, 3.2
24-hr MAX	< 0.0	-	0.16014	-18.0,11.5	0.09819	-19.7, 7.3	0.00401	-19.7, 7.3	0.08355	-18.0,11.5
24-hr H2H	< 0.0	-	0.10857	-19.7, 3.2	0.08291	-16.3,15.8	0.00213	-19.7, 7.3	0.06349	-16.3,15.8
1983/Annual	< 0.0	-	0.00960	-18.0,11.5	0.00794	-18.0,11.5	< 0.0	-	0.00598	-18.0,11.5
24-hr MAX	< 0.0	-	0.17154	-17.0,13.7	0.13541	-17.0,13.7	0.00354	-18.0,11.5	0.09889	-17.0,13.7
24-hr H2H	< 0.0	-	0.11493	-19.3, 9.4	0.08825	-19.3, 9.4	0.00198	-17.0,13.7	0.06179	-19.3, 9.4
1984/Annual	< 0.0	-	0.01020	-19.7, 3.2	0.00833	-19.7, 3.2	< 0.0	-	0.00597	-19.7, 3.2
24-hr MAX	< 0.0	-	0.11785	-16.3,15.8	0.10292	-19.7, 3.2	0.00351	-19.7, 7.3	0.08872	-19.7, 3.2
24-hr H2H	< 0.0	-	0.10460	-19.7, 3.2	0.09048	-19.7, 3.2	0.00290	-19.7, 3.2	0.07692	-19.7, 3.2
1985/Annual	< 0.0	-	0.00894	-19.7, 3.2	0.00707	-19.7, 3.2	< 0.0	-	0.00572	-19.7, 3.2
24-hr MAX	0.00000	-19.7, 3.2	0.19187	-17.0,13.7	0.13454	-17.0,13.7	0.00302	-19.7, 5.2	0.09800	-17.0,13.7
24-hr H2H	< 0.0	-	0.09643	-19.7, 3.2	0.07942	-19.7, 3.2	0.00201	-19.7, 7.3	0.06176	-19.7, 3.2
1986/Annual	< 0.0	-	0.00905	-17.0,13.7	0.00824	-17.0,13.7	< 0.0	-	0.00592	-19.3, 9.4
24-hr MAX	< 0.0	-	0.12169	-17.0,13.7	0.10406	-17.0,13.7	0.00319	-19.7, 3.2	0.07031	-17.0,13.7
24-hr H2H	< 0.0	-	0.11202	-17.0,13.7	0.09444	-17.0,13.7	0.00266	-18.0,11.5	0.06626	-19.3, 9.4

Notes: Concentrations in ug/m³ and X,Y locations relative to source location at 360.0, 3162.5 km in UTM zone 17. The facility configurations analyzed are as follows: 1 = Proposed Kiln vs. Existing Kiln; 2 = Proposed Kiln + Existing Kiln vs. Existing Kiln; 3 = Proposed Kiln + Power Plant vs. Power Plant; 4 = Proposed Kiln + Power Plant vs. Existing Kiln + Power Plant; and 5 = Proposed Kiln + Existing Kiln + Power Plant vs. Existing Kiln + Power Plant. Maximum increases in facility impacts for each facility configuration are underlined.

TABLE 6-6
COMPARISON OF MAXIMUM INCREASES IN FACILITY IMPACTS
TO NPS SIGNIFICANT IMPACT LEVELS

Pollutant/ Avg.Time	Maximum Facility[a] Increase (ug/m^3)	NPS Class I SIL (ug/m^3)	% of SIL
SO_2/Annual	0.00290	0.03	10%
3-hour	0.41016	0.48	85%
24-hour	0.06940	0.07	99%
NO_2/Annual	0.05879	0.03	196%
PM_{10}/Annual	0.01066	0.08	13%
24-hour	0.19187	0.27	71%

[a]Impacts are maximum short-term and maximum annual increases in facility impacts due to the proposed cement kiln.

TABLE 6-7
MULTISOURCE INVENTORY OF MAJOR NO_x SOURCES FOR CHASSAHOWITZKA NWR

ISCST NO.	Facility/Source	UTM Coor(km) East	UTM Coor(km) North	Max.NOx Emissions (g/s)	Stack Height (m)	Stack Diameter (m)	Exit Temp (K)	Exit Velocity (m/s)	CLASS I Minimum Distance (km)
101	Auburndale	420.8	3103.3	21.17	48.80	5.50	411.0	14.30	101.9
102	Enron Silver Springs	418.8	3240.9	1.33	13.72	0.49	641.0	36.51	96.7
103	Farmland Green Bay	409.5	3080.1	1.25	45.72	2.44	355.4	11.58	110.1
104	FL Mining & Mtls	355.9	3169.9	11.56	32.00	4.27	394.3	9.90	14.4
105	FPC Debary	467.5	3197.2	137.60	15.24	4.21	819.8	56.21	125.2
106	FPC Int City 7EA	446.3	3126.0	84.20	15.24	4.21	819.8	56.21	113.2
107	FPC Int City 7FA	446.3	3126.0	91.80	15.24	7.04	880.8	32.07	113.2
108	FPC Polk	414.4	3073.9	160.40	34.40	4.10	400.0	40.50	118.0
109	IMC Agrico New Wales	396.7	3079.4	5.49	61.00	2.59	350.0	15.33	103.1
110	IMC Agrico S Pierce	407.9	3071.9	-2.93	45.73	1.60	350.0	26.40	115.6
111	IMC Agrico S Pierce	407.9	3071.9	3.98	45.73	1.55	349.8	39.05	115.6
112	Kissimmee Utilities	447.7	3127.9	27.72	12.20	3.00	654.0	29.10	113.9
113	Lakeland Utilities	409.2	3102.8	21.04	30.48	5.79	783.2	28.22	93.3
114	OMS Lake Co RRF	413.1	3179.3	20.79	38.10	1.83	422.0	23.36	69.4
115	OUC Stanton 2	483.5	3150.6	91.80	167.60	5.80	324.2	23.50	142.5
116	Pasco Co RRF	347.0	3139.0	40.57	83.82	3.05	394.3	15.70	27.5
117	Lake Cogen	434.0	3198.8	11.64	30.48	3.35	384.3	17.13	92.6
118	Pasco Cogen	385.6	3139.0	11.64	30.48	3.35	384.3	17.13	52.6
119	Ridge Cogen	416.7	3100.4	8.73	99.10	3.00	350.0	14.50	100.5
120	Stauffer Shutdown	325.6	3116.7	0.80	49.00	1.20	293.0	3.60	51.2
121	Seminole Hardee 3	405.0	3057.7	32.78	22.90	7.01	851.5	32.67	125.9
122	TPS Hardee	404.8	3057.4	241.83	22.90	4.88	389.0	23.90	126.1
123	TECO Polk Aux.Blr	402.5	3067.4	1.00	6.10	0.90	533.0	13.10	116.3
124	TECO Polk IGCC	402.5	3067.4	23.69	45.70	5.80	400.0	16.80	116.3
125	Tropicana	346.8	3040.9	3.96	24.40	2.13	555.4	7.55	125.0
126	Tropicana Turbine	346.8	3040.9	9.20	24.40	3.66	404.3	16.55	125.0
127	Pend Kathleen	398.7	3105.5	5.42	45.73	5.34	416.0	13.86	83.9
128	FPL Manatee	367.3	3054.1	612.40	144.80	7.99	339.8	23.70	114.8
129	FL Rock Newberry	346.8	3287.0	33.80	76.20	2.87	369.3	14.15	103.8
FLORIDA CRUSHED STONE FACILITY CONFIGURATION 2 - TWO OPERATING KILNS									
1	Baseline	360.0	3162.5	-45.23	97.54	4.88	385.4	6.67	20.0
2	Baseline+Proposed	360.0	3162.5	81.98	97.54	6.48	392.6	8.25	20.0

TABLE 6-8
MAXIMUM ANNUAL MULTISOURCE NO_2 IMPACTS
FOR CHASSAHOWITZKA NWR

Year	Max.Conc (ug/m³)	Max.Location UTM x,y(km)	Class I Increment (ug/m³)	Percent of Increment
1982	0.99142	340.3,3165.7	2.5	40%
1983	0.84293	340.3,3165.7	2.5	38%
1984	0.80042	340.3,3165.7	2.5	32%
1985	0.91894	340.3,3165.7	2.5	37%
1986	0.91693	340.3,3165.7	2.5	37%

TABLE 6-9
HAP IMPACTS (ug/m³) COMPARED TO ARCs (ug/m³)

Pollutant	-----Proposed Kiln Only----			----Both Kilns Operating---			Ambient Reference Concs			Max % of ARCs	
	8-hour	24-hour	Annual	8-hour	24-hour	Annual	8-hour	24-hour	Annual	Prop	Both
Benzene	3.32E-1	1.90E-1	3.79E-2	3.79E-1	2.16E-1	4.35E-2	30	7	1.2E-1	32%	36%
Biphenyl	1.36E-4	7.78E-5	1.56E-5	1.55E-4	8.88E-5	1.78E-5	10	2.4		0%	0%
Carbon disulfide	4.36E-2	2.49E-2	4.99E-3	4.98E-2	2.85E-2	5.72E-3	310	74	2.0E+2	0%	0%
Chlorobenzene	6.81E-3	3.89E-3	7.78E-4	7.77E-3	4.44E-3	8.92E-4	460	110		0%	0%
Chrysene	3.49E-6	2.00E-6	3.99E-7	3.99E-6	2.28E-6	4.58E-7	2	0.5		0%	0%
Ethylbenzene	3.14E-3	1.80E-3	3.59E-4	3.59E-3	2.05E-3	4.12E-4	4340	1033	1.0E+3	0%	0%
Dioctyl phthalate	3.67E-3	2.09E-3	4.19E-4	4.18E-3	2.39E-3	4.80E-4	50	12	4.2	0%	0%
Formaldehyde	9.43E-3	5.39E-3	1.08E-3	1.08E-2	6.15E-3	1.24E-3	3.7	0.9	7.7E-2	1%	2%
Hexane	9.95E-4	5.69E-4	1.14E-4	1.14E-3	6.49E-4	1.30E-4	1760	419	2.0E+2	0%	0%
Hydrogen chloride	1.75E-1	9.98E-2	1.99E-2	1.99E-1	1.14E-1	2.29E-2	70	17	7.0	1%	1%
Methyl chloride	6.28E-3	3.59E-3	7.18E-4	7.17E-3	4.10E-3	8.24E-4	1030	245	2.8E-1	0%	0%
Methylene chloride	1.36E-2	7.78E-3	1.56E-3	1.55E-2	8.88E-3	1.78E-3	1740	414	2.0	0%	0%
Methyl ethyl ketone	5.24E-4	2.99E-4	5.98E-5	5.98E-4	3.42E-4	6.86E-5	5900	1405	1.0E+3	0%	0%
Napthalene	6.81E-2	3.89E-2	7.78E-3	7.77E-2	4.44E-2	8.92E-3	500	119		0%	0%
Phenol	1.92E-3	1.10E-3	2.19E-4	2.19E-3	1.25E-3	2.52E-4	190	45	3.0E+1	0%	0%
Styrene	9.08E-3	5.19E-3	1.04E-3	1.04E-2	5.92E-3	1.19E-3	2130	507	1.0E+3	0%	0%
2,3,7,8-TCDD	1.13E-8	6.48E-9	1.30E-9	1.30E-8	7.40E-9	1.49E-9			2.2E-8	6%	7%
Toluene	4.19E-2	2.39E-2	4.79E-3	4.78E-2	2.73E-2	5.49E-3	1880	448	4.0E+2	0%	0%
1,1,1-Trichloroethane	4.19E-4	2.39E-4	4.79E-5	4.78E-4	2.73E-4	5.49E-5	19000	4524		0%	0%
Trichloroethylene	7.51E-5	4.29E-5	8.58E-6	8.57E-5	4.90E-5	9.84E-6	2690	640	7.7E-1	0%	0%
Xylenes	1.20E-2	6.88E-3	1.38E-3	1.38E-2	7.86E-3	1.58E-3	4340	1033	8.0E+1	0%	0%
Arsenic	8.38E-4	4.79E-4	9.58E-5	9.57E-4	5.47E-4	1.10E-4	0.1	0.02	2.3E-4	42%	48%
Beryllium	1.48E-5	8.48E-6	1.70E-6	1.69E-5	9.68E-6	1.94E-6	0.02	0.005	4.2E-4	0%	0%
Cadmium	1.05E-3	5.99E-4	1.20E-4	1.20E-3	6.83E-4	1.37E-4	0.02	0.005	5.6E-4	21%	25%
Chromium-III[a]	3.93E-3	2.24E-3	4.49E-4	4.48E-3	2.56E-3	5.15E-4	5	1.2	1.0E+3	0%	0%
Chromium-IV[a]	4.36E-4	2.49E-4	4.99E-5	4.98E-4	2.85E-4	5.72E-5	0.5	0.1	8.3E-5	60%	69%
Cobalt	1.05E-3	5.99E-4	1.20E-4	1.20E-3	6.83E-4	1.37E-4	0.5	0.1		1%	1%
Lead	9.08E-3	5.19E-3	1.04E-3	1.04E-2	5.92E-3	1.19E-3	0.5	0.1	9.0E-2	5%	6%
Manganese	1.92E-2	1.10E-2	2.19E-3	2.19E-2	1.25E-2	2.52E-3	50	12	5.0E-2	4%	5%
Mercury	4.19E-4	2.39E-4	4.79E-5	4.78E-4	2.73E-4	5.49E-5	0.1	0.02	3.0E-1	1%	1%
Nickel	4.19E-3	2.39E-3	4.79E-4	4.78E-3	2.73E-3	5.49E-4	1	0.2	4.2E-3	11%	13%
Selenium	4.54E-3	2.59E-3	5.19E-4	5.18E-3	2.96E-3	5.95E-4	2	0.5		1%	1%
Sulfuric Acid	2.44E-1	1.40E-1	2.79E-2	2.79E-1	1.59E-1	3.20E-2	10	2.4		6%	7%

[a]Conservatively assuming 10% of kiln emissions are hexavalent (Cr^{IV}) and the remaining 90% are trivalent (Cr^{III}).

7.0 AIR QUALITY RELATED VALUES

Air quality modeling analyses in Section 6.0 demonstrate compliance with Prevention of Significant Deterioration (PSD) increments and ambient air quality standards (AAQS). This section describes additional air quality analyses performed as required by PSD regulations.

7.1 VISIBILITY

Types of visibility impairment were described in the original permit application. As concluded in the original permit application, visibility impacts would be expected to be greatest due to emissions from the main facility stack.

7.1.1 Visibility Impairment in Project Vicinity

As described in the original permit application, the main facility stack has the potential to be visible up to three miles based on the stack height of 320 feet and depending on vegetation and other obstructions to vision in the immediate project vicinity. Based on past experience with the existing cement kiln, a visible plume (except for condensed water vapor) due to emissions from the main stack does not occur under normal operating conditions. A plume is sometimes visible for short periods of time when a bag failure occurs in the baghouse, but these conditions are limited in both duration and frequency. Therefore, no significant change in either plume perceptibility or frequency of a visible plume would be expected in the project vicinity due to the second cement kiln.

7.1.2 Visibility Impairment in Class I Areas

The nearest Class I area is the Chassahowitzka National Wildlife Refuge (CNWR), which is located in Hernando and Citrus Counties along the Florida Gulf of Mexico coast. The nearest boundary is the CNWR southeast corner, 20 km from the facility. As required by the National Park Service (NPS), visibility analyses were performed for the proposed cement kiln only rather than for the increase in facility visibility impacts due to the proposed modification. Based on the conservative assumptions in level-1 and level-2 visibility analyses, the potential for a visible plume due to emissions from the proposed cement kiln exists during stable, low wind speed conditions as shown in the original permit application based on VISCREEN analyses. Therefore, a level-3 visibility analysis was performed with the PLUVUE-II model for the worst-case wind speed and stability conditions identified in the level-2 analysis (1.5 meters/second and F stability) with a wind direction of 110.5°, placing the southeastern Class I receptor on the south edge of the 22½° sector centered on the plume. Views perpendicular through the plume centerline for the observer location were analyzed. The analyses performed for the original permit application are described in the modeling protocol dated September 19, 1995 (RTP, 1995b) and the visibility modeling report dated September 20, 1995 (RTP, 1995c).

A level-3 analysis was performed for this project very similar to the analyses performed for the original permit application. The analysis for this project was based on the worst-case meteorological condition (F stability and low wind speed) using the latest version of PLUVUE-II (version 96170). Revisions made to the analyses in the original permit application for this project based on the NPS's technical review of the visibility analyses submitted as part of the original permit application (and cited above), which included an additional visibility analysis scenario, are as follows:

- anemometer height wind speed was set to 1.0 m/s;
- an additional scenario was modeled with a wind direction of 126.6°, which places the northeastern Class I receptor on the northern edge of the 22½° sector centered on plume centerline;
- only sky backgrounds were considered since there is no significant terrain in the study area (i.e., views of the plume with terrain in the background would not occur; so white, gray, or black backgrounds were not considered); and
- visibility analyses for an observer on the opposite side of the 22½° sector from the traditional Class I receptor (also on the eastern boundary of CNWR) were also performed (i.e., north of the plume for the 110.5° wind direction analysis and south of the plume for the 126.6° wind direction analysis).

PLUVUE-II inputs were generally set equal to the model defaults or recommended values and are shown on Table 7-1. Like the original visibility analysis, analyses were performed for spring, summer, and winter seasons. These dates are included on Table 7-1. Appropriate temperatures and relative humidities were selected based on Tampa International Airport data as shown on Table 7-1. Time periods modeled were for the half-hour immediately after sunrise (0700, 0600, and 0730 for spring, summer, and winter, respectively) and then proceeding for two more hours in 30 minute increments. Results of the PLUVUE-II analysis are shown on Table 7-2 and compared below to visibility critical values:

Visibility Impact	Critical Values	Kiln Impact
Delta-E	≥ 2.0	1.705
Plume Contrast	≤ 0.9 or ≥ 1.1	0.958
Blue-Red Ratio	$\geq \pm 0.02$	-0.010

Worst-case kiln impacts generally occurred during the winter just after sunrise for an observer at the southeast corner of the CNWR. Since the worst-case impacts are less than the critical values, it can be concluded that there is little potential for a visible plume as viewed from the CNWR due to kiln emissions.

7.2 MINOR SOURCE GROWTH

As discussed in detail in the original permit application, the addition of 15 to 20 new jobs for the proposed kiln would result in an increase in the current Hernando County population of only 0.02% assuming all new hires relocate to Hernando County. In reality, most of the new workers will likely be hired from the surrounding community. Therefore, there is expected to be little significant impact on general commerce, transportation, or public services (police, fire, medical, sewage, educational, and utility services) due to employees for the proposed kiln. In addition, the proposed kiln will not require a significant expansion of the facility or mining activities or expansion of industry in the surrounding areas for support services.

The proposed kiln is projected to increase truck traffic as shown in Section 3.0; however, this increase is not significant given the existing level of trucking in the area from FCS's current operations. With minimal increases in residential, commercial, public service, industrial, and transportation growth, no significant increase in atmospheric emissions would be expected as a result of minor source growth for the proposed kiln.

7.3 SOILS AND VEGETATION

As described in detail in the original permit application, approximately 20% of Hernando County is devoted to agricultural usages for crops (primarily hay, horticultural specialties, fruits, and nuts), pasture for livestock, and woodland. The major agricultural activity in Hernando County is animal production (livestock or poultry). Other land uses of commercial and recreational value in Hernando County include the growth of ornamental and turf grass and parkland and other open areas, which contain significant amounts of open vegetation and exposed soil.

The pollutants emitted in significant quantities by the proposed cement plant are nitrogen oxides (NO_x), sulfur dioxide (SO_2), particulate matter (PM), and carbon monoxide (CO). Historically, the majority of vegetative impacts have resulted from elevated concentrations of SO_2. As shown in the screening analyses in Section 6.0, the maximum increase in 3-hour facility SO_2 impacts is about 5 ug/m^3, which is well below the level at which plant damage has been observed. As referenced in the original permit application. NO_x and CO concentrations are not injurious to plants except at very high concentrations (19,000 ug/m^3 for NO_x and over 100,000 ug/m^3 for CO). Since increases in facility impacts due to the proposed kiln are only 0.2 ug/m^3 (annual NO_2) and 50 ug/m^3 (1-hour CO), no impacts to vegetation are predicted for the proposed kiln.

Potential negative impacts to exposed soils (e.g., rainfall pH changes due to sulfuric and nitric acid and inhibition of nitrogen fixation by soil microorganisms due to elevated CO concentrations) have only been observed to occur at levels very much greater than increases in facility impacts due to the proposed kiln. Therefore, no significant impact on soils is expected for the proposed kiln. In addition, analyses in Section 6.0 have demonstrated that the proposed kiln will not interfere with the maintenance of AAQS, which were developed in part to prevent significant adverse impacts to soils and vegetation. Therefore, facility compliance with the AAQS also indicates that no significant adverse impact on soils and vegetation will occur.

7.4 REFERENCES

National Park Service (NPS), 1995. Technical Review of the PLUVUE 2 Visibility Analysis Submitted September 27, 1995, for Florida Crushed Stone's Proposed New Cement Kiln, Hernando County, Florida. Air Quality Branch, Fish and Wildlife Service.

RTP Environmental Associate, Inc. (RTP), 1995a. Application to Construct a Second 600,000 Ton Per Year Cement Kiln at the Florida Crushed Stone Company Facility in Brooksville, Florida. March, 1995.

RTP, 1995b. PLUVUE-II Modeling Analysis Protocol for Proposed Cement Kiln at Florida Crushed Stone. Revised September 19, 1995.

RTP, 1995c. PLUVUE-II Modeling Analysis for the Proposed Cement Kiln at Florida Crushed Stone. September 20, 1995.

United States Environmental Protection Agency (USEPA), 1988. Workbook for Plume Visual Impact Screening and Analysis. EPA-450/4-88-015, September 1988 with October 1992 revisions from OAQPS BBS system.

USEPA, 1992. User's Manual for the Plume Visibility Model (PLUVUE II) (Revised). EPA-454/B-92-008, September 1992.

TABLE 7-1
PLUVUE-II INPUTS

Emissions/Miscellaneous Data	
Site elevation (feet msl)	0
Number of units	1
Stack height (feet)	320
Flue gas flowrate (ACFM)	312,523[a]
Flue gas exit velocity (m/s)	10.31[a]
Flue gas temperature (°F)	258[a]
Flue gas oxygen (mole %)	3[b]
SO_2 emission rate (tons/day)	0.2875
NO_x emission rate (tons/day)	3.5000
PM emission rate (tons/day)	0.5738
Source UTM Coor (km)	360.0,3162.5
UTM Zone	17
Time Zone (relative to GMT)	5

Model Options	
Dispersion index for PG-Turner	0
Flags for optics calculations	1,0,1,0
Starting/ending index for scattering angles	1,7[b]
Altitude index for centerline	1
Number of downwind points for optical size calculations	0,0,0[b]
Number of points for vertical scans	0,0[b]
Vertical scan stepping interval	0[b]
Channel plot option	0[b]
Mie library	Default file
Sulfate conversion index	0[b]
Sulfate conversion constant	0.0[b]
Indices for observer based calcs	2,2

Meteorological/Air Quality Data	
Wind speed (mph)	2.24
Wind meas.ht index for 10 m	1
Pasquill-Gifford stability	F
Lapse rate (°F/1000 ft)	13.83
Mixing depth (m)	10,000
Ambient pressure (atm)	1.0
Background NO_x conc (ppm)	0.000[b]
Background NO_2 conc (ppm)	0.000[b]
Background O_3 conc (ppm)	0.040[b]
Background SO_2 conc (ppm)	0.000[b]
Background coarse conc (ug/m^3)	35.0[c]
Background visual range (km)	65.0[d]
SO_2 deposition velocity (cm/s)	1.0[b]
NO_x deposition velocity (cm/s)	1.0[b]
Coarse PM dep. velocity (cm/s)	0.10[b]
Fine PM dep. velocity (cm/s)	0.10[b]

Seasonal Dependant Inputs	
Spring Date	March 20, 1988
Hours	700,730,800,830,900
Ambient Temp (°F)	56.1[e]
Relative Humidity (%)	86[f]
Summer Date	June 21, 1988
Hours	600,630,700,730,800
Ambient Temp (°F)	72.3[e]
Relative Humidity (%)	87[f]
Winter Date	December 21, 1988
Hours	730,800,830,900,930
Ambient Temp (°F)	50.9[e]
Relative Humidity (%)	87[f]

Ambient Particulate Aerosol Model inputs	Accum. Mode	Coarse Mode	Plume Sec'ndy	Plume Primary	Carbon. Aerosol
Mass median radius (um)	0.15[b]	3.0[b]	0.10[b]	1.0[b]	0.05[b]
Geo. standard dev. (um)	2.0[b]	2.2[b]	2.0[b]	2.0[b]	2.0[b]
Particle density (g/cm^3)	1.5[b]	2.5[b]	1.5[b]	2.5[b]	2.0[b]
Fraction of plume primary	-	-	-	-	0.0[b]
Background (ug/m^3)	-	-	-	-	0.0[b]
Refraction index-Real part	1.5[b]	1.5[b]	-	1.5[b]	2.0[b]
-Imaginary part	0.0[b]	0.0[b]	-	0.0[b]	1.0[b]

TABLE 7-1 (Concluded)
PLUVUE-II INPUTS

Observer Data for Wind Direction of 110.5°		Observer Data for Wind Direction of 126.6°	
Observer south of plume:		Observer south of plume:	
Observer UTM (km)	340.3,3165.7	Observer UTM (km)	340.655,3171.665
Observer elevation (ft-msl)	0	Observer elevation (ft-msl)	0
Critical Plume Distance (km)	19.6[g]	Critical Plume Distance (km)	21.0[g]
Observer north of plume:		Observer north of plume:	
N Observer UTM (km)	341.84,3173.74	N Observer UTM (km)	341.1,3173.74
Observer elevation (ft-msl)	0	Observer elevation (ft-msl)	0
Critical Plume Distance (km)	21.0[g]	Critical Plume Distance (km)	27.6[h]

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[a]Worst-case flowrate and temperature (smallest plume rise) from Section 6.0 screening analyses for second cement kiln only. Since the stack is a point source, initial plume dimension inputs for an area source were set to 0 meters.
[b]PLUVUE-II recommended/default value.
[c]Maximum annual TSP concentration in original permit application.
[d]Background sulfate and nitrate concentration not used when background visual range specified.
[e]Mean average monthly daily minimum temperatures for March, June, and December from the Tampa International Airport Local Climatological Data (LCD) summary.
[f]Mean average monthly relative humidities for hour 0700 for March, June, and December from the Tampa International Airport LCD summary.
[g]Downwind plume centerline distances of 1.0, 2.0, 5.0, 10.0, and 15.0 km also modeled. Elevation of terrain at all selected points along the plume centerline set equal to 0 feet-msl.
[h]Downwind plume centerline distances of 1.0, 2.0, 5.0, 10.0, 15.0, 20.0, and 25.0 km also modeled. Elevation of terrain at all selected points along the plume centerline set equal to 0 feet-msl.

TABLE 7-2
PLUVUE-II RESULTS

Wind Direction = 110.5° and Observer South of Plume

Spring				Summer				Winter			
Time	DeltE	Cntrst	Bl-Red	Time	DeltE	Cntrst	Bl-Red	Time	DeltE	Cntrst	Bl-Red
0700	1.544	-.008	0.962	0600	1.640	-.009	0.960	0730	1.705	-.009	0.958
0730	1.407	-.010	0.964	0630	1.526	-.009	0.963	0800	1.537	-.010	0.963
0800	1.274	-.009	0.964	0700	1.410	-.009	0.965	0830	1.361	-.010	0.964
0830	1.222	-.009	0.967	0730	1.337	-.009	0.966	0900	1.268	-.010	0.965
0900	1.186	-.009	0.967	0800	1.279	-.009	0.967	0930	1.234	-.009	0.966

Wind Direction = 110.5° and Observer North of Plume

Spring				Summer				Winter			
Time	DeltE	Cntrst	Bl-Red	Time	DeltE	Cntrst	Bl-Red	Time	DeltE	Cntrst	Bl-Red
0700	1.485	-.009	0.963	0600	1.554	-.009	0.961	0730	1.661	-.009	0.960
0730	1.327	-.010	0.966	0630	1.378	-.010	0.964	0800	1.513	-.009	0.964
0800	1.212	-.009	0.967	0700	1.262	-.009	0.966	0830	1.359	-.009	0.965
0830	1.171	-.009	0.968	0730	1.210	-.009	0.967	0900	1.284	-.009	0.966
0900	1.147	-.009	0.968	0800	1.172	-.009	0.968	0930	1.249	-.008	0.967

Wind Direction = 126.6° and Observer South of Plume

Spring				Summer				Winter			
Time	DeltE	Cntrst	Bl-Red	Time	DeltE	Cntrst	Bl-Red	Time	DeltE	Cntrst	Bl-Red
0700	1.509	-.008	0.963	0600	1.667	-.008	0.960	0730	1.661	-.009	0.960
0730	1.429	-.009	0.965	0630	1.629	-.008	0.963	0800	1.503	-.009	0.964
0800	1.287	-.009	0.967	0700	1.508	-.008	0.965	0830	1.332	-.009	0.965
0830	1.220	-.009	0.968	0730	1.408	-.008	0.966	0900	1.236	-.009	0.966
0900	1.177	-.008	0.969	0800	1.323	-.008	0.968	0930	1.196	-.009	0.967

Wind Direction = 126.6° and Observer North of Plume

Spring				Summer				Winter			
Time	DeltE	Cntrst	Bl-Red	Time	DeltE	Cntrst	Bl-Red	Time	DeltE	Cntrst	Bl-Red
0700	1.346	-.008	0.968	0600	1.405	-.009	0.968	0730	1.499	-.008	0.965
0730	1.202	-.009	0.970	0630	1.240	-.009	0.969	0800	1.379	-.009	0.968
0800	1.095	-.009	0.971	0700	1.132	-.009	0.970	0830	1.255	-.009	0.970
0830	1.060	-.008	0.972	0730	1.085	-.009	0.971	0900	1.194	-.009	0.971
0900	1.039	-.008	0.973	0800	1.047	-.009	0.972	0930	1.159	-.008	0.973

APPENDIX A

HAND-WRITTEN CHANGES TO
AIR CONSTRUCTION AND PPSA PERMITS
FOR PROPOSED REVISIONS

PROPOSED REVISIONS TO
AIR CONSTRUCTION PERMIT

RECEIVED
NOV 2 0 1995

State of Florida
Department of Environmental Protection
Notice of Permit

In the matter of an
Application for Permit by:

DEP File No. AC 27-274892
PSD-FL-227
Hernando County

Mr. Joseph T. Piermatteo, Sr. Vice President
Florida Crushed Stone Company
10311 Cement Plant Road
Brooksville, Florida 34601

Enclosed is Permit Number AC 27-274892 (PSD-FL-227) to construct a second ~~83~~ 104.2 ton of clinker per hour cement plant. The project includes a dry process kiln with a preheater/precalciner, clinker cooler, crushers, raw mill, shaft dryer/heater, finish mill, material and fuel handling equipment, silos, ~~and~~ shipping facilities. The facility is located approximately 3.5 miles northwest of Brooksville, Hernando County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; 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 14 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this **NOTICE OF PERMIT** and all copies were mailed by certified mail before the close of business on 11-17-95 to the listed persons.

Clerk Stamp
FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk 11-17-95
Date

Copies furnished to:

cc: Jewell Harper, EPA
John Bunyak, NPS
Buck Oven, DEP
Bill Thomas, SWD
Doug Beason, DEP
Lawrence Jennings, Hernando County
Don Elias, RTP Env. Assoc.
Lawrence Curtin, H&K
Tom Mountain, FCS

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
Florida Crushed Stone Company
10311 Cement Plant Road
Brooksville, FL 34601

Permit Number: AC 27-274892
PSD-FL-227
Expiration Date: 11/30/98
Project: No. 2 Cement Kiln and Associated Equipment

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4, 62-210 through 297. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

shaft dryer/heater, 104.2 at

For the construction of a second portland cement kiln a maximum clinker production capacity of ~~83~~ tons per hour (TPH) and associated equipment consisting of a clinker cooler, ~~Cepol~~ preheater, raw mill, finish mill, conveyers, transport systems, feed systems, and raw material and product silos, bins and hoppers. The cement kiln will be preheated with fuel oil and/or natural gas, fired with coal as the main fuel, and burn whole tires as supplemental fuel. and precalciner

precalciner

The shaft dryer heater will be fired with fuel oil. , tire derived fuel, and/or natural gas

The Florida Crushed Stone (FCS) facility is located approximately 3.5 miles northwest of Brooksville, Hernando County, Florida. The UTM coordinates of this facility are Zone 17, 360.0 km East and 3162.5 km North.

The project shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

<u>**Attachments are listed below:**</u>

1. Application received March 13, 1995.
2. Department's letters dated April 21, memo dated June 16, letter dated August 3, August 10, and October 11, 1995.
3. RTP Environmental Associates letters dated March 21, May 10, May 19, July 11, July 17, August 11, August 22, September 5, September 7, September 12, September 14, and October 24, 1995.
4. EPA's letters dated June 15, and November 2, 1995.
5. Hernando County Planning Department's letter dated April 28, June 5, and August 11, 1995.

GENERAL CONDITIONS:

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 any 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 of 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.

GENERAL CONDITIONS:

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 any 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,

GENERAL CONDITIONS:

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 17-4.120 and 17-730.300, 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:

(x) Determination of Best Available Control Technology (BACT) - **Attached and made a condition of this permit**
(x) Determination of Prevention of Significant Deterioration (PSD)
(x) Compliance with New Source Performance Standards (NSPS)

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 for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;

GENERAL CONDITIONS:

- the analytical techniques or methods used; and
- 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.

SPECIFIC CONDITIONS:

1. The construction and operation of the No. 2 kiln and associated equipment shall comply with all applicable provisions of Chapter 403, F.S., Chapters 62-4, 62-210 through 297, F.A.C., and 40 CFR 60 (1994 version).

2. Unless otherwise indicated, the construction and operation of the No. 2 cement kiln and associated equipment shall be in accordance with the capacities and specifications stated in the application. The facility shall comply with all applicable requirements of 40 CFR 60, Subpart A, Appendix A and Appendix B (1994 version); Subpart F - Standards of Performance for Portland Cement Plants which are adopted by reference in Rule 62-296.800(2)(a), F.A.C.

3. The No. 2 kiln clinker production rate shall not exceed ~~83.0~~ 104.2 tons per hour (TPH), ~~1992~~ 2500 tons per day (TPD) and ~~727,080~~ 912,500 tons per year (TPY) based upon 8,760 hours of operation per year. The permitted maximum preheater feed is ~~138.0~~ 173.2 TPH, which is equivalent to a maximum kiln feed rate of ~~127.0~~ 159.4 TPH. [Rule 62-212.200(58), F.A.C.]

4. Fuels fired in No. 2 kiln and precalciner shall not exceed a total heat input rate of ~~303~~ 325 MMBtu/hr and shall consist <u>only</u> of:

   a. Coal and whole tires, tire derived fuel (shredded tires), and natural gas for normal operation.

   b. Natural gas, all grades (~~mee~~ting 1.5% sulfur limit) of virgin fuel oil, and/or ~~and~~ or blends (meeting 1.5% sulfur limit) of virgin fuel o~~il and~~ on-spec used oils for startup.

5. The coal usage rate shall not exceed ~~10.3~~ 13.8 TPH or ~~90,228~~ 120,888 TPY based on continuous operation.

6. Whole tires and tire derived fuel ~~may~~ be fed continuously at the kiln inlet at the base of the ~~preheater~~ precalciner at a rate not to exceed ~~45~~ 48.75 MMBtu/hr (15% of total kiln and precalciner fuel input) or ~~1.33~~ 1.44 TPH and ~~11,039~~ 11,952 tons per year based on 8300 hours per year.

Fuels fired in the Shaft dryer heater shall not exceed a total heat input of 30 MMBTU/hr and shall consist only of all grades of virgin fuel oil (meeting 1.5% sulfur limit) for startup and normal operation.

7. Before initiating tire firing, the gases exiting the kiln ~~ahead of the preheater~~ shall reach a minimum temperature of 1400 degrees F for one hour and the oxygen level in the kiln, as measured at the cement plant induced draft fan, shall reach at least 3 percent (1-hour average). Upon reaching steady state conditions, and within 6 hours, gases exiting the kiln shall be maintained at an outlet temperature of at least 1750 degrees F.

8. The sulfur content of the fuel oil blend shall not exceed 1.5% by weight. The constituents and properties of the on-spec used oil shall comply with the following allowable concentration levels, as stipulated and defined in 40 CFR 266.40 (July 1, 1992 version), which is adopted by reference in Rule 62-730.181, Florida Administrative Code (F.A.C.):

Constituent/Property	Allowable Concentration
Cadmium	2 ppm maximum
Arsenic	5 ppm maximum
Chromiun	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash Point	140 F minimum
Polychlorinated Byphenyls (PCBs)	Less than 2 ppm

9. On-spec used oil to be blended and burned at this facility shall not be a hazardous waste as defined by Rule 62-730.030, F.A.C., or 40 CFR Part 261 (July 1, 1992 version). It shall not include fuels or blended fuels consisting in whole or in part of hazardous waste or which include mixture of any solid waste generated from the treatment, storage, or disposal of hazardous waste. The on-spec used oil shall be burned in compliance with Section 403.769(3), Florida Statutes.

10. The on-spec used oil to be blended with the unused fuel oil in the cement kiln fuel storage tank shall be obtained only from the used oil storage tanks located at the FCS Greg Mine and CPL Plant. The used oil sample from Specific Conditions No. ~~12~~ 8 and 31 shall be analyzed for the following constituent/property, associated unit, and using the test methods indicated:

Constituent/Property	Unit	Test Method
Cadmium	ppm	EPA SW-846(6010)
Arsenic	ppm	EPA SW-846(6010)
Chromium	ppm	EPA SW-846(6010)
Lead	ppm	EPA SW-846(6010)
Total Halogens	ppm	EPA SW-846(9252)
Sulfur	percent	ASTM D129 or ASTM D1552

Flash Point	Degree F	EPA SW-846(~~6010~~ 1010)
Heat of Combustion	Btu/gal	~~EPA SW-846(1010)~~
Density	lbs/gal	ASTM D240 —
Polychlorinated Byphenyls (PCB's)	ppm	—

NOTE: Other test methods may be used only after receiving written prior approval from the Department.

11. The maximum on-specification used oil concentration in the final storage tank blend of on-specification used oil and purchased unused oil shall not exceed 15 percent by volume.

12. The maximum allowable, shaft dryer heater, emission rates for the No. 2 kiln, clinker cooler, raw mill and preheater/precalciner shall not exceed the limits listed in Table II.

13. The permittee shall not cause or allow to be discharged into the atmosphere visible emissions which exceed the limits listed in

Table I. In accordance with Rule 62-297.620(4), minor particulate sources equipped with baghouses with visible emissions which are greater than or equal to 5 percent opacity shall require the permittee to perform a stack test in accordance with approved methods to verify compliance with the 0.01 gr/dscf emission limit contained in Table I.

14. Compliance with the allowable emission limiting standards listed in Tables I and II shall be determined within 60 days after achieving the maximum production rate at which this plant will be operated, but not later than 180 days of initial operation, and annually (where specified) thereafter, by using the following reference methods as described in 40 CFR 60, Appendix A (1994 version) and 40 CFR 61 Appendix B 1994 version) adopted by reference in Chapter 62-297, F.A.C.

Method 5	Determination of Particulate Matter Emissions from Stationary Sources (I) and (A).
Method 8	Determination of Sulfuric Acid Mist from Stationary Sources (I).
Method 9	Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 10	Determination of Carbon Monoxide Emissions from Stationary Sources (I) and (A).
Method 22	Visual Determination of Fugitive Emissions from Material Sources (I) and (A).
Method 25	Determination of Volatile Organic Compound Emissions from Stationary Sources (I).

PERMITTEE:
Florida Crushed Stone

Permit Number: AC 27-274892
Expiration Date: 11/30/98

Method 29 Determination of Lead, Cadmium, and Mercury from Stationary Sources (proposed) (I).
Method 104 Determination of Beryllium Emissions from Stationary Sources (I).

precalciner shaft dryer/heater,

15. Emission testing shall be performed at the No. ~~2~~ kiln/cooler stack during a period when the No. 2 kiln, cooler, raw Mill and preheater are operating simultaneously and under normal operating conditions. The measured emission rates will be the combined rates from the kiln and clinker cooler determined at the stack. The Initial (I) compliance test shall be performed within 180 days of start up. Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.340, F.A.C.

16. EPA-reference methods for sampling pollutants shall consist~~ing~~e of 3 consecutive test runs, each of one hour duration, shall be performed on the common kiln/cooler stack for each pollutant specified in Tables I and II.

17. Stack sampling facilities shall be installed in accordance with Rule 62-297.345, F.A.C.

18. The DEP may request a special compliance test pursuant to Rule 62-297.340(2), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission limit is being violated.

19. The Department's Southwest District office shall be notified 30 days prior to any compliance test to allow witnessing. Results of the tests shall be submitted to the Department's Southwest Florida District office within 45 days after testing.

20. Testing of emissions shall be conducted with the emission unit operating at capacity (85% coal and 15% tires). Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the unit may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit.

21. Continous monitoring equipment shall be installed, operated, and used to determine compliance for NOx and SO2. Continuous emission monitors must be installed and certified, before the

initial performance test, and operated in compliance with 40 CFR 60, Appendix F, Quality Assurance Procedures (1994 version) or other Department approved QA plan; 40 CFR 60 Appendix B, Performance Specification 1, 2, and 3 (1994 version).

22. Continuous opacity monitors shall be installed, operated, and maintained at the common kiln/cooler stack pursuant to 40 CFR 60.63.

23. Continuous monitors shall be installed for CO or O_2 to insure proper combustion practices and for use in determining plant operating parameters to optimize emissions of CO, NO_x, and SO_2.

24. Reasonable precautions to prevent fugitive particulate emissions during construction, such as coating of roads and construction sites used by contractors, and regrassing or watering areas of disturbed soils, will be taken by the permittee. These provisions are applicable to any source, including but not limited to vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. At all times, 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 pursuant to Rule 62-296.310(3), F.A.C.- Unconfined Emissions of Particulate Matter.

25. Particulate emissions from coal handling facilities related to the No. 2 kiln shall be minimized by following the procedures listed below: [Rule 62-296.310(3)]

a. All conveyers and transfer points shall be enclosed to preclude particulate emissions (except those directly associated with coal stacking/reclaiming).

b. Coal storage piles shall be shaped, compacted and oriented to minimize wind erosion.

c. Water sprays or chemical wetting agents and stabilizers shall be applied to storage piles, handling equipment, etc, during dry periods and as necessary to all facilities to maintain an opacity of less than 5 percent, except when adding, moving or removing coal from the coal pile, during which the opacity shall be no more than 20%.

26. The part of the fly ash handling system related to the No. 2 kiln (including transfer equipment, flyash bin, and pneumatic system exhaust) will be totally enclosed and vented through fabric filters.

27. In order to document compliance with Specific Condition No. 6:

a. A log shall be established and maintained for the hours of operation using tires as supplemental fuels. The log shall include the daily tire usage (hours) as supplemental fuel at the facility, a monthly running total of the tire usage (hours), and a cumulative 12 month running total (hours), to ensure that the annual limit is not exceeded. The log shall be maintained on file for at least five (5) years and shall be made available to the Department upon request.

b. A log that includes the date of all tire deliveries to the facility, and the total quantity (nearest 0.1 tons) of tires received.

and precalciner *1.44* *of*

c. A tire usage-control system shall be installed to assure that the tire usage as supplemental fuel at the facility does not exceed the maximum *14* 15% of the total Btu heat input to the No. 2 kiln or ~~1.33~~ tons per hour. The control system shall include a verification method and a log that insures and documents that the tires usage and heat input limits are not exceeded.

d. A log for the utilization rate (tons per hour) of tires. The utilization rate of tires as supplemental fuel shall be determined by a continuous weighing method and shall be recorded.

e. The logs shall be maintained on file for at least five (5) years and shall be made available to the Department upon request.

28. FCS shall record, as a minimum, the daily dry feed rate into the No. 2 kiln (TPH), and the clinker production rate. The above records shall be retained for a period of five (5) years and made available to the Department upon request.

29. In order to document compliance with Specific Condition No. 5, a coal usage control system shall be established to assure that the coal usage does not exceed a maximum of ~~10.3~~ *13.8* TPH.

30. In order to document compliance with Specific Conditions No. 8 through 11, the following used oil control system shall be used, as a minimum:

a. Record the transfer of used oil and unused oil to the blend tanks (dates and gallons).

b. Record the final blend quantities of on-spec used oil and unused oil (gallons)

c. Calculate and record the final percentage of on-spec used oil in the tank blend of on-spec used oil and unused oil, and verify that the percentage does not exceed 15.0 percent, by volume.

These records shall be maintained on file for at least five (5) years and shall be made available to the Department upon request. [Rule 62-4.070(3), F.A.C. and FCS letter on Used Oil Sampling].

31. Recordkeeping requirement when burning on-spec used oil shall be in accordance with 40 CFR 266.43 (b) and (6) (July 1, 1992 version). The results of each sample analysis shall be submitted to the Department Southwest District office and the Hernando County Planning offices within 30-days after a sample is taken. The dates and quantities of both on-spec purchased fuel oil transferred to the facility storage tank shall be reported quarterly (i.e., Jan-Mar, April-June, July-Sept, and Oct-Dec). The report is due in the month following the ending quarter. All records shall be kept for a minimum of five (5) years period for public and regulatory agency inspection.

32. All measurements, records, and other data required to be maintained by the permittee shall be reported to the Southwest District office on a quarterly basis with the start of commercial operation in accordance with 40 CFR 60.7. All measurements, records and other data required to be maintained by the permittee shall be retained for at least 5 years following the date on which such measurements, records, or data are recorded. The data shall be available to Department staff as requested. [40 CFR 60.7]

33. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (Rule 62-210.300(1), F.A.C.).

34 ~~33~~. Objectionable odors associated with air emissions from this facility shall be prohibited. [Rule 62-296.320]

35 ~~26~~. Pursuant to Rule 62-210.370(2), F.A.C., Annual Operating Reports, the permittee is required to submit annual reports to the Southwest District office by March 1 of each calendar year, on the actual operating rates and emissions from this facility. These reports shall include at a minimum the following:

a. the input process rate

b. total quantity (by weight) of tire used as supplemental fuel.

c. total coal, natural gas, and oil usage, and

d. regulated pollutant emission rates.

36 ~~37~~. The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Southwest District office of any delays in completion of the project which would affect the startup date by more than 90 days. [Rule 62-4.090, F.A.C.].

37 ~~38~~. An application for an operation permit must be submitted to the DEP's Southwest District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the permittee shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (Rules 62-4.055 and 62-4.220, F.A.C.).

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes

Howard L. Rhodes, Director
Division of Air Resources Management

BEST AVAILABLE COPY

Table I

Allowable Opacity Limits

Clinker Bin	Baghouse	2M-15	0.01	5

Description	Control	Emission Unit Equipment	Grain Loading (gr/dscf)	OPACITY
Emission Unit: Raw Material Processed Process Rate				
Material Processing (Fugitive)				10
Handling and Storage (Fugitive)				10
Emission Unit: Raw Mill System Process Rate = ~~127~~ 159.4 TPH Dry Feed				
~~Iron Ore Bin~~	~~Baghouse~~	~~2D-61~~	~~0.01~~	~~5~~
~~Fly Ash Bin~~	~~Baghouse~~	~~2D-64~~	~~0.01~~	~~5~~
Filter Dust Bin Transport	Baghouse	~~2D-72~~ 2E-67	0.01	5
Raw Meal Transport	Baghouse	2F-~~03~~ 02	0.01	5
~~Lime Silo Storage~~	~~Baghouse~~	~~2F-21~~	~~0.01~~	~~5~~
Raw Mill Storage and Homogenizing Silos	Baghouse	2G ~~2T~~-01	0.01	5
Emission Unit: Kiln Operations Process Rate = ~~303~~ 325 MMBTU/hr				
Kiln Feed System	Baghouse	2H-05, 2E-66	0.01	5
Kiln Main Stack	Baghouse	2E-40		10
Emission Unit: Finish Mill Process Rate = ~~83~~ 104.2 TPH Clinker				
Gypsum Storage Bin	Baghouse	2L-14	0.01	5
Clinker Transport	Baghouse	2L-03	0.01	5
Belt Conveyor	Baghouse	2M-~~08~~ 04	0.01	5
Finish Mill Discharge Vent	Baghouse	2N-02	0.01	5
Finish Mill Sepal Separator	Baghouse	2N-08	0.01	5
Clinker Storage Silo	Baghouse	2L-05	0.01	5
Emission Unit: Cement Handling Process Rate: ~~~90~~ ~115 TPH Portland Cement				
Cement Storage Silo A	Baghouse	~~2Q-01, 2Q-20~~ 2Q-18	0.01	5
Cement Storage Silo B	Baghouse	~~2Q-01, 2Q-20~~ 2Q-18	0.01	5
Cement Silo Discharge Hopper A	Baghouse	~~2Q-01, 2Q-20~~ 2Q-28	0.01	5
Cement Silo Discharge Hopper B	Baghouse	2Q-38	0.01	5
Emission Unit: Coal Handling Process Rate = 10.3 TPH				
~~Coal Transport Conveyor~~	~~Baghouse~~	~~2S-03~~	~~0.01~~	~~5~~
~~Coal Storage Bin~~	~~Baghouse~~	~~2S-01~~	~~0.01~~	~~5~~
Coal Handling and Storage (Fugitive)				5/20
Coal Mill	Baghouse	2S-15	0.01	5
Coal Dust Bin	Baghouse	2S-20	0.01	5

Table II
Allowable Emissions
Main Stack

POLLUTANT	BACT EMISSION LIMIT lb/ton clinker	BACT EMISSION LIMIT lb/ton dry feed	EMISSION RATE lbs/hr	EMISSION RATE tons/yr	BASIS
PM/PM_{10} (kiln)	0.306 ~~0.310~~	0.200	31.875 ~~25.400~~	139.613 ~~111.250~~	BACT
PM/PM_{10} (cooler)	0.153 ~~0.150~~	0.100	15.938 ~~12.700~~	69.806 ~~55.620~~	BACT-NSPS
SO_2	0.230 ~~0.270~~	0.150 ~~0.176~~	23.958 ~~22.410~~	104.938 ~~98.156~~	BACT
NO_x*	2.800	1.830	291.667 ~~232.400~~	1277.500 ~~1017.912~~	BACT
CO	2.000	1.307	208.333 ~~166.000~~	912.500 ~~727.080~~	BACT
VOC	0.085 ~~0.100~~	0.056 ~~0.065~~	8.854 ~~8.300~~	38.781 ~~36.354~~	FCS/DEP
H_2SO_4	0.014	0.009	1.458 ~~1.162~~	6.388 ~~5.090~~	FCS DATA
Beryllium	8.50 ~~9.90~~E-07	5.56 ~~6.47~~E-07	8.85 ~~8.22~~E-05	3.88 ~~3.60~~E-04	FCS/DEP
Mercury	2.40E-05	1.57E-05	2.50 ~~1.99~~E-03	1.10E-2 ~~8.72E-03~~	FCS DATA
Lead	5.20E-04	3.40E-04	5.42 ~~4.32~~E-02	2.37 ~~1.89~~E-01	FCS DATA

Note: * FCS shall have up to 18 months after startup of commercial operation to achieve this standard.

PROPOSED REVISIONS TO
PPSA PERMIT

Includes typographical corrections given in
February 9, 1996 letter
from Tom Mountain, FCS to Buck Oven, FDEP

I. Air

A. Emission Limitations

1 -15. No change

16. Stack emissions from cement plant II shall not exceed the following site specific limitations for the cement kiln, clinker cooler, ~~raw~~ mill, shaft dryer heater, and ~~preheater~~ precalciner as given in Permit No. AC~~95~~27-274892:

(dry basis)	Emission Limits	MAX. ALLOWABLE EMISSIONS	
POLLUTANT	LBS/TON KILN FEED	LBS./HR.	TONS/YR.
Particulate (Cooler)	0.1	~~12.7~~ 15.9	~~55.6~~ 69.8
Particulate (Kiln)	0.2	~~25.4~~ 31.9	~~111.3~~ 139.6
SO_2	~~0.18~~ 0.15	~~22.4~~ 24.0	~~98.2~~ 104.9
NOx	1.83	~~232.4~~ 291.7	~~1018~~ 1277.5

The measured emission rates will be the combined rates from the Unit II cement kiln stack. Visible emissions shall not be equal to or greater than 10% opacity, also determined at the Unit II cement plant stack. Permit No. AC~~95~~27-274892 also specifies:

a. The raw and finished material feed rates and fuel types for cement plant II;

b. The operating conditions required for proper operation and startup/shutdown periods; and

c. The testing, monitoring, recordkeeping, and reporting requirements for cement plant II.

17. Minor source cement plant II particulate emissions due to the storage and/or use of raw materials, intermediate (cement kiln dust) and final (clinker) products will be controlled through the use of silos and/or covered conveyors equipped with fabric filter baghouses designed for outlet grain loading of 0.01 gr/~~acf~~ dscf. ~~A visible emission~~ reading of 5% opacity or less may be used to establish compliance with the ~~lb/hour~~ gr/dscf emission limits for each source given in the permits. A visible emission reading greater than 5% opacity will require the permittee to perform a stack test using EPA Methods contained in 40 CFR 60, Appendix A with minimum requirements for stack sampling facilities, source sampling and reporting in accordance with 62-297, FAC.

B. Air Monitoring Program

1. A flue gas oxygen meter shall be installed for the unit to continuously monitor a representative sample of the flue gas. The oxygen monitor shall be used with automatic feedback or manual controls to continuously maintain air/fuel ratio parameters at an optimum. Performance tests shall be conducted and operating procedures established. The document ~~☐~~ "Use of Flue Gas Oxygen Meter as BACT for Combustion Controls ~~☐~~ " may be used as a guide. The permittee shall install and operate continuous monitoring devices for the boiler/cement plant I exhaust for sulfur dioxide and opacity to demonstrate compliance with the pound-per-hour SO_2 emission limits and visible emission limits, respectively, in Conditions I.A.1.a and I.A.2.a. The monitoring devices shall meet the applicable requirements of Section 62-297.500, FAC. and 40 CFR 60.45, and 40 CFR 60.13. including certification of each device. The permittee will provide the department with 30 days notice on each certification.

H. Cement Kiln #2 , and its associated equipment, shall be constructed and operated in accordance with PSD FL ~~22.~~ 227

APPENDIX B

AIR PERMIT APPLICATION FORMS

Department of
Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Identification of Facility Addressed in This Application

1. Facility Owner/Company Name : Florida Crushed Stone Company	
2. Site Name : Florida Crushed Stone Company	
3. Facility Identification Number :	[X] Unknown
4. Facility Location : Florida Crushed Stone Company Street Address or Other Locator : 10311 Cement Plant Road City : Brooksville County : Hernando Zip Code : 34601-	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official : Name : Joseph T. Piermatteo Title : Senior Vice President
2. Owner or Authorized Representative or Responsible Official Mailing Address : Organization/Firm : Florida Crushed Stone Company Street Address : 10311 Cement Plant Road City : Brooksville State : FL Zip Code : 34601-____
3. Owner/Authorized Representative or Responsible Official Telephone Numbers : Telephone : (352)799-7881 Fax : (352)799-3508
4. Owner/Authorized Representative or Responsible Official Statement : *I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions units.* Joseph J. Piermatteo Signature Sept 9, 1996 Date

* Attach letter of authorization if not currently on file.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type
Unknown	Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)	AC1A
Unknown	Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)	AC1A
Unknown	Belt Conveyer, 2M-04 (vents to dust collector 2M-09)	AC1A
Unknown	Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)	AC1A
Unknown	Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)	AC1A
Unknown	Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)	AC1A
Unknown	Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16	AC1A
Unknown	Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17	AC1A
Unknown	Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)	AC1A
Unknown	Clinker Transport, 2L-03 (vents to dust collector 2L-16)	AC1A
Unknown	Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)	AC1A
Unknown	Clinker Bin, 2M-15 (vents to dust collector 2M-18)	AC1A
Unknown	Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)	AC1A
Unknown	Sepol Separator, 2N-08 (vents to dust collector 2N-20)	AC1A

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type
Unknown	Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13	AC1A
Unknown	Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14	AC1A
Unknown	kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill	AC1A
Unknown	Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)	AC1A

Purpose of Application and Category

Category I : All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain :

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number :

[ ] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed :

[ ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number :

Operation permit to be revised :

[ ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application.

Operation permit to be revised/corrected :

[ ] Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit.

Operation permit to be revised :

Reason for revision :

Category II : All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.

This Application for Air Permit is submitted to obtain :

[ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s) :

[ ] Renewal air operation permit under Fule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed :

[ ] Air operation permit revision for a synthetic non-Title V source.

Operation permit to be revised :

Reason for revision :

Category III : All Air Construction Permit Applications for All Facilities and Emissions Units

This Application for Air Permit is submitted to obtain :

[**X**] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any :

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s) :

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Application Processing Fee

Check one :

[ ] Attached - Amount : ________ [X] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations : Modification to existing construction permit AC-274892. Construction of a cement production facility. Design changes include incorporation of indirect fired kiln with indirect fired precalciner. Also, alterations to minor particulate sources.	
2. Projected or Actual Date of Commencement of Construction :	01-Oct-1996
3. Projected Date of Completion of Construction :	31-Mar-1998

Professional Engineer Certification

1. Professional Engineer Name : Larry Roberts Registration Number : 18040
2. Professional Engineer Mailing Address : Organization/Firm : Central Power and Lime, Inc. Street Address : 10311 Cement Plant Road City : Brooksville State : FL Zip Code : 34601-____
3. Professional Engineer Telephone Numbers : Telephone : (352)799-7881 Fax : (352)799-3508

4. Professional Engineer Statement :

*I, the undersigned, hereby certified, except as particularly noted herein***, that :*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollutant control equipment described in this Application for Air Permit, 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 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, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [ ] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct 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.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Larry Roberts
Signature

9/9/96
Date

* Attach any exception to certification statement.

LARRY ROBERTS
CERTIFICATE
No. 18040
STATE OF
FLORIDA
REGISTERED ENGINEER

Application Contact

1. Name and Title of Application Contact : Name : Tom W. Mountain Title : Environmental Manager
2. Application Contact Mailing Address : Organization/Firm : Florida Crushed Stone Company Street Address : 10311 Cement Plant Road City : Brooksville State : FL Zip Code : 34605-1508
3. Application Contact Telephone Numbers : Telephone : (352)799-7881 Fax : (352)799-3508

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility, Location, and Type

<table>
<tr><td colspan="4">1. Facility UTM Coordinates :
Zone : 17 East (km) : 360.00 North (km) : 3162.50</td></tr>
<tr><td colspan="4">2. Facility Latitude/Longitude :
Latitude (DD/MM/SS) : 28 34 55 Longitude (DD/MM/SS) : 82 25 52</td></tr>
<tr><td>3. Governmental Facility Code :
0</td><td>4. Facility Status Code :
A</td><td>5. Facility Major Group SIC Code :
32</td><td>6. Facility SIC(s) :
3241</td></tr>
<tr><td colspan="4">7. Facility Comment :</td></tr>
</table>

Facility Contact

<table>
<tr><td>1. Name and Title of Facility Contact :

Tom W. Mountain
Environmental Manager</td></tr>
<tr><td>2. Facility Contact Mailing Address :
Organization/Firm : Florida Crushed Stone Company
Street Address : 10311 Cement Plant Road
City : Brooksville State : FL Zip Code : 34601-____</td></tr>
<tr><td>3. Facility Contact Telephone Numbers :
Telephone : (352)799-7881 Fax : (352)799-3508</td></tr>
</table>

Facility Regulatory Classifications

1. Small Business Stationary Source?	N
2. Title V Source?	Y
3. Synthetic Non-Title V Source?	N
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	Y
5. Synthetic Minor Source of Pollutants Other than HAPs?	N
6. Major Source of Hazardous Air Pollutants (HAPs)?	N
7. Synthetic Minor Source of HAPs?	N
8. One or More Emissions Units Subject to NSPS?	Y
9. One or More Emission Units Subject to NESHAP?	N
10. Title V Source by EPA Designation?	Y
11. Facility Regulatory Classifications Comment :	

B. FACILITY REGULATIONS

Rule Applicability Analysis

Not Applicable

B. FACILITY REGULATIONS

List of Applicable Regulations

40 CFR 50, National Primary and Secondary Ambient Air Quality Standards

40 CFR 52, Subpart K Approval and Promulgation of Implementation Plans, Florida

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

40 CFR 64, Compliance Assurance Monitoring (proposed)

62-103 FAC, Rules of Administrative Procedure

62-204 FAC, Air Pollution Control General Provisions

62-213 FAC, Operation Permits for Major Sources of Air Pollution

62-4 FAC, Permits

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification

D. FACILITY POLLUTANT DETAIL INFORMATION

Pollutant ________

D. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location :	See Prior App.
2. Facility Plot Plan :	Attachment 1
3. Process Flow Diagram(s) :	Attachment 2
4. Precautions to Prevent Emissions of Unconfined Particulate Matter :	See Prior App.
5. Fugitive Emissions Identification :	See Prior App
6. Supplemental Information for Construction Permit Application :	See main report

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities :
8. List of Equipment/Activities Regulated under Title VI :
9. Alternative Methods of Operation :
10. Alternative Modes of Operation (Emissions Trading) :
11. Identification of Additional Applicable Requirements :
12. Compliance Assurance Monitoring Plan :
13. Risk Management Plan Verification :
14. Compliance Report and Plan :
15. Compliance Certification (Hard-copy Required) :

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 1

kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 2

Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 4

Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

   [X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   [ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

   [X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 7

Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 10

Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

<u>Type of Emissions Unit Addressed in This Section</u>

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 11

Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 12

Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 13

Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 14

Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 15

Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

   [X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   [ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

   [X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 17

Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 18

Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 1

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

Emissions Unit Information Section 3

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

Emissions Unit Information Section 4

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

Emissions Unit Information Section 5

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

<u>Emissions Unit Description and Status</u>

1. Description of Emissions Unit Addressed in This Section : Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

Emissions Unit Information Section 6

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Clinker Transport, 2L-03 (vents to dust collector 2L-16)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

Emissions Unit Information Section 8

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Clinker Bin, 2M-15 (vents to dust collector 2M-18)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Belt Conveyer, 2M-04 (vents to dust collector 2M-09)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Sepol Separator, 2N-08 (vents to dust collector 2N-20)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

Emissions Unit Information Section 13

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

<u>Emissions Unit Description and Status</u>

1. Description of Emissions Unit Addressed in This Section : Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)		
2. Emissions Unit Identification Number : [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 32
6. Emissions Unit Comment :		

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Emissions Unit Control Equipment 1

1. Description : Main Facility Baghouse #2E-40
2. Control Device or Method Code : 16

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Emissions Unit Control Equipment 2

1. Description : Chloride and Alkaline Bypass Baghouse #2K-07
2. Control Device or Method Code : 16

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Emissions Unit Control Equipment 3

1. Description : Flue Gas Alkalinety
2. Control Device or Method Code :

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Emissions Unit Control Equipment 4

1. Description : Staged Combustion	
2. Control Device or Method Code :	25

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Emissions Unit Control Equipment 5

1. Description : High Temperature Combustion
2. Control Device or Method Code :

Emissions Unit Information Section 2
Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2D-75
2. Control Device or Method Code : 17

Emissions Unit Information Section 3
Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

<u>Emissions Unit Control Equipment</u> 1

1. Description :	
Baghouse dust collector #2F-14	
2. Control Device or Method Code :	17

Emissions Unit Information Section 4
Raw Mill Storage & Homogenizing Silos ~~2G-01~~ (vents to 2G-12)

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2G-12	
2. Control Device or Method Code :	17

Emissions Unit Information Section 5
Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

<u>Emissions Unit Control Equipment</u> 1

1. Description : Baghouse dust collector #2H-15	
2. Control Device or Method Code :	17

Emissions Unit Information Section 6
Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

<u>Emissions Unit Control Equipment</u> 1

1. Description : Baghouse dust collector #2L-08
2. Control Device or Method Code : 18

Emissions Unit Information Section 7
Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2L-16
2. Control Device or Method Code : 16

Emissions Unit Information Section 8
Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2L-06
2. Control Device or Method Code : 16

Emissions Unit Information Section 9
Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2M-18	
2. Control Device or Method Code :	17

Emissions Unit Information Section 10
Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2M-09	
2. Control Device or Method Code :	17

<u>Emissions Unit Control Equipment</u> 1

1. Description : Baghouse dust collector #2N-13
2. Control Device or Method Code : 17

Emissions Unit Information Section 12
Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2N-20/23	
2. Control Device or Method Code :	18

Emissions Unit Information Section 13
Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2Q-13	
2. Control Device or Method Code :	17

Emissions Unit Information Section 14
Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2Q-14
2. Control Device or Method Code : 17

Emissions Unit Information Section 15
Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2Q-16
2. Control Device or Method Code : 17

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2Q-17	
2. Control Device or Method Code :	17

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

<u>Emissions Unit Control Equipment</u> 1

1. Description : Baghouse dust collector #2S-17/19	
2. Control Device or Method Code :	17

Emissions Unit Information Section 18
Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Emissions Unit Control Equipment 1

1. Description : Baghouse dust collector #2S-21	
2. Control Device or Method Code :	17

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Emissions Unit Details

1. Initial Startup Date :	
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer : Polysius	Model Number : N/A
4. Generator Nameplate Rating : MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	355	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :	104	tons clinker/hr	
5. Operating Capacity Comment : Maximum clinker production rate is 104-1/6 tons clinker/hr. The total heat input is the sum of the heat inputs to three burners. The heat input to the shaft dryer is 30 mmBtu/hour. The total heat input to the kiln and precalciner is 325 mmBtu/hr.			

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	24	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	234	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 4

Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Emissions Unit Details

1. Initial Startup Date :
2. Long-term Reserve Shutdown Date :
3. Package Unit : Manufacturer : Not Applicable Model Number :
4. Generator Nameplate Rating : MW
5. Incinerator Information : Dwell Temperature : Degrees Fahrenheit Dwell Time : Seconds Incinerator Afterburner Temperature : Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	170	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	170	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	150	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 7
Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Emissions Unit Details

1. Initial Startup Date :
2. Long-term Reserve Shutdown Date :
3. Package Unit : Manufacturer : Not Applicable Model Number :
4. Generator Nameplate Rating : MW
5. Incinerator Information : Dwell Temperature : Degrees Fahrenheit Dwell Time : Seconds Incinerator Afterburner Temperature : Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	100	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	100	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	114	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10
Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Emissions Unit Details

1. Initial Startup Date :	
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer : Not Applicable	Model Number :
4. Generator Nameplate Rating : MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	120	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 11
Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	195	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 12
Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Emissions Unit Details

1. Initial Startup Date :	
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer : Not Applicable	Model Number :
4. Generator Nameplate Rating : MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	195	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 13

Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	150	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 14

Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	150	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 15
Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	540	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Emissions Unit Details

1. Initial Startup Date :	
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer : Not Applicable	Model Number :
4. Generator Nameplate Rating : MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	540	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	18	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 18

Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Emissions Unit Details

1. Initial Startup Date :		
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : Not Applicable		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	17	Tons/Hour
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 1

kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 2

Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 4

Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 7

Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 9
Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 10

Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 11
Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 12

Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 13
Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

<u>Rule Applicability Analysis</u>

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 14
Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 15

Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 16
Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Rule Applicability Analysis

Not Applicable

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 18

Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Rule Applicability Analysis

Not Applicable

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

List of Applicable Regulations

40 CFR 50, National Primary and Secondary Ambient Air Quality Standards

40 CFR 52, Subpart K, Approval and Promulgation of Implementation Plans, Florida

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

40 CFR 64, Compliance Assurance Monitoring (proposed)

62-4 FAC, Permits

62-103 FAC, Rules of Administrative Procedure

62-204 FAC, Air Pollution Control - General Provisions

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources, Preconstruction Review

62-213 FAC, Operation Permits for Major Sources of Air Pollution

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 4
Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

List of Applicable Regulations

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

Emissions Unit Information Section 5
Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 7
Clinker Transport, 2L-03 (vents to dust collector 2L-16)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 8
Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 10
Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 12
Sepol Separator, 2N-08 (vents to dust collector 2N-20)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 13
Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 15
Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 16
Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

List of Applicable Regulations

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

Emissions Unit Information Section 18
Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

List of Applicable Regulations

62-210 FAC, Stationary Sources - General Requirements

62-212 FAC, Stationary Sources - Preconstruction Review

62-296 FAC, Stationary Sources - Emission Standards

62-297 FAC, Stationary Sources - Emissions Monitoring

40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 1

kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 2 & 4, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Emissions from the cement kiln, clinker cooler, raw mill system, preheater, precalciner and shaft dryer all exhaust out a single stack		
5. Discharge Type Code :	V	
6. Stack Height :	320	feet
7. Exit Diameter :	14.0	feet
8. Exit Temperature :	258	°F
9. Actual Volumetric Flow Rate :	312523	acfm
10. Percent Water Vapor :	12.00	%
11. Maximum Dry Standard Flow Rate :	202243	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack exit temperature, flow rate and percent moisture are worst case operating conditions with respect to modeling. At nominal conditions, representative values for flow rate and exhaust temperature would be: 405,381 ACFM, 305 deg. F, 246,217 dSCFM		

See attached document for further discussion.

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 2

Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 3, Attachment 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	102	feet
7. Exit Diameter :	1.7	feet
8. Exit Temperature :	200	°F
9. Actual Volumetric Flow Rate :	4500	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	3528	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 2 & 3, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	30	feet
7. Exit Diameter :	1.4	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	3000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	2426	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 4

Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 3, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	219	feet
7. Exit Diameter :	3.3	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	17000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	13745	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 3, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	73	feet
7. Exit Diameter :	2.1	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	7200	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	5821	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 5, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	110	feet
7. Exit Diameter :	1.6	feet
8. Exit Temperature :	95	°F
9. Actual Volumetric Flow Rate :	4000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	3729	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 7

Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : Sht 5, Att 2.		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	32	feet
7. Exit Diameter :	1.6	feet
8. Exit Temperature :	240	°F
9. Actual Volumetric Flow Rate :	4000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	2957	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 5, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	203	feet
7. Exit Diameter :	1.6	feet
8. Exit Temperature :	240	°F
9. Actual Volumetric Flow Rate :	4000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	2957	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 5, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	110	feet
7. Exit Diameter :	2.4	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	9000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	7277	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000	North (km) : 3162.500	
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 10

Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : Sht 5, Att 2		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	15	feet
7. Exit Diameter :	2.1	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	7000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	5660	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 11

Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 6, Att2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	123	feet
7. Exit Diameter :	5.0	feet
8. Exit Temperature :	212	°F
9. Actual Volumetric Flow Rate :	40000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	30800	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 12

Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 6, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	123	feet
7. Exit Diameter :	8.6	feet
8. Exit Temperature :	160	°F
9. Actual Volumetric Flow Rate :	115000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	95977	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 13

Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 7, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	203	feet
7. Exit Diameter :	2.1	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	7200	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	5821	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 14

Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 7, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	203	feet
7. Exit Diameter :	2.1	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	7200	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	5821	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 15

Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 7, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	30	feet
7. Exit Diameter :	1.4	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	3000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	2426	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000	North (km) : 3162.500	
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 7, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	30	feet
7. Exit Diameter :	1.4	feet
8. Exit Temperature :	180	°F
9. Actual Volumetric Flow Rate :	3000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	2426	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 17

Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 8, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	40	feet
7. Exit Diameter :	3.9	feet
8. Exit Temperature :	150	°F
9. Actual Volumetric Flow Rate :	24000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	20358	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 18

Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Sht 8, Att 2	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) Not Applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not Applicable		
5. Discharge Type Code :	V	
6. Stack Height :	40	feet
7. Exit Diameter :	1.1	feet
8. Exit Temperature :	150	°F
9. Actual Volumetric Flow Rate :	2000	acfm
10. Percent Water Vapor :	2.00	%
11. Maximum Dry Standard Flow Rate :	1697	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3162.500		
14. Emission Point Comment : Stack characteristics are at typical operating conditions		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 2

Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 24.00	5. Maximum Annual Rate : 209,419.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 234.00	5. Maximum Annual Rate : 1,517,232.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 4

Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 170.00	5. Maximum Annual Rate : 1,489,200.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 170.00	5. Maximum Annual Rate : 1,489,200.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 150.00	5. Maximum Annual Rate : 1,314,000.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 7

Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 100.00	5. Maximum Annual Rate : 876,000.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 100.00	5. Maximum Annual Rate : 876,000.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 114.00	5. Maximum Annual Rate : 912,500.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 10

Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 120.00	5. Maximum Annual Rate : 912,500.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 11

Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 195.00	5. Maximum Annual Rate : 912,500.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 12

Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, tons of material handled	
2. Source Classification Code (SCC) : 3-05-006-12	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 195.00	5. Maximum Annual Rate : 912,500.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 13

Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, cement silos, tons of cement produced	
2. Source Classification Code (SCC) : 3-05-006-18	
3. SCC Units : Tons Produced Or Manufactured	
4. Maximum Hourly Rate : 150.00	5. Maximum Annual Rate : 500,000.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 14

Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, cement silos, tons of cement produced	
2. Source Classification Code (SCC) : 3-05-006-18	
3. SCC Units : Tons Produced Or Manufactured	
4. Maximum Hourly Rate : 150.00	5. Maximum Annual Rate : 500,000.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 15

Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, cement load out, tons of cement produced	
2. Source Classification Code (SCC) : 3-05-006-19	
3. SCC Units : Tons Produced Or Manufactured	
4. Maximum Hourly Rate : 540.00	5. Maximum Annual Rate : 500,000.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, cement load out, tons of cement produced	
2. Source Classification Code (SCC) : 3-05-006-19	
3. SCC Units : Tons Produced Or Manufactured	
4. Maximum Hourly Rate : 540.00	5. Maximum Annual Rate : 500,000.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 17

Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, pulverized coal kiln feed units, tons processed	
2. Source Classification Code (SCC) : 3-05-006-21	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 18.00	5. Maximum Annual Rate : 120,888.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 18

Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : cement manufacturing, pulverized coal kiln feed units, tons processed	
2. Source Classification Code (SCC) : 3-05-006-21	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 16.50	5. Maximum Annual Rate : 120,888.00
6. Estimated Annual Activity Factor : 0.00	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 1

kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

<u>Segment Description and Rate :</u> Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Cement Manufacturing: Tons of Clinker Produced	
2. Source Classification Code (SCC) : 3-05-006-23	
3. SCC Units : Tons Produced Or Manufactured	
4. Maximum Hourly Rate : 104.20	5. Maximum Annual Rate : 912,500.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
3 - PM	016		EL
4 - PM10	016		EL
5 - CO			EL
6 - VOC			EL
7 - SAM			EL
8 - H021	016		EL
9 - H114	016		EL
10 - H110	016		EL
1 - NOX	025		EL
2 - SO2			EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 2

Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 3
Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 4

Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 5
Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 7
Clinker Transport, 2L-03 (vents to dust collector 2L-16)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	016		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	016		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 10
Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 11

Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 12
Sepol Separator, 2N-08 (vents to dust collector 2N-20)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 13
Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 14

Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 15
Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 18
Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	017		EL

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **NOX**				
2. Total Percent Efficiency of Control :		%		
3. Potential Emissions :	291.67	lb/hour	1,277.50	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:			to	tons/year
6. Emissions Factor : Reference : BACT analysis				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 2.8 lbs/ton clinker * 104-1/6 tons/hr = 291.667 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment : Please refer to permit application document for additional information.				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **SO2**				
2. Total Percent Efficiency of Control :		%		
3. Potential Emissions :	23.96	lb/hour	104.94	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:			to	tons/year
6. Emissions Factor : Reference : BACT analysis				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 0.23 lbs/ton clinker * 104-1/6 tons/hr = 23.958 lbs/hour				
9. Pollutant Potential/Estimated Emissions Comment : SO2 controlled by alkaline nature of cement kiln flue gas. Please refer to permit application document for additional information.				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 3

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : %	
3. Potential Emissions : 47.81 lb/hour 209.42 tons/year	
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to tons/year	
6. Emissions Factor : Reference : BACT analysis	
7. Emissions Method Code : 0	
8. Calculations of Emissions : 0.3 lbs/ton kiln feed * 159.375 tons kiln feed/hr = 47.813 lbs/hr	
9. Pollutant Potential/Estimated Emissions Comment : Please refer to permit application document for additional information.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 4

1. Pollutant Emitted : **PM10**				
2. Total Percent Efficiency of Control :		%		
3. Potential Emissions :	47.81	lb/hour	209.42	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:			to	tons/year
6. Emissions Factor : Reference : BACT analysis				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 0.3 lbs/ton kiln feed * 159.375 tons kiln feed/hr = 47.813 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment : Please refer to permit application document for additional detail				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 5

1. Pollutant Emitted : **CO**				
2. Total Percent Efficiency of Control :		%		
3. Potential Emissions :	208.33	lb/hour	912.50	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:			to	tons/year
6. Emissions Factor : Reference : BACT analysis				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 2 lb/ton clinker * 104-1/6 tons clinker/hr = 208.333 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment : Please refer to permit application document for additional information.				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 6

1. Pollutant Emitted : **VOC**				
2. Total Percent Efficiency of Control :	%			
3. Potential Emissions :	8.85	lb/hour	38.78	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT analysis				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 0.085 lbs/ton clinker * 104-1/6 tons clinker/hr = 8.854 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment : Please refer to permit application document for additional information.				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 7

1. Pollutant Emitted : **SAM**				
2. Total Percent Efficiency of Control :		%		
3. Potential Emissions :	1.46	lb/hour	6.39	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:			to	tons/year
6. Emissions Factor : Reference : BACT analysis				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 0.014 lbs/ton clinker * 104-1/6 tons clinker/hr = 1.458 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment : Please refer to permit application document for additional information.				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 8

1. Pollutant Emitted : **H021**				
2. Total Percent Efficiency of Control :	%			
3. Potential Emissions :	0.00	lb/hour	0.00	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT analysis				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 8.5E-07 lbs/ton clinker * 104-1/6 tons clinker/hr = 8.85E-5 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment : Actual emission unit emission rate is 8.85E-5 lbs/hr and 3.88E-4 tons/yr. Emission factor is 8.5E-7. This form limits the precision of the emission values input. Please refer to permit application document for additional information.				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 9

1. Pollutant Emitted : **H114**	
2. Total Percent Efficiency of Control : %	
3. Potential Emissions : 0.00 lb/hour 0.01 tons/year	
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to tons/year	
6. Emissions Factor : Reference : BACT analysis	
7. Emissions Method Code : 0	
8. Calculations of Emissions : 2.4E-5 lbs/ton clinker * 104-1/6 tons clinker/hr = 2.5E-3 lbs/hr	
9. Pollutant Potential/Estimated Emissions Comment : Actual emission unit emission rate is 2.50E-3 lbs/hr and 1.10E-2 tons/year. This form limits the precision of the emission values input. Please refer to permit application document for additional information.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Potential/Estimated Emissions : Pollutant 10

1. Pollutant Emitted : **H110**				
2. Total Percent Efficiency of Control :		%		
3. Potential Emissions :	0.05	lb/hour	0.24	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:			to	tons/year
6. Emissions Factor : Reference : BACT analysis				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 5.2E-4 lbs/ton clinker * 104-1/6 tons clinker/hr = 5.42E-2 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment : Actual emission unit emission rate is 5.42E-2 lbs/hr and 2.37E-1 tons/year. This form limits the precision of the emission values input. Please refer to permit application document for additional information.				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 2
Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90	%		
3. Potential Emissions :	0.30	lb/hour	1.32	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 3528 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.302 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 3
Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**
2. Total Percent Efficiency of Control : 99.90 %
3. Potential Emissions : 0.21 lb/hour 0.91 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : BACT determination
7. Emissions Method Code : 0
8. Calculations of Emissions : 2426 dSCFM * 60 min/hr * 0.01 gr/dSCF* 1lb/7000 gr = 0.208 lbs/hr
9. Pollutant Potential/Estimated Emissions Comment :

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 4
Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 99.90 %	
3. Potential Emissions : 1.18 lb/hour 5.16 tons/year	
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to tons/year	
6. Emissions Factor : Reference : BACT determination	
7. Emissions Method Code : 0	
8. Calculations of Emissions : 13745 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 1.178 lbs/hr	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90 %			
3. Potential Emissions :	0.50	lb/hour	2.19	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 5821 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.499 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90 %			
3. Potential Emissions :	0.32	lb/hour	1.40	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 3729 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.320 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 7

Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90 %			
3. Potential Emissions :	0.25	lb/hour	1.11	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 2957 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.253 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**
2. Total Percent Efficiency of Control : 99.90 %
3. Potential Emissions : 0.25 lb/hour 1.11 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : BACT determination
7. Emissions Method Code : 0
8. Calculations of Emissions : 2957 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.253 lbs/hr
9. Pollutant Potential/Estimated Emissions Comment :

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 99.90 %	
3. Potential Emissions : 0.62 lb/hour 2.73 tons/year	
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to tons/year	
6. Emissions Factor : Reference : BACT determination	
7. Emissions Method Code : 0	
8. Calculations of Emissions : 7277 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.624 lbs/hr	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 10
Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**
2. Total Percent Efficiency of Control : 99.90 %
3. Potential Emissions : 0.49 lb/hour 2.12 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : BACT determination
7. Emissions Method Code : 0
8. Calculations of Emissions : 5660 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.485 lbs/hr
9. Pollutant Potential/Estimated Emissions Comment :

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 11
Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90	%		
3. Potential Emissions :	2.64	lb/hour	11.56	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:			to	tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 30800 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 2.640 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

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H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 12
Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90	%		
3. Potential Emissions :	8.23	lb/hour	36.03	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 95977 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 8.227 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 13
Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90 %			
3. Potential Emissions :	0.50	lb/hour	2.19	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 5821 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.499 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 14

Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**
2. Total Percent Efficiency of Control : 99.90 %
3. Potential Emissions : 0.50 lb/hour 2.19 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : BACT determination
7. Emissions Method Code : 0
8. Calculations of Emissions : 5821 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.499 lbs/hr
9. Pollutant Potential/Estimated Emissions Comment :

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 15

Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90 %			
3. Potential Emissions :	0.21	lb/hour	0.91	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 2426 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.208 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 16
Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2.. Total Percent Efficiency of Control : 99.90 %	
3. Potential Emissions : 0.21 lb/hour 0.91 tons/year	
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to tons/year	
6. Emissions Factor : Reference : BACT determination	
7. Emissions Method Code : 0	
8. Calculations of Emissions : 2426 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.208 lbs/hr	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17719)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 99.90 %	
3. Potential Emissions : 1.75 lb/hour 7.64 tons/year	
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to tons/year	
6. Emissions Factor : Reference : BACT determination	
7. Emissions Method Code : 0	
8. Calculations of Emissions : 20358 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 1.745 lbs/hr	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 18
Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**				
2. Total Percent Efficiency of Control :	99.90 %			
3. Potential Emissions :	0.14	lb/hour	0.64	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:		to		tons/year
6. Emissions Factor : Reference : BACT determination				
7. Emissions Method Code : 0				
8. Calculations of Emissions : 1697 dSCFM * 60 min/hr * 0.01 gr/dSCF * 1lb/7000 gr = 0.145 lbs/hr				
9. Pollutant Potential/Estimated Emissions Comment :				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	2.80	lbs/ton clinker		
4. Equivalent Allowable Emissions :	291.67	lb/hour	1,277.50	tons/year
5. Method of Compliance : stack test and continuous emission monitoring.				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emission rate based on BACT analysis.				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 2

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.23	lbs/ton clinker		
4. Equivalent Allowable Emissions :	23.96	lb/hour	104.94	tons/year
5. Method of Compliance : Stack test and continuous emission monitor.				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emission rate based on BACT analysis.				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 3

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	RULE			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.30	lb/tn kiln feed		
4. Equivalent Allowable Emissions :	47.81	lb/hour	209.42	tons/year
5. Method of Compliance : stack test				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Emissions limited in 40 CFR Part 60, Subpart F.				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 4

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	RULE			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.30	lb/tn kiln feed		
4. Equivalent Allowable Emissions :	47.81	lb/hour	209.42	tons/year
5. Method of Compliance : emissions testing				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Emissions limited in 40 CFR Part 60, Subpart F.				

Emissions Unit Information Section 2
Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.30	lb/hour	1.32	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.21	lb/hour	0.91	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 4
Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Pollutant Information Section 1

<u>Allowable Emissions</u> 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	1.18	lb/hour	5.16	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.50	lb/hour	2.19	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 6
Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.32	lb/hour	1.40	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 7
Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.25	lb/hour	1.11	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.25	lb/hour	1.11	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 9
Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.62	lb/hour	2.73	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 10

Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.49	lb/hour	2.12	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 11
Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER
2. Future Effective Date of Allowable Emissions :	
3. Requested Allowable Emissions and Units :	0.01 gr/dSCF
4. Equivalent Allowable Emissions :	2.64 lb/hour 11.56 tons/year
5. Method of Compliance :	Visual Observation
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) :	Allowable emissions set by BACT determination.

Emissions Unit Information Section 12
Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	8.23	lb/hour	36.03	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 13
Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER
2. Future Effective Date of Allowable Emissions :	
3. Requested Allowable Emissions and Units :	0.01 gr/dSCF
4. Equivalent Allowable Emissions :	0.50 lb/hour 2.19 tons/year
5. Method of Compliance : Visual Observation	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.	

Emissions Unit Information Section 14
Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.50	lb/hour	2.19	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 15
Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.21	lb/hour	0.91	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 16
Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	0.21	lb/hour	0.91	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	gr/dSCF		
4. Equivalent Allowable Emissions :	1.75	lb/hour	7.64	tons/year
5. Method of Compliance : Visual Observation				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.				

Emissions Unit Information Section 18

Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code : OTHER	
2. Future Effective Date of Allowable Emissions :	
3. Requested Allowable Emissions and Units : 0.01 gr/dSCF	
4. Equivalent Allowable Emissions : 0.14 lb/hour 0.64 tons/year	
5. Method of Compliance : Visual Observation	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emissions set by BACT determination.	

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 5

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	2.00	lb/ton clinker		
4. Equivalent Allowable Emissions :	208.33	lb/hour	912.50	tons/year
5. Method of Compliance : stack test				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emission rate based on BACT analysis.				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 6

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.09	lbs/ton clinker		
4. Equivalent Allowable Emissions :	8.85	lb/hour	38.78	tons/year
5. Method of Compliance : stack test				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emission rate based on BACT analysis.				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 7

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.01	lbs/ton clinker		
4. Equivalent Allowable Emissions :	1.46	lb/hour	6.39	tons/year
5. Method of Compliance : stack test				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emission rate based on BACT analysis.				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 8

Allowable Emissions 1

1. Basis for Allowable Emissions Code :		OTHER		
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :		0.00	lbs/ton clinker	
4. Equivalent Allowable Emissions :	0.00	lb/hour	0.00	tons/year
5. Method of Compliance : stack test				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Allowable emission rate based on BACT analysis. The emission factor = 8.5E-7 lbs/ton clinker. The hourly emission rate = 8.85E-5 lbs/hr and 3.88 E-4 tons/yr. This form limits the precision of the input values.				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 9

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.00	lbs/ton clinker		
4. Equivalent Allowable Emissions :	0.00	lb/hour	0.01	tons/year
5. Method of Compliance : stack test				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : The emission factor is 2.4E-5 lbs/ton clinker. Emissions are 2.50E-3 lbs/hr and 1.10E-2 tons/year. Allowable emission rate based on BACT analysis.				

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Pollutant Information Section 10

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	OTHER
2. Future Effective Date of Allowable Emissions :	
3. Requested Allowable Emissions and Units :	0.00 lbs/ton clinker
4. Equivalent Allowable Emissions :	0.05 lb/hour 0.24 tons/year
5. Method of Compliance : stack test	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : The emission factor is 5.2E-4 lbs/ton clinker. Emissions are 5.42E-2 lbs/hr and 2.37E-1 tons/yr. Allowable emission rate based on BACT analysis.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	10
2. Basis for Allowable Opacity :	RULE
3. Requested Allowable Opacity : Normal Conditions : 10 % Exceptional Conditions : 10 % Maximum Period of Excess Opacity Allowed : min/hour	
4. Method of Compliance : Continuous Opacity Monitor	
5. Visible Emissions Comment : Visible emissions limit based on value allowed by NSPS 40 CFR 60 Subpart F.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
Normal Conditions :		5	%
Exceptional Conditions :		5	%
Maximum Period of Excess Opacity Allowed :		0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9			
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 3
Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

<u>Visible Emissions Limitation :</u> Visible Emissions Limitation 1

1. Visible Emissions Subtype : 5
2. Basis for Allowable Opacity : OTHER
3. Requested Allowable Opacity : Normal Conditions : 5 % Exceptional Conditions : 5 % Maximum Period of Excess Opacity Allowed : 0 min/hour
4. Method of Compliance : Visual Observation - EPA Method 9
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 4
Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5
2. Basis for Allowable Opacity :	OTHER
3. Requested Allowable Opacity : Normal Conditions : 5 % Exceptional Conditions : 5 % Maximum Period of Excess Opacity Allowed : 0 min/hour	
4. Method of Compliance : Visual Observation - EPA Method 9	
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 5
Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
Normal Conditions :	5	%	
Exceptional Conditions :	5	%	
Maximum Period of Excess Opacity Allowed :	0	min/hour	
4. Method of Compliance : Visual Observation - EPA Method 9			
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 6
Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5	
2. Basis for Allowable Opacity :	OTHER	
3. Requested Allowable Opacity : Normal Conditions : Exceptional Conditions : Maximum Period of Excess Opacity Allowed :	 5 5 0	 % % min/hour
4. Method of Compliance : Visual Observation - EPA Method 9		
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 7
Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype : 5		
2. Basis for Allowable Opacity : OTHER		
3. Requested Allowable Opacity :		
Normal Conditions :	5	%
Exceptional Conditions :	5	%
Maximum Period of Excess Opacity Allowed :	0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9		
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 8
Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
Normal Conditions :		5	%
Exceptional Conditions :		5	%
Maximum Period of Excess Opacity Allowed :		0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9			
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 9
Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
	Normal Conditions :	5	%
	Exceptional Conditions :	5	%
	Maximum Period of Excess Opacity Allowed :	0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9			
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10
Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5	
2. Basis for Allowable Opacity :	OTHER	
3. Requested Allowable Opacity :		
Normal Conditions :	5	%
Exceptional Conditions :	5	%
Maximum Period of Excess Opacity Allowed :	0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9		
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 11
Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
	Normal Conditions :	5	%
	Exceptional Conditions :	5	%
	Maximum Period of Excess Opacity Allowed :	0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9			
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 12
Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
Normal Conditions :	5	%	
Exceptional Conditions :	5	%	
Maximum Period of Excess Opacity Allowed :	0	min/hour	
4. Method of Compliance : Visual Observation - EPA Method 9			
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 13
Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

<u>Visible Emissions Limitation :</u> Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
Normal Conditions :		5	%
Exceptional Conditions :		5	%
Maximum Period of Excess Opacity Allowed :		0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9			
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 14
Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
Normal Conditions :		5	%
Exceptional Conditions :		5	%
Maximum Period of Excess Opacity Allowed :		0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9			
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 15
Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5	
2. Basis for Allowable Opacity :	OTHER	
3. Requested Allowable Opacity :		
Normal Conditions :	5	%
Exceptional Conditions :	5	%
Maximum Period of Excess Opacity Allowed :	0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9		
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 16
Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5
2. Basis for Allowable Opacity :	OTHER
3. Requested Allowable Opacity : Normal Conditions : 5 % Exceptional Conditions : 5 % Maximum Period of Excess Opacity Allowed : 0 min/hour	
4. Method of Compliance : Visual Observation - EPA Method 9	
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5		
2. Basis for Allowable Opacity :	OTHER		
3. Requested Allowable Opacity :			
Normal Conditions :		5	%
Exceptional Conditions :		5	%
Maximum Period of Excess Opacity Allowed :		0	min/hour
4. Method of Compliance :			
Visual Observation - EPA Method 9			
5. Visible Emissions Comment :			
Visible emissions limit set by BACT determination.			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 18
Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	5	
2. Basis for Allowable Opacity :	OTHER	
3. Requested Allowable Opacity :		
Normal Conditions :	5	%
Exceptional Conditions :	5	%
Maximum Period of Excess Opacity Allowed :	0	min/hour
4. Method of Compliance : Visual Observation - EPA Method 9		
5. Visible Emissions Comment : Visible emissions limit set by BACT determination.		

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code : O2	2. Pollutant :
3. CMS Requirement : OTHER	
4. Monitor Information : Manufacturer : To be determined. Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Monitor installation required by Florida DEP in accordance with 62-4.070 FAC. Installation and test dates to be determined.	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Continuous Monitoring System : Continuous Monitor 2

1. Parameter Code : VE	2. Pollutant :
3. CMS Requirement : RULE	
4. Monitor Information : Manufacturer : To be determined. Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Continuous opacity monitor installation required by 40 CFR 60, Subpart F. Installation and test dates to be determined.	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Continuous Monitoring System : Continuous Monitor 3

1. Parameter Code : EM	2. Pollutant : NOX
3. CMS Requirement : RULE	
4. Monitor Information : Manufacturer : To be determined. Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : NOx CEM required by Florida DEP in accordance with 62-4.070 FAC. Installation and test dates to be determined at a later date.	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Continuous Monitoring System : Continuous Monitor 4

1. Parameter Code : EM	2. Pollutant : SO2
3. CMS Requirement : RULE	
4. Monitor Information : Manufacturer : To be determined. Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : SO2 CEM required by Florida DEP in accordance with 62-4.070 FAC. Installation and performance test dates to be determined at a later date.	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Continuous Monitoring System : Continuous Monitor 5

1. Parameter Code : FLOW	2. Pollutant :
3. CMS Requirement : OTHER	
4. Monitor Information : Manufacturer : To be determined. Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Installation and test date to be determined at a later date.	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 3
Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 4
Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 6
Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 7
Clinker Transport, 2L-03 (vents to dust collector 2L-16)

<u>Continuous Monitoring System :</u> Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 8
Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10
Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 11

Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 12
Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 13
Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 14
Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 15
Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 17
Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 18
Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : Not Applicable	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :				
PM : C		SO2 :		NO2 :
4. Baseline Emissions :				
PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year
5. PSD Comment :				

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :

PM :	C	SO2 :		NO2 :	

4. Baseline Emissions :

PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year

5. PSD Comment :

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 10

Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :					
PM : C		SO2 :		NO2 :	
4. Baseline Emissions :					
PM :	0.0000	lb/hour		0.0000	tons/year
SO2 :		lb/hour			tons/year
NO2 :					tons/year
5. PSD Comment :					

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 11

Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :				
PM : C		SO2 :		NO2 :
4. Baseline Emissions :				
PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year
5. PSD Comment :				

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 2

Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :				
PM : C		SO2 :	NO2 :	
4. Baseline Emissions :				
PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year
5. PSD Comment :				

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[**X**] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :						
PM :	C	SO2 :		NO2 :		
4. Baseline Emissions :						
PM :	0.0000	lb/hour		0.0000	tons/year	
SO2 :		lb/hour			tons/year	
NO2 :					tons/year	
5. PSD Comment :						

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 15

Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :

PM :	C	SO2 :		NO2 :	

4. Baseline Emissions :

PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year

5. PSD Comment :

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :					
PM : C		SO2 :		NO2 :	
4. Baseline Emissions :					
PM :	0.0000	lb/hour		0.0000	tons/year
SO2 :		lb/hour			tons/year
NO2 :					tons/year
5. PSD Comment :					

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 17

Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :					
PM : C		SO2 :		NO2 :	
4. Baseline Emissions :					
PM :	0.0000	lb/hour	0.0000	tons/year	
SO2 :		lb/hour		tons/year	
NO2 :				tons/year	
5. PSD Comment :					

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 7

Clinker Transport, 2L-03 (vents to dust collector 2L-16)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :				
PM : C	SO2 :		NO2 :	
4. Baseline Emissions :				
PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year
5. PSD Comment :				

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :				
PM : C	SO2 :	NO2 :		
4. Baseline Emissions :				
PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year
5. PSD Comment :				

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :

PM : C   SO2 :   NO2 :

4. Baseline Emissions :

PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year

5. PSD Comment :

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 18

Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :				
PM : C		SO2 :		NO2 :
4. Baseline Emissions :				
PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year
5. PSD Comment :				

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 12

Sepol Separator, 2N-08 (vents to dust collector 2N-20)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :				
PM : C		SO2 :		NO2 :
4. Baseline Emissions :				
PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year
5. PSD Comment :				

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 13

Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :

PM :	C	SO2 :		NO2 :	

4. Baseline Emissions :

PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year

5. PSD Comment :

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 14

Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :					
PM : C		SO2 :		NO2 :	
4. Baseline Emissions :					
PM :	0.0000	lb/hour		0.0000	tons/year
SO2 :		lb/hour			tons/year
NO2 :					tons/year
5. PSD Comment :					

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 1

kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[X] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :					
PM :	C	SO2 :	C	NO2 :	C
4. Baseline Emissions :					
PM :		lb/hour		tons/year	
SO2 :		lb/hour		tons/year	
NO2 :				tons/year	
5. PSD Comment :					

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 4

Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :				
PM :	C	SO2 :	NO2 :	
4. Baseline Emissions :				
PM :	0.0000	lb/hour	0.0000	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year
5. PSD Comment :				

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 1

kiln #2,preheater,precalciner,clinker clr.,dryer,raw mill

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht.2&4, Att 2
2. Fuel Analysis or Specification :	Waived
3. Detailed Description of Control Equipment :	See Prior App.
4. Description of Stack Sampling Facilities :	Waived
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	See Prior App.
7. Operation and Maintenance Plan :	See Prior App.
8. Supplemental Information for Construction Permit Application :	Main Report
9. Other Information Required by Rule or Statue :	Main Report

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 2

Filter Dust Bin Trspt. 2E-67 (vents to dust collector 2D-75)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht. 3, Att. 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 3

Raw Meal Transport 2F-02/11 (vents to dust collector 2F-14)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 2&3, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 4

Raw Mill Storage & Homogenizing Silos 2G-01 (vents to 2G-12)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 3, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 5

Kiln Feed System, 2H-05/2E-66(vents to dust collector 2H-15)

<u>Supplemental Requirements for All Applications</u>

1. Process Flow Diagram :	Sht 3, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

<u>Additional Supplemental Requirements for Category I Applications Only</u>

10. Alternative Methods of Operations :	
11. Alterntive Modes of Operation (Emissions Trading) :	

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 6

Gypsum Storage Bin, 2L-14 (vents to dust collector 2L-08)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 5, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 7

Clinker Transport, 2L-03 (vents to dust collector 2L-16)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 5, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 8

Clinker Storage Silo, 2L-05 (vents to dust collector 2L-06)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 5, Attach 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Application Doc
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 9

Clinker Bin, 2M-15 (vents to dust collector 2M-18)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 5, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 10

Belt Conveyer, 2M-04 (vents to dust collector 2M-09)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 5, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	
11. Alterntive Modes of Operation (Emissions Trading) :	

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 11

Discharge Vent, 2N-02/2N-08 (vents to dust collector 2N-13)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 6, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 12

Sepol Separator, 2N-08 (vents to dust collector 2N-20)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 6, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 13

Cement Storage Silos A, 2Q-18 (vents to dust collector 2Q-13

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 7, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 14

Cement Storage Silos B, 2Q-18 (vents to dust collector 2Q-14

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 7, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	
11. Alterntive Modes of Operation (Emissions Trading) :	

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 15

Silo Discharge Hopper A, 2Q-28(vents to dust collector 2Q-16

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 7, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 16

Silo Discharge Hopper B, 2Q-38(vents to dust collector 2Q-17

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 7, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 17

Coal Mill, 2S-15 (vents to dust collector system 2S-17/19)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 8, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	
11. Alterntive Modes of Operation (Emissions Trading) :	

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 18

Coal Dust Bin, 2S-20 (Vents to dust collector 2S-21)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Sht 8, Att 2
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Main Report
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

RTP ENVIRONMENTAL ASSOCIATES INC.®

MEMORANDUM

RECEIVED

AUG 1 1996

BUREAU OF
AIR REGULATION

FAXED 7/29 11:40

TO: Cleve Holladay

FROM: Bill Corbin BC

DATE: July 29, 1996

SUBJECT: Florida Crushed Stone (FCS)

Attached please find the multisource NO_x inventory (other than FCS facility) used for Chassahowtizka in the original permit application (see comment responses given in July 11, 1995 letter from Donald F. Elias to Clair H. Fancy). Please verify these sources for use in the current permitting effort. I hope to run the analysis this week, so your prompt attention to this matter would be appreciated.

Also, the new kiln at the BACT emission rates has SCREEN3 screening impacts (by itself) less than the Class II significant impact levels (SILs) for all pollutants other than NO_x when using the latest averaging time ratios (p. 4-16, Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, EPA-454/R-92-019. This requires the use of an annual averaging time ratio of 0.08. What is the Department's present position on the use of annual ratios for significance determinations? This would simplify the modeling analyses in that Class II significant impact analyses would only be required for one pollutant.

Please call me at 908-968-9600.

cc: D. Elias
M. Hober
FCS3 Project File

CHASSAHOWITZKA NWR NOx PSD INVENTORY

ISCST2 ID.NO	FACILITY/SOURCE	UTM COOR (km) EAST	NORTH	MAX.NOx EMISSIONS (g/s)	STACK HEIGHT (m)	STACK DIAMETER (m)	EXIT TEMP (K)	EXIT VELOCITY (m/s)	CLASS I MINIMUM DISTANCE (km)
101	Auburndale	420.8	3103.3	21.17	48.80	5.50	411.0	14.30	101.9
102	Enron Silver Springs	418.8	3240.9	1.33	13.72	0.49	641.0	36.51	96.7
103	Farmland Green Bay	409.5	3080.1	1.25	45.72	2.44	355.4	11.58	110.1
104	FL Mining & Mtls	355.9	3169.9	11.56	32.00	4.27	394.3	9.90	14.4
105	FPC Debary	467.5	3197.2	137.60	15.24	4.21	819.8	56.21	125.2
106	FPC Int City 7EA	446.3	3126.0	84.20	15.24	4.21	819.8	56.21	113.2
107	FPC Int City 7FA	446.3	3126.0	91.80	15.24	7.04	880.8	32.07	113.2
108	FPC Polk	414.4	3073.9	160.40	34.40	4.10	400.0	40.50	118.0
109	IMC Agrico New Wales	396.7	3079.4	5.49	61.00	2.59	350.0	15.33	103.1
110	IMC Agrico S Pierce	407.9	3071.9	-2.93	45.73	1.60	350.0	26.40	115.6
111	IMC Agrico S Pierce	407.9	3071.9	3.98	45.73	1.55	349.8	39.05	115.6
112	Kissimmee Utilities	447.7	3127.9	27.72	12.20	3.00	654.0	29.10	113.9
113	Lakeland Utilities	409.2	3102.8	21.04	30.48	5.79	783.2	28.22	93.3
114	OMS Lake Co RRF	413.1	3179.3	20.79	38.10	1.83	422.0	23.36	69.4
115	OUC Stanton 2	483.5	3150.6	91.80	167.60	5.80	324.2	23.50	142.5
116	Pasco Co RRF	347.0	3139.0	40.57	83.82	3.05	394.3	15.70	27.5
117	Lake Cogen	434.0	3198.8	11.64	30.48	3.35	384.3	17.13	92.6
118	Pasco Cogen	385.6	3139.0	11.64	30.48	3.35	384.3	17.13	52.6
119	Ridge Cogen	416.7	3100.4	8.73	99.10	3.00	350.0	14.50	100.5
120	Stauffer Shutdown	325.6	3116.7	0.80	49.00	1.20	293.0	3.60	51.2
121	Seminole Hardee 3	405.0	3057.7	32.78	22.90	7.01	851.5	32.67	125.9
122	TPS Hardee	404.8	3057.4	241.83	22.90	4.88	389.0	23.90	126.1
123	TECO Polk Aux.Blr	402.5	3067.4	1.00	6.10	0.90	533.0	13.10	116.3
124	TECO Polk IGCC	402.5	3067.4	23.69	45.70	5.80	400.0	16.80	116.3
125	Tropicana	346.8	3040.9	3.96	24.40	2.13	555.4	7.55	125.0
126	Tropicana Turbine	346.8	3040.9	9.20	24.40	3.66	404.3	16.55	125.0
127	Pend Kathleen	398.7	3105.5	5.42	45.73	5.34	416.0	13.86	83.9
128	FPL Manatee	367.3	3054.1	612.40	144.80	7.99	339.8	23.70	114.8
129	FL Rock Newberry	346.8	3287.0	56.25	76.20	2.87	369.3	14.15	103.8