BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In Re:	)	
Florida Crushed Stone Company	)	
Power Plant Certification	)	OGC NO. 94-1980
Modification Request	)	
No. PA 82-17E	)	
Hernando County, Florida	)	

FINAL ORDER
MODIFYING CONDITIONS OF CERTIFICATION

The Department of Environmental Protection, after notice and opportunity for hearing, modifies 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.

In March 1995, a request for modification was filed to allow construction and operation of a second cement kiln and related facilities on the site. Upon review of all submitted material, the Department recommends that the requests be approved.

Copies of the department's proposed action were distributed to all parties to the certification proceeding and made available for public review. On June 9, 1995, a Notice of Proposed Modification of Power Plant Certification was published in the Florida Administrative Weekly. As of June 7, 1995, all of the parties to the original proceeding had received copies, sent by certified mail, of the intent to modify. The notice specified that a hearing would 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. No timely objection to the proposed modifications was received by the Department.

Accordingly, in the absence of any timely objection,

IT IS ORDERED:

The proposed changes to the conditions of certification for the Florida Crushed Stone power plant are approved. The Department hereby approves the modification, and, pursuant to section 403.516(1)(b), F.S., the Department hereby modifies the conditions of certification for the Florida Crushed Stone facility

as follows:

I. Air

The construction and operation of the Florida Crushed Stone Company (FCS) steam electric power plant site shall be in accordance with all applicable provisions of Chapters ~~17-2, 17-4, and 17-17~~ 62-296, 62-297, and 62-4, Florida Administrative Code (FAC). In addition to the foregoing, the permittee shall comply with the following specific conditions of certification:

A. ~~Emission~~ Limitations

1. a. No change

b. NOx - 0.7 lb. per million BTU heat input, averaging time per Rule 62-297, FAC, not to exceed 846 lb/hr.

c. Particulates (PM/PM10) - 0.0135 lb. per million BTU heat input, average time per 40 CFR 60.46.

d. Visible emissions - 10% opacity, 6-minute average, except for one 6-minute period per hour of not more than 17% opacity.

2. Stack emissions from the combined cement plant I, lime plant and power plant boiler shall not exceed the following site specific limitations:

a. No change

b. NOx - 0.7 lb. per million BTU heat input plus 2.9 lb. per ton of kiln feed (dry basis), averaging time per Rule 62-297, FAC, not to exceed 1205 lb/hr.

c. PM/PM10 - 0.0135 lb. per MMBTU (25.0 lbs per hour at 1,850 MMBTU/hr) plus 0.3 lb from cement kiln I and 0.1 lb from clinker cooler I per ton of kiln feed (dry basis), averaging time per 40 CFR 60.46.

3. When the power plant boiler is operating alone and cement plant I is not in operation, the maximum heat input rate of the boiler shall not exceed the site specific limit of 1,000 million BTU per hour, maximum three-hour average.

4-12. No change

13. In accordance with Rules 62-210.700 (1) and (6), excess emissions resulting from startup,

shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for longer duration. In case of excess emissions resulting from malfunctions, the permittee shall notify the Department in accordance with Rule 62-4.130, Florida Administrative Code. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

14-15. 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 and preheater as given in Permit No. AC95-?????:

(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
NOx	1.83	232.4	1018

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. AC95-274892 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/dscf. A visible emission reading of 5% opacity or less may be used to establish compliance with the lb/hour 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.

C. Stack Testing

6. Instruments shall be installed, calibrated, and maintained to continuously measure the amounts of coal and limestone used in the boiler, material fed to cement kiln I, and clinker produced by cement kiln I. The records of coal and limestone used in the boiler, fuel analysis, daily cement kiln I feed and clinker produced shall be reported quarterly to the Department's Southwest District Office.

D. Reporting

1. Stack monitoring, fuel usage and fuel analysis data shall be reported to the Department's Southwest District Office and to the Hernando County Health Department on a quarterly basis commencing with the start of commerical operation in accordance with 40 CFR 60.7 and Rule 62-297.500, FAC.

G. The heat input rate of the boiler, with or without cement kiln I operating shall not exceed the maximum necessary to produce 150 MW of power and shall in no case exceed 1,850 MMBTU/hr, maximum three-hour average.

H. Cement Kiln #2 shall be constructed and operated in accordance with PSD FL 22.

NOTICE OF RIGHTS

Any party to this Order has a right to seek judicial review of this Order pursuant ot Section 120.68, Florida Statutes, 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 Office of General Counsel, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of appeal. The Notice of Appeal must be filled within 30 days from the date this Order is filed with the clerk of the Department.

DONE AND ORDERED this 18TH day of December, 1995, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Kenneth J. Plante

Virginia B. Wetherell, Secretary

Certificate of Service

I hereby certify that a copy of the Final Order Modifying Conditions of Certification of the Florida Crushed Stone company was sent to the following parties by United State mail on the 18th day of December, 1995.

Karen Brodeen, Esquire
Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399-2100

Lynn Capehart, Esquire
1601 NW 35th Way
Gainesville, FL 32605

Bob Elias, Esquire
Florida Public Service Commission
Gerald L. Gunter Bldg.
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Robert Bruce Snow, Esquire
Post Office Box 2060
Brooksville, FL 33512

William H. Green, Esquire
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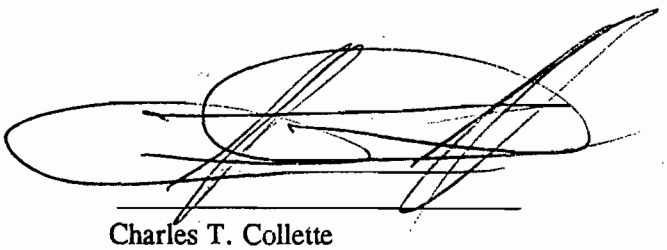
123 S. Calhoun Street
Tallahassee, FL 32301

John R. Lawson, Esquire
Lawson, McWhirter & Grandolph
Post Office Box 3350
Tampa, FL 33601

Lawrence N. Curtin, Esquire
Holland & Knight
Post Office Drawer 810
Tallahassee, FL 32302-0810

Martin D. Hernandez, Esquire
Southwest Florida Water
Management District
2370 Broad Street
Brooksville, Florida 34609-6899



Charles T. Collette
Assistant General Counsel

State of Florida
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Telephone: (904) 488-9730

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239 U.S. Highway 22 East
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(908) 968-9600
Fax: (908) 968-9603

December 4, 1995

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Dept. of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: DEP Files PSD-FL-227, AC27-274892, PA82-17
Florida Crushed Stone, Proposed 2nd Cement Kiln

Dear Mr. Fancy:

Florida Crushed Stone (FCS) wishes to thank the Department for the final permit for the second cement kiln which addressed many of our concerns as set forth in our October 24th letter. FCS submits the following comments for the record and requests that the Department's final air construction permit reflect the following conditions as appropriate.

NO_x Emission Limit

The Department imposed a 24-hour NO_x emission limit of 2.8 lb/ton for the second cement kiln (adding a footnote to Table I allowing up to 18 months after startup of commercial operation to achieve this standard). As stated previously, FCS feels this is a very aggressive limit.

In the Department's BACT Determination, it was agreed that SNCR is not a "demonstrated technology" on preheater-only type kilns. In addition, the only operating facilities with current NO_x permit limits near 2.8 lb/ton are the Lone Star Industries, California plant (2.5 lb/ton) and the Calvaras Cement, California plant (staged combustion retrofits required to meet 2.9 lb/ton). Both plants are preheater/precalciner kilns, which allow for staged combustion conditions. As noted at our October 11th meeting, the unique feed materials available at the FCS facility do not permit the use of a precalciner.

Other facilities listed in or considered for the Department's BACT Determination were a facility never constructed (Dixie Cement, Tennessee at 1.11 lb/ton), two recent/pending BACT determinations which have not yet initiated construction (Great Star Cement, Nevada at 3.1 lb/ton based on SNCR, which local agency personnel felt would never be built and Florida Rock Industries at 2.8 lb/ton), and two facilities which have never met their permitted NO_x emission limit. The two latter plants were the SW Portland, Odessa, Texas facility which was never able to achieve the permit limit of 0.85 lb/ton and is currently being repermitted (a 1983 test showed 5.7 lb/ton) and a Texas Lehigh plant in Texas which was never able to achieve the 2.09 lb/ton limit and was repermitted at about 3.7 lb/ton based on the average of stack test data (even this limit was later dropped).

Other than the two California plants listed above, the most stringent permit limit for an operating facility is Florida Mining & Materials (FMM) Kiln #2, permitted in 1993 with a 30-day emission limit of 3.14 lb/ton.

At the October 11th meeting, it was agreed that emissions for the FCS or FMM kilns could be used to support emission limits alternatives to the 2.8 lb/ton value. These data represent kiln configurations and feed stocks most representative of the proposed kiln. In our October 24th letter, recent 1993 and 1994 stack test data for FCS kiln 1 were submitted which show NO_x emissions at or slightly above 2.8 lb/ton. These data are for limited test periods of about three hours and may not be representative of the entire range of operating conditions experienced during a full year.

FCS also provided 36 days (April 1993) of available CEM data for FMM kiln #2 obtained from Koogler and Associates. While average (36-day) NO_x emissions are about 2.0 lb/ton as represented by the Department during our meeting, one 24-hour average was greater than 3.1 lb/ton. Therefore, as stated above, FCS feels that the 24-hour NO_x emission limit of 2.8 lb/ton is a very aggressive limit.

Recordkeeping Requirements

As noted in our October 24th letter, FCS feels that Permit Condition 28 should be revised to require recordkeeping of the preheater feed rate rather than kiln feed rate. As noted in our letter and in the existing kiln permit, the kiln feed rate is a calculated value based on the measured preheater feed rate.

Kiln Gas Temperatures

The Department did reword the requirement for 1750°F kiln gas temperatures in Permit Condition 7 to reflect periods "upon reaching steady state conditions, and within 6 hours [of startup]." However, FCS feels that this permit condition is unnecessary. The pyroprocessing of cement requires temperatures in excess of 3000°F. This combined with the long residence times associated with cement kilns insures the destruction of dioxins, furans, and precursors. The requirement to monitor the temperature of gases exiting the kiln serves no useful purpose in ensuring complete combustion and low dioxin emissions.

Typographical Errors

The remaining comments correct typographical errors in the final permit and do not change any of the permit conditions. These corrections are:

Final Air Construction Permit:

(1) Page 1, Second Paragraph, First line: This line should read (change underlined):

"...second portland cement kiln at a maximum..."

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(6) Page 7, Condition 10, First three lines on page: The Flash Point test method should be EPA SW-846 (1010), the Heat of Combustion test method should be ASTM D240, and the test methods for density and PCBs should be blank.

(7) Pages 11 and 12, Conditions 35 et. al: Since condition 34 has been removed, conditions 35 through 38 should be renumbered (i.e., become conditions 34 through 37).

(8) Table I: In accordance with the revised permit language in Condition 13, Table I should include a footnote stating the following:
"Visible limits shown for minor baghouse sources are alternative standards in accordance with Rule 62-297.620(4) in lieu of stack tests to demonstrate compliance with the 0.01 gr/dscf emission limitations."

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(1) Page 12, Kiln (SO_2) Pollutant Emission Limit, Second line: Should read (corrections underlined):
"...blend of fuel oil and on-spec used oil (1.5% sulfur by weight)..."

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Please call either myself or William Corbin at 908-968-9600 or Tom Mountain of FCS at 904-799-7881 if you have any questions or need any additional information.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

cc: H.Oven/A.Linero/T.Heron/C.Holladay, DEP
L.Curtin, Esq., H&K
W.Corbin/M.Hober/M.Lewis/FCS Project File, RTP

cc: EPA
NPS
SWD
OGC - Beason
Fernandez
FCS - T. Mountain

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Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

cc: H.Oven/A.Linero/T.Heron/C.Holladay, DEP
L.Curtin, Esq., H&K
W.Corbin/M.Hober/M.Lewis/FCS Project File, RTP

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October 31, 1995

Mr. Hamilton S. Oven, Jr., P.E.
Florida Dept. of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Oven:

We have the following comments on the draft of the PPSA Final Order for the proposed second cement kiln at Florida Crushed Stone.

(1) Condition I. (second and third lines) - A majority of the proposed revisions are to update citations to the current version of the Florida Administrative Code. Accordingly, the second and third lines should read as follows:

"...plant shall be in accordance with all applicable provisions of Chapters 62-2, 62-4, 62-17, and 62-210 through 62-297, Florida Administrative Code (FAC)."

(2) Condition I.B.4 - In order to update all of the FAC citations in the PPSA permit, Condition I.B.4 should be included in the revisions as follows (revisions underlined):

4. The permittee shall provide stack sampling facilities as required by Rule 62-297.345, FAC.

(3) Condition I.C.2 - In order to update all of the FAC citations in the PPSA permit, Condition I.C.2 should be included in the revisions as follows (revisions underlined):

2. Performance tests shall be conducted and data reduced in accordance with methods and procedures outlined in Rule 62-297, FAC.

(4) Condition I.A.16 - The basic intent of this condition, as proposed in the August 11th letter, was to reference the air Construction Permit for specific permit conditions. At this time, the Department is currently reviewing the emission rates and compliance conditions, particularly for NO_x, to be included in the final air Construction Permit. Since final emission rates are unknown, the following are suggested revisions to Condition I.A.16 to reference the air Construction Permit for permit emissions and conditions (revisions underlined) and to correct typographical errors (corrections double-underlined):

16. Stack emissions from cement plant II shall not exceed the ___ site specific limitations for the cement kiln, clinker cooler, raw mill and preheater __ given in Permit No. AC27-274892 with all subsequent revisions, which specifies:

a. The emission rates and compliance conditions for the Unit II cement kiln stack;
b. The raw and finished material feed rates and fuel types for cement plant II;
c. The operating conditions required for proper operation and startup/shutdown periods; and
d. The testing, monitoring, recordkeeping, and reporting requirements for cement plant II.

It should be noted this is more explicit than language in the current PPSA permit for the existing cement kiln, which does not give emissions or conditions for operation of the existing cement kiln alone.

(5) Condition I.A.17 - As written, the current draft air Construction Permit specifies 5% opacity as the minor source emission limit and not as an alternative limit in accordance with standard Department policy given at FAC 62-297.620(4). In addition, the current draft Construction Permit makes no reference to lb/hour emission limits. This permit condition was commented on in our October 24th letter to the Department. The following are suggested revisions to Condition I.A.17 to remove the emission limits and instead reference the final air Construction Permit (areas with revisions or deletions underlined) and to correct typographical errors (corrections double-underlined):

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 though the use of silos and/or covered conveyors equipped with fabric filter baghouses as described in Permit No. AC27-274892 with all subsequent revisions, which also specifies methods for verifying permit compliance for these minor particulate sources. (delete rest of condition I.A.17)

(6) Conditions I.H.1 to I.H.36 - Please delete these conditions, which were given in our July 17th letter as suggested language for the air Construction Permit and not the PPSA. Conditions I.A.16 and I.A.17 (described above) adequately revise the PPSA to allow the construction and operation of the proposed second cement kiln. The current PPSA does not reference emissions or conditions for the existing cement kiln during operation of the existing cement kiln only since the basic focus of the PPSA is the power plant (conditions for the existing cement plant are appropriately given in Operating Permit No. AO27-231888A).

Further, the draft air Construction Permit conditions are different than these, being reordered and reworded by the Department with some emissions and permit conditions changed from our July 17th suggestions.

If you have any questions or need any additional information, please feel free to contact either Tom Mountain of FCS at 904-799-7881, or William E. Corbin or myself at 908-968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

DFE/WEC/wec

cc: T.Mountain, Florida Crushed Stone
L.Curtin, Esq., Holland & Knight
C.Fancy/A.Linero/T.Heron/C.Holladay, FDEP
M.Hober/W.Corbin/M.Lewis/FCS Proj.File, RTP

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- Complete items 3, and 4a & b.
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- Attach this form to the front of the mailpiece, or on the back if space does not permit.
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1. ☐ Addressee's Address
2. ☐ Restricted Delivery

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3. Article Addressed to:
Joseph J. Pernatteo
Fla. Crushed Stone
10311 Cement Plant Rd
Brooksville, Fl 34601

4a. Article Number
Z 127 632 574

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

7. Date of Delivery
11/21/95

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

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Sent to: Joe Pernatteo	
Street and No.: Fla Crushed Stone	
P.O., State and 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, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 11-17-95	
AC 27-274892	
PSD-FL-227	

PS Form 3800, March 1993

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 ton per hour cement plant. The project includes a dry process kiln with a preheater, clinker cooler, curshers, raw mill, 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

FINAL DETERMINATION

Florida Crushed Stone
PSD-FL-227
AC 27-274892
Hernando County

Florida Crushed Stone's application for a permit to construct a second portland cement kiln with a maximum clinker production capacity of 83 tons per hour (TPH) and associated equipment consisting of a clinker cooler, Gepol preheater, raw mill, finish mill, conveyers, transport systems, feed systems, and raw material and product silos, bins, and hoppers at their facility in Brooksville, Hernando County was reviewed by the Bureau of Air Regulation in Tallahassee. The Technical Evaluation and Preliminary Determination for the permit was distributed on October 3, 1995. The Notice of Intent was published in the Tampa Tribune on October 6, 1995. Copies of the evaluation were available for inspection at the Department's offices in Tampa and Tallahassee as well as at the Hernando County Planning Department.

No adverse comments were submitted by either the U.S. Department of Interior or the U.S. Environmental Protection Agency.

Comments regarding the Best Available Control Technology (BACT) Determination and the Specific Conditions of the proposed permit were submitted by Mr. Don Elias of RTP Environmental Associates on behalf of Florida Crushed Stone (FCS) in a letter dated October 24, 1995. The Department held a meeting with FCS to discuss the issue of the Best Available Control Technology (BACT) Determination for nitrogen oxides (NOx) with which FCS disagreed. The Bureau has considered the technical arguments presented by FCS as well as Mr. Elias' comments and made the changes discussed below.

The requested revisions of the specific conditions of the permit are discussed and the Department's response and any changes agreed to are as follows:

DEP PERMIT NUMBER PSD- FL-227

A. SPECIFIC CONDITION #4

FCS/RTP COMMENTS:

Indicate that shredded tires, also known as tire-derived fuel (TDF) and natural gas, may be fired during normal operation. Indicate that all grades of virgin fuel oil and blends of virgin fuel oil and on-spec used oils may be fired during startup.

DEPARTMENT'S RESPONSE:

Burning of tires was already approved. The Department agrees that TDF may also be fired. Natural gas may also be fired during normal operation. Department did not intend to restrict firing of virgin fuel oil by itself. The changes/clarifications will be made as recommended by FCS as follows:

FROM:

4. Fuels fired in No. 2 kiln shall not exceed a total heat input rate of 303 MMBtu/hr and shall consist only of:

a. Coal and whole tires for normal operation.

b. Natural gas and blends of unused No. 2 fuel oil and on-spec used oils for startup.

TO:

4. Fuels fired in No. 2 kiln shall not exceed a total heat input rate of 303 MMBtu/hr and shall consist only 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** and blends **(meeting 1.5 % sulfur limit)** of **virgin** fuel oil and on-spec used oils for startup.

B. SPECIFIC CONDITION #5

FCS/RTP COMMENTS

Remove sulfur limit for coal as had been previously done in kiln No. 1.

DEPARTMENT'S RESPONSE:

The Department included an emission limit based on SO_2 emissions per ton of clinker produced. Sulfur dioxide emissions are apparently not very sensitive to the sulfur content in the coal but rather to the balance between alkali and sulfur in the kiln feed and kiln operating conditions. The continuous emission monitoring system will insure compliance with the sulfur dioxide emission standard. The Department will remove the coal sulfur limit as follows:

FROM:

5. The maximum sulfur content of the coal fired in the No. 2 kiln shall not exceed 0.76% sulfur by weight. The coal usage rate shall not exceed 10.3 TPH or 90,228 TPY based on continuous operation. The coal sulfur content shall be determined using ASTM Method D-2234, D-3173, D-3176, D-3177 or D-4239.

TO:

5. The coal usage rate shall not exceed 10.3 TPH or 90,228 TPY based on continuous operation.

C. SPECIFIC CONDITION #6

FCS/RTP COMMENTS:

Indicate that TDF may be fed continuously at the kiln inlet.

DEPARTMENT'S RESPONSE:

Feeding of tires was already approved. The Department agrees that feeding of TDF is also allowed and will make the change as recommended by FCS as follows:

FROM:

6. Whole tires fired may be fed continuously at the kiln inlet at the base of the preheater at a rate not to exceed 45 MMBtu/hr (15% of total kiln fuel input) or 1.33 TPH and 11,039 tons per year based on 8300 hours per year.

TO:

6. Whole tires **and tire derived fuel** may be fed continuously at the kiln inlet at the base of the preheater at a rate not to exceed 45 MMBtu/hr (15% of total kiln fuel input) or 1.33 TPH and 11,039 tons per year based on 8300 hours per year.

D. SPECIFIC CONDITION #7

FCS/RTP COMMENTS:

FCS indicated that condition would require an instantaneous jump in kiln gas exit temperature from 1400°F to 1750°F, did not give an averaging time and is not a requirement for existing kiln No. 1.

DEPARTMENT'S COMMENTS:

The Department has data to show that the kiln exhaust gas temperature of 1750°F can readily be met in a preheater-type kiln. A high temperature is considered necessary by the Department to insure destruction of dioxins and furans which could be formed by the interaction between organic materials in the tires and chlorides present in the recirculating gas. The Department will not delete the requirement until evidence of virtually complete dioxins destruction is presented from tests or literature references for kilns burning tires in the manner and at the temperatures planned by FCS. Additionally, the ability to maintain these temperatures, will preserve the options available to FCS for achieving the nitrogen oxides limits set by the Department and agreed to by FCS. However, the Department will modify the condition as follows:

FROM:

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). Thereafter, gases exiting the kiln shall be maintained at an outlet temperature of 1750 degrees F.

TO:

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.

E. SPECIFIC CONDITION #10

FCS/RTP COMMENTS:

No comments except that FCS included a condition (related to test methods for use on-spec fuel oil) in a related document (Florida Site Certification PA 82-17E) which the Department overlooked in the PSD permit.

DEPARTMENT COMMENTS:

Department intended to include the conditions which were overlooked and amends Specific Condition 10 as follows:

FROM:

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.

TO:

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 Condition No. 12 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)**
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.

F. SPECIFIC CONDITION #12/TABLE II

FCS/RTP COMMENTS:

FCS indicated that proposed nitrogen oxide (NO_X) BACT limit of 2.5 pounds per ton of clinker (lb/ton clinker) is too stringent particularly with continuous monitoring and a 24-hour standard. The kiln manufacturer, Polysius, would not guarantee a NO_X limit less than approximately 4 lb/ton clinker, nor would they agree to a guarantee for the performance of their system (including quality of cement) in conjunction with Selective Non-Catalytic Reduction (SNCR). FCS claims that SNCR has not in fact been demonstrated for a "preheater type" kiln such as the one planned by FCS.

DEPARTMENT COMMENTS:

The Department accepts that SNCR has not been demonstrated on a preheater type kiln. However the Department rejects the manufacturer's claims that it cannot guarantee a lower NO_X limit than 4 lb/ton clinker.

On the basis of tests conducted at a preheater type kiln (Southdown) in Brooksville, it is the conclusion that the new FCS kiln can meet a limit of 2.8 lb/ton clinker on a 24-hour basis. The proposed limit was agreed to by FCS without concurrence by Polysius. FCS still considers it to be "aggressive." Thus Table II is amended as follows:

FROM:

	BACT EMISSION LIMIT		EMISSION RATE		BASIS
POLLUTANT	lb/ton clinker	lb/ton dry feed	lbs/hr	tons/yr	
NO_X	2.500	1.634	207.5	908.850	BACT

TO:

	BACT EMISSION LIMIT		EMISSION RATE		BASIS
POLLUTANT	lb/ton clinker	lb/ton dry feed	lbs/hr	tons/yr	
NO_X	**2.8**	**1.83**	**232.4**	**1018**	BACT

G. SPECIFIC CONDITION #13/TABLE I

FCS/RTP COMMENTS:

FCS indicated that the draft permit gives minor sources visibility (and grain loading) limits instead of mass emission limits. FCS wishes to rely on compliance with the visibility limits as indication that these emission points also comply with the grain loading requirements.

DEPARTMENT COMMENTS:

The Department agrees with FCS's comment and recognizes, on the basis of Rule 62-297.620(4), waiver of particulate compliance test requirements for minor particulate emission points equipped with baghouses which meet a 5 percent opacity limitation. Specific Condition 13 is amended as follows:

FROM:

13. The permittee shall not cause or allow to be discharged into the atmosphere visible emissions which exceed the limits listed in Table I.

TO:

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/dscm emission limit contained in Table I.

H. SPECIFIC CONDITION #34

FCS/RTP COMMENTS:

FCS indicated that the requirement to stop feeding tires when any emission limits will not necessarily remedy and may worsen the situation.

DEPARTMENT COMMENTS:

The Department agrees with FCS and will rely on compliance procedures and rule provisions (Rules 62-210.700) related to excess emissions and malfunctions to insure the emissions limits are met while leaving it to FCS to determine the best way to remedy emission limit exceedances. Therefore, Specific Condition 34 is deleted as shown below.

~~34. In the event of any malfunction resulting in failure of emission control equipment or any malfunction of process equipment resulting in kiln emissions exceeding limits set forth in Tables I and II, the operator shall immediately stop the feeding of tires into the kiln and shall not resume the firing of tires until the emission control equipment has been put into proper working order. [Rules 62-212.200(58), 62-212.200(107)].~~

Conclusion:

The final action of the Department is to issue the federal construction permit, PSD-FL-212 and the State Air Construction Permit, AC 27-274892 with the changes noted above.

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:

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, Gepol 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.

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.

Attachments are listed below:

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 tons per hour (TPH), 1992 tons per day (TPD) and 727,080 tons per year (TPY) based upon 8,760 hours of operation per year.. The permitted maximum preheater feed is 138.0 TPH, which is equivalent to a maximum kiln feed rate of 127.0 TPH. [Rule 62-212.200(58), F.A.C.]

4. Fuels fired in No. 2 kiln shall not exceed a total heat input rate of 303 MMBtu/hr and shall consist only 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 and blends (meeting 1.5% sulfur limit) of virgin fuel oil and on-spec used oils for startup.

5. The coal usage rate shall not exceed 10.3 TPH or 90,228 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 at a rate not to exceed 45 MMBtu/hr (15% of total kiln fuel input) or 1.33 TPH and 11,039 tons per year based on 8300 hours per year.

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 Condition No. 12 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)
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 emission rates for the No. 2 kiln, clinker cooler, raw mill and preheater 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).

Method 29 Determination of Lead, Cadmium, and Mercury from Stationary Sources (proposed) (I).
Method 104 Determination of Beryllium Emissions from Stationary Sources (I).

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 consisting 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.

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 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 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.).

35. Objectionable odors associated with air emissions from this facility shall be prohibited. [Rule 62-296.320]

36. 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.

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.].

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, Director
Division of Air Resources Management

Table I
Allowable Opacity Limits

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 TPH Dry Feed				
Iron Ore Bin	Baghouse	2D-61	0.01	5
Fly Ash Bin	Baghouse	2D-64	0.01	5
Filter Dust Bin	Baghouse	2D-72	0.01	5
Raw Meal Transport	Baghouse	2F-03	0.01	5
Limo Silo Storage	Baghouse	2F-21	0.01	5
Raw Mill Storage and Homogenizing Silos	Baghouse	2T-01	0.01	5
Emission Unit: Kiln Operations Process Rate = 303 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 TPH Clinker				
Gypsum Storage Bin	Baghouse	2L-14	0.01	5
Clinker Transport	Baghouse	2L-03	0.01	5
Belt Conveyor	Baghouse	2M-08	0.01	5
Finish Mill Discharge Vent	Baghouse	2N-02	0.01	5
Finish Mill Sepal Separator	Baghouse	2N-08	0.01	5
Emission Unit: Cement Handling Process Rate: ~ 90 TPH Portland Cement				
Cement Storage Silo A	Baghouse	2Q-01, 2Q-20	0.01	5
Cement Storage Silo B	Baghouse	2Q-01, 2Q-20	0.01	5
Cement Silo Discharge Hopper	Baghouse	2Q-01, 2Q-20	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

Table II
Allowable Emissions
Main Stack

POLLUTANT	BACT EMISSION LIMIT		EMISSION RATE		BASIS
	lb/ton clinker	lb/ton dry feed	lbs/hr	tons/yr	
PM/PM_{10} (kiln)	0.310	0.200	25.400	111.250	BACT
PM/PM_{10} (cooler)	0.150	0.100	12.700	55.620	BACT-NSPS
SO_2	0.270	0.176	22.410	98.156	BACT
NO_x*	2.800	1.830	232.400	1017.912	BACT
CO	2.000	1.307	166.000	727.080	BACT
VOC	0.100	0.065	8.300	36.354	FCS/DEP
H_2SO_4	0.014	0.009	1.162	5.090	FCS DATA
Beryllium	9.90E-07	6.47E-07	8.22E-05	3.60E-04	FCS/DEP
Mercury	2.40E-05	1.57E-05	1.99E-03	8.72E-03	FCS DATA
Lead	5.20E-04	3.40E-04	4.32E-02	1.89E-01	FCS DATA

Note: * FCS shall have up to 18 months after startup of commercial operation to achieve this standard.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION
PORTLAND CEMENT PLANT
Florida Crushed Stone
PSD-FL-227 and AC 27-274892
Hernando County
(revised 11/9/95)

The applicant, Florida Crushed Stone Company (FCS), plans to construct an 83 ton per hour (maximum TPH as clinker) dry process portland cement kiln with a preheater 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 727,080 tons per year (maximum TPY as clinker) and approximately between 760,000 and 800,000 TPY of portland cement. A 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)	0.3 lbs/ton of dry kiln feed
Particulate Matter (cooler)	0.1 lbs/ton of dry kiln feed
Particulate Matter (material handling, conveying, storage)	0.01 gr/dscf by baghouses
Sulfur Dioxide (kiln)	0.55 lbs/ton clinker
Sulfuric Acid Mist (kiln)	0.014 lbs SO_3/ton clinker
Nitrogen Oxides (kiln)	4.3 lbs/ton clinker
Carbon Monoxide (kiln)	1.0 lbs/ton dry kiln feed
Volatile Organic Compounds (kiln)	0.07 lbs/ton clinker
Beryllium	6.6×10^{-7} lbs/ton clinker
Lead	7.5×10^{-5} lbs/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 is a list of the emission units to be controlled by baghouses.

Portland cement plants are among the major facilities listed in Florida Administrative Code (F.A.C.) Chapter 62-212, Prevention of Significant Deterioration (PSD), Table 212.400-1, "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 (NO_x).

This facility is also subject to:

- 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:

March 13, 1995

Review Group Members:

Teresa Heron, Marty Costello, 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 infeasible 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:

- Combustion Products (e.g., SO_2, NO_x, PM). Controlled generally by good combustion of clean fuels, reactions with clinker and raw materials, removal in add-on control equipment.

- Products of Incomplete Combustion (e.g., CO, VOC). Control is largely achieved by proper combustion techniques.

- 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.

COMBUSTION PRODUCTS

Nitrogen Oxides (NOx)

Emissions of NO_x from dry process cement plants with a preheater include the kiln and any fuel-fired support operation. Oxides of nitrogen (NOx) are generated during fuel combustion by oxidation of chemically bound nitrogen in the fuel (fuel NOx) and by thermal fixation of nitrogen in the combustion air (thermal NOx). As flame temperature increases, the amount of thermally

generated NOx increases. Fuel type affects the quantity and type of NOx generated. Generally, natural gas is low in nitrogen. However it causes higher flame temperatures and generates more thermal NOx 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 NOx can potentially be reduced at Portland cement plants by two methods:

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

2. Reducing the quantity of NOx 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. Introduction of tires in the material feed end of the kiln will reduce the thermal load on the burner end and possibly result in lower NO_X emissions. In its original submittal, the applicant ruled out Selective Catalytic Reduction (SCR) and Selective Non-Catalytic Reduction (SNCR) as technically infeasible 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 Department requested that the applicant provide an expanded BACT analysis using the procedures described in the EPA New source Review Workshop Manual to show, at a minimum, a technical, economic, and environmental analysis of any applicable control technology. The applicant's response was that the "top" technology was selected for all pollutants and that the technical, economic, and environmental analyses were not required.

The applicant has proposed a NOx emission rate of 359 lb/hr and 4.3 lb/ton clinker. 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 1995
lb/ton clinker	11.13	0.85	4.3

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 preheater/precalciner received a NO_X limit of 1.11 lb/ton clinker but was never built. Another dry process plant with preheater and calcining loop 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. Two other dry process preheater/precalciner plants (including proposed Florida Rock Industries Plant) received a NO_X value of 2.5 lb/ton clinker **(later revised to 2.8 lb/ton)**. A review of the NOx emission rate summary indicates that the applicant's proposal is not representative of the most stringent BACT determinations made to-date for plants utilizing dry processes.

The dry process with preheater/precalciner is considered to be the most energy-efficient process. Dry process preheater designs, such as the one to be employed by FCS, are also energy efficient. Therefore one would expect the lower fuel use to result in relatively low NO_X, all else being equal.

A survey of stack test data from various kilns around the country, operating for more than three years, suggests that a lower emission level than the one proposed for NOx is possible. Additionally, the Department became aware of a recent BACT determination in Nevada which was based on application of SNCR. These factors will also be considered in determining what emission rate can be achieved in accordance with a top-down BACT determination.

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.

The SO_2 limit proposed by the applicant (0.55 lbs/ton clinker) is less stringent than some BACT determinations for other portland cement plants.

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.

A survey of stack test data from different facilities around the country operating for at least three years demonstrates lower rates possible for SO_2. This factor along with the energy efficiency of the plant, and the possible benefits of removal by the particulate control system will be considered by the Department in making a top-down BACT determination.

COMBUSTION PRODUCTS

Particulate Matter (PM, PM10) and Beryllium

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. FCS has not stated that all cement kiln dust (CKD) captured in the baghouse will be returned to the pyroprocessing system as raw material. It is expected that the majority of it 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 various 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) are generated by the combustion of coal and fuel oil blends. Beryllium will be generated as a particulate emission from the combustion of fuels, and will be controlled by the kiln/cooler baghouse. The applicant projects low emissions of Be such that it will not be subject to BACT.

A review of the BACT Clearinghouse shows 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 the New Source Performance Standard NSPS limits of 0.3 pounds per ton of dry feed (kiln) and 0.1 pounds per ton of dry feed (cooler) as BACT for this facility. The NSPS values constitute the "floor" for BACT determinations. Consideration will also be given to any more stringent emission rates determined for kilns in Florida.

PRODUCTS OF INCOMPLETE COMBUSTION

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.

VOC is also a pollutant formed by the incomplete combustion of fuel or hydrocarbons contained in the raw materials.

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 flu gas stream (flue gas control).

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:

Based on the information provided by the applicant and the information searches conducted by the Department, lower emissions limits can be obtained employing the top-down BACT approach for SO_2 and NO_X.

The Department has determined that the NO_X and SO_2 levels proposed by the applicant are roughly equal to typical emission limits from plants already in operation throughout the country and do not reflect previous BACT determinations for portland cement plants.

The Department reviewed Document EPA-453/R-94-004, "Alternative Control Techniques - NO_X Emissions from Cement Manufacturing." Various methods beyond the one proposed by the applicant are detailed. As previously mentioned, the high energy efficiency of the dry preheater process also suggests a lower NO_X limit is achievable. Based on the referenced document, it appears that SNCR, Low NO_X burners and Indirect Firing are available (at least as technology transfer) to consider in achieving a lower NO_X emission limit.

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 NO_XOUT 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.

Recently a proposed cement plant (Great Star Cement, Clark County, Nevada) was permitted with the urea-based SNCR/NO_XOUT 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 the BACT limit of 3.1 lb/ton clinker.

The Department recently issued a **(preliminary)** BACT determination to Florida Rock Industries (FRI) with a NO_X limit of 2.5 lb/ton clinker **(subsequently revised to 2.8 lb/ton)**. FRI had proposed a BACT limit of 4.6 lbs/ton. The Department is requiring FRI to examine additional control options, such as SNCR to insure the limit is achieved.

Based on a recent Nalco estimate prepared for Great Star Cement, the capital costs for SNCR on a 3100 TPD kiln is $471,000 ($54,165 on an annualized basis). Operating costs to reduce NO_X emissions by 3.0 lb/ton clinker are $674,000. First year costs are projected to be $728,000 and $410/ton NO_X removed.

The Department examined the worst case scenario which assumes that FCS can only achieve its proposed BACT NO_X value of 4.3 lb/ton clinker while employing proper combustion practices. The Department reviewed the degree to which SNCR can be employed in order to achieve a further (roughly 40%) NO_X reduction to 2.5 lb/ton clinker.

For the FCS plant, the purchase and installation of an SNCR system similar to the one proposed for Great Star Cement (but with a lower removal objective) would be approximately $575,000 for an annualized capital investment of approximately $65,000 per year. Annual operating costs would be approximately $200,000. First year costs would be approximately $265,000 or approximately $425 per additional ton of NO_X removed.

The cost per ton of NO_X removed is well within BACT costs for industry in general. The added cost to clinker production is low (approximately $0.40 per ton of clinker) relative to other factors such as raw materials, product, and transportation cost fluctuations.

The Department is also aware of a cement plant owned by Mitsubishi in California, which makes use of a similar principal by injecting municipal wastewater sludge into a preheater section and relying (to some extent) on released ammonia to help lower NO_X emissions.

FCS previously ruled out SNCR as infeasible 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 contends that injection of ammonia/urea in the kiln will cause increases in NO_X.

Although SNCR has been demonstrated in the U.S. on a preheater/precalciner kiln and is being required at another one, the previously-mentioned EPA cement plant NO_X document refers to an

SNCR demonstration in Europe on a preheater type kiln. It is possible that the applicant considered the temperature of the materials entering the kiln rather than the gases leaving the kiln.

Subsequent to issuance of the Preliminary BACT Determination, the Department was unable to verify actual application of SNCR at any preheater type kiln including the one mentioned in Europe. The kiln manufacturer, Polysius, was not willing to provide a NO_x limit guarantee of less than 4 lb/ton nor willing to guarantee the performance of product quality from the kiln with an SNCR system attached.

The Department agrees that SNCR has not been demonstrated on a preheater type cement kiln. However the Department rejects the claim by Polysius that the kiln cannot meet a NO_x emission limit less than 4 lb/ton.

For SO_2 the Department reviewed information in the BACT Clearinghouse, performance test results, and various cement technology documents detailing the chemical reactions and technological problems of making cement. It is the conclusion of the Department that the key factors in SO_2 removal is 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 BACT. It is clear that FCS can insure low SO_2 emissions is through its preheater dry process.

The Department believes that lower values than proposed by the applicant with no add-on gas treatment, are possible. This is substantiated by the letter of October 28, 1983 from Sholtes and Koogler, Environmental Consultants, regarding the original kiln at FCS (which is identical to the one proposed). 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 lbs of SO_2 per hour or approximately 0.1 lbs/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.

The BACT emission levels are established by the Department as follows:

Source	Pollutant Emission Limit
Kiln (PM)	0.20 lbs/ton kiln feed (dry basis) and 0.31 lbs/ton clinker - 1 hour average
Kiln (PM_{10})	0.26 lbs/ton clinker - 1 hour average
Kiln (VE)	Visible emissions not to exceed 10 percent opacity
Kiln (SO_2)	0.27 lbs/ton clinker 24 hr rolling average Coal, blend of fuel oil and on-spec used oil (1.5 sulfur by weight), tires (up to 15% of heat input), and natural gas are the only fuels allowed
Kiln (NOx)	2.8 lbs/ton clinker - 24 hr rolling average
Kiln (CO)	2.0 lbs/ton clinker - 1 hr average
Kiln (SO_3)	0.014 lbs/ton clinker (non-BACT)
Kiln (VOC)	0.10 lbs/ton clinker (non-BACT)
Kiln (Be)	9.9×10^{-7} lbs/ton clinker (non-BACT)
Kiln (Hg)	2.4×10^{-5} lbs/ton clinker (non-BACT)
Kiln (Pb)	5.2×10^{-4} lbs/ton clinker (non-BACT)
Cooler (PM)	0.10 lbs/ton kiln feed (dry basis) and 0.16 lbs/ton clinker
Cooler (PM10)	0.13 lbs/ton clinker
Cooler (VE)	Visible emissions not to exceed 10% opacity
Minor points with baghouses	Visible emissions not to exceed 5% opacity
Fugitive sources	Visible emissions not to exceed 10% opacity

Compliance with the particulate emission limitations shall be in accordance with the 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 shall be determined by conducting observations in accordance with 40 CFR 60, Appendix A, Method 9.

Compliance with the SO_2 and NO_x emission limitations shall be demonstrated using CEMS.

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(5)(c) and 62-296.330, 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.

BACT Determination Rationale:

BACT for visible emissions was determined to be more stringent than the NSPS for Portland Cement Plant, 40 CFR 60, Subpart F. With respect to the kiln, BACT for PM was determined to be more stringent than the NSPS for Portland Cement Plant, 40 CFR 60, Subpart F. The basis is the BACT Determination set by EPA for Pennsuco Cement, Medley, Florida in 1980.

BACT for SO_2 emissions from the cement kiln was based on the lowest number (0.28 lbs/ton clinker) given in the BACT Clearinghouse database. A slightly lower value of 0.27 lbs/ton clinker will also insure that ambient SO_2 concentration increases will be less than 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.

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.

BACT for NO_X emissions from the cement kiln was determined to be equal to 2.8 lbs/tons of clinker. **This rate is lower than that of any preheater type kiln and is based on the Department's assessment of the capability of such a kiln without SNCR, notwithstanding assertions to the contrary by the manufacturer's representative.**

BACT for CO was determined to be 2.0 lbs/ton clinker. This value is greater than the proposed by FCS or given in AP-42. It will provide additional flexibility to minimize NO_X and SO_2 emissions.

No BACT determination was required for VOC. The Department set a limit higher than requested by FCS which will result in annual emissions less than the BACT threshold, but allow FCS a little more flexibility in optimizing all control for all combustion products.

No BACT determination was required for Pb. The limit requested by FCS was adopted insures BACT will not be triggered.

No BACT was required for Be. The limit requested by FCS was not adopted because it would trigger BACT. The adopted value willresult in emissions less than the PSD significant threshold value.

No BACT was required for Hg. The estimate provided by FCS will result in emissions less than the applicable BACT threshold.

Details of the Analysis May be Obtained by Contacting:

Teresa Heron, Review Engineer,
A. A. Linero, Administrator, New Source Review Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended By:

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

Date: 11/17/95

Approved By:

Howard L. Rhodes
Howard L. Rhodes, Director
Division of Air Resources Mgmt.

Date: 11/17/95

Florida Department of

Memorandum **Environmental Protection**

TO: Howard L. Rhodes

THRU: Clair Fancy

FROM: A. A. Linero

SUBJ: Approval of Construction Permit PSD-Fl-227 and AC 27-274892
Florida Crushed Stone Company (FCSC)

DATE: November 9, 1995

Attached for your approval and signature is a permit prepared by the Bureau of Air Regulation for the above mentioned company to construct a second 83 ton per hour cement plant. The project includes a dry process kiln with a preheater, clinker cooler, crushers, raw mill, finish mill, material and fuel handling equipment, silos, and shipping facilities.

Pollution control equipment include 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 carbon monoxide (CO); combustion control for nitrogen oxides (NOx); and baghouses for particulate emissions from other process emission units. A BACT determination was required for SO2, NOx, PM, and CO.

The original intent to issue was published in the Tampa Tribune on October 6, 1995. Some modifications were made in response to comments by FCSC, in particular, a change in the NOx emission limit from 2.5 to 2.8 pounds per ton of clinker.

Initially, the National Park Service determined that the project would have an adverse impact on visibility at the Chassahowitzka Class I area based on the NOx BACT limit of 4.3 pounds per ton of clinker proposed by the applicant. They advised us that the lower values we proposed were acceptable.

I recommend your approval and signature.

CHF/th/t

al

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4APT-AEB

NOV 06 1995

Mr. Clair H. Fancy, P.E.
Chief
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 (FCSC), Brooksville, Hernando County, Florida (PSD-FL-227)

Dear Mr. Fancy:

This is to acknowledge receipt of your preliminary determination and draft Prevention of Significant Deterioration (PSD) permit for the proposed major modification to the above referenced Portland cement manufacturing facility by your letter dated October 3, 1995. Detailed emission calculations, as well as the basis of the calculations, including references and a summary of the November 13-21, 1991, stack test results, were received by your letter dated July 11, 1995. Process flow diagrams, as well as detailed process descriptions and vehicular traffic emissions estimates, are also included in the above package. A chemical analysis of raw materials and additives likely to be used at the FCSC Brooksville facility, as well as control equipment vendor design specifications for the material handling system pulse jet baghouses, were also received by your letter dated August 22, 1995.

The proposed major modification consists of the addition of a second dry process cement kiln. Capacities of both existing and proposed cement kilns will be identical, 600,000 tons per year (TPY) of cement each. The daily production capacity of the proposed Portland cement manufacturing facility will be 1,992 tons per day (TPD) of clinker. The new kiln will be preheated with fuel oil, fired with coal as the primary fuel, and utilize tires as supplemental fuel. The kiln will utilize a direct-fired pulverized coal and oil burner designed specifically for cement kilns. The maximum utilization rate for tires as supplemental fuel will not exceed fifteen percent of the total heat input to the cement kiln. Both kilns will use the same existing storage and material handling equipment.

As discussed between Ms. Teresa Heron of your staff and Mr. Stan Kukier of my staff on October 19, 1995, we have reviewed the package as submitted and have no adverse comments.

Process control and good combustion practices may be considered representative of Best Available Control Technology (BACT) for control of nitrogen oxides (NO_x) and carbon monoxide (CO) emissions from the proposed FCSC cement kiln. Process design may also be considered BACT for control of kiln sulfur dioxide (SO_2) emissions. Inherent dry lime scrubbing of exhaust gases by both the Portland cement dry preheater process and alkaline baghouse filter cake will minimize cement kiln SO_2 emissions. Since no other more stringent control alternatives exist for control of point source cement kiln, clinker cooler, and material handling particulate emissions, fabric filtration may also be considered BACT.

Rotary cement kiln NO_x and SO_2 emission limits have been reduced approximately fifty percent from those originally proposed by the applicant. Permit conditions limit kiln particulate matter (PM) emissions to 0.20 pounds PM per ton of feed (dry basis). The 40 CFR Part 60, Subpart F - Standards of Performance for Portland Cement Plants kiln PM emission standard of 0.30 pounds PM per ton of feed (dry basis) was originally proposed as BACT by the applicant. The kiln NO_x emission rate limit of 2.5 pounds per ton (lbs/ton) of clinker is identical to the lowest NO_x emission rate limit determined BACT and achieved in practice for a United States portland cement plant kiln to date (Lone Star Industries, Davenport, California). The kiln SO_2 emission rate limit of 0.27 lbs/ton of clinker is based on a review of recent cement kiln BACT determinations for several other dry process manufacturing facilities located in Florida. Kiln SO_2 removal efficiency is primarily dependent upon the sulfur/alkali ratio in the kiln and the contact between raw material and exhaust gas. A kiln NO_x emission rate limit of 3.1 lbs/ton of clinker has recently been permitted as BACT for both Florida Mining and Materials (PSD-FL-188) and Great Star Cement facilities located in Hernando County, Florida, and Clark County, Nevada, respectively. Selective non-catalytic reduction (SNCR) technology is utilized for control of kiln NO_x emissions at the Nevada Great Star Cement facility. The kiln NO_x emission rate limit of 2.5 pounds per ton (lbs/ton) of clinker is also identical to the NO_x emission rate limit recently determined BACT for a new Florida Rock Industries, Inc., cement kiln (PSD-FL-228). The Florida Department of Environmental Protection (FDEP) will require the use of add-on control technology if the 2.5 lbs/ton of clinker NO_x emission rate limit is not met. Information provided by FCSC indicates that the concentration of particulate matter in all material handling, conveying, and storage system baghouse exhaust gas streams will not exceed 0.01 grains per dry standard cubic foot (gr/dscf). Cement kiln dust collected in the kiln/cooler baghouse will be recycled to the

production process as a raw material supplement. Other permit requirements include the use of continuous emission monitoring (CEM) equipment to demonstrate source compliance with kiln NO_x and SO_2 emission limits.

Fugitive emissions from coal handling and bin activities will be minimized using covered conveying systems and baghouses. All dry raw materials, as well as intermediate and final products within the Brooksville cement plant will be transferred using enclosed mechanical or pneumatic conveyor systems, screw conveyors, or enclosed elevators. All enclosed conveying systems will be operated under negative pressure and vented to baghouses. A combination of wet suppression methods, sweeping, surfactant application, paving/washing of roads, and quarry mix moisture content will minimize fugitive particulate emissions from material handling and vehicle traffic. The sulfur content of the coal will be limited to 0.76 weight percent.

The new FCSC cement kiln will be subject to the requirements of 40 CFR Part 60, Subpart F - Standards of Performance for Portland Cement Plants.

Thank you for the opportunity to comment on this package. If you have any questions, please contact Mr. Stan Kukier of my staff at (404) 347-3555, voice mail box extension 4143.

Sincerely yours,

Jewell A. Harper
Chief
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

cc: Teresa Heron
Buck Oven
Bill Thomas
Doug Beason
Lawrence Jennings
Don Elias
Lawrence Curtain
Tom Mountain
Cleve Holladay

Offices
HOLLAND & KNIGHT

315 South Calhoun Street
P.O. Drawer 810 (ZIP 32302-0810)
Tallahassee, Florida 32301

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FAX 904-224-8832

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TO: Clair Fancy - DEP

922-6979

NAME COMPANY/FIRM

CITY STATE

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TAL-79500

FCS

PROPOSED PERMIT CONDITION LANGUAGE

If data from testing conducted within 24 months of the initiation of commercial operation of the facility indicates an inability to meet the nitrogen oxide emission limitation, the Permittee may request that the Department reevaluate the Best Available Control Technology determination for nitrogen oxide. If requested by Permittee, the Department will evaluate the appropriateness of the averaging time for this emission limit, and the appropriateness of the emission limit itself, in light of the testing information that has been obtained. Any determination may by the Department pursuant to this paragraph is subject to the provisions of Chapter 120, Florida Statutes. Upon the finalization of the Department's determination pursuant to this paragraph, permittee shall, to the extent required, submit a compliance schedule to the Department for approval. Such schedule shall contain sufficient detail, with appropriate milestones of progress, to demonstrate that the facility will be in compliance with the nitrogen oxide emission limitation not later than 18 months from the finalization of the determination.

TAL-73459

Clair —
What do you think about this language?
Larry Costa

Fla. Crushed Stone

PROPOSED PERMIT CONDITION LANGUAGE

If data from testing conducted within 24 months of the initiation of commercial operation of the facility indicates an inability to meet the nitrogen oxide emission limitation, the Permittee may request that the Department reevaluate the Best Available Control Technology determination for nitrogen oxide. If requested by Permittee, the Department will evaluate the appropriateness of the averaging time for this emission limit, and the appropriateness of the emission limit itself, in light of the testing information that has been obtained. Any determination may by the Department pursuant to this paragraph is subject to the provisions of Chapter 120, Florida Statutes. Upon the finalization of the Department's determination pursuant to this paragraph, permittee shall, to the extent required, submit a compliance schedule to the Department for approval. Such schedule shall contain sufficient detail, with appropriate milestones of progress, to demonstrate that the facility will be in compliance with the nitrogen oxide emission limitation not later than 18 months from the finalization of the determination.

TAL-73459

Clair —
What do you think about this language?
Thanx Cathy

al
FCS wanted a little
Subtler language in
their permit - is it here
already been issued, & it has
just put this in
the file
Clair

FLORIDA CRUSHED STONE COMPANY
CEMENT PLANT

RECEIVED
OCT 23 1995
BUREAU OF
AIR REGULATION

October 13, 1995

D.E.R.

OCT 19 1995

SOUTHWEST DISTRICT
TAMPA

Mr. Clair Fancy
Florida Department of Environmental Protection
Southwest District Office
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

Re: AC27-274892/PSD-FL-227

Mr. Fancy:

The "Notice of Intent to Issue Permit" for the above referenced permit was published on Friday, October 6, 1995. A copy of the affidavit is attached.

Please call me at your convenience if you have any questions.

Sincerely,

Tom Mountain

Tom Mountain
Environmental Manager

CC: EPA
NPS
B. Oven
B. Thomas, SWD
D. Beason, OGC
L. Jennings, Hernando Co.
D. Ellas, RTP
L. Curtin, H & K

P.O. BOX 1508 / 10311 CEMENT PLANT ROAD / BROOKSVILLE, FL 34605-1508 / PHONE (904) 799-7881 / FAX (904) 796-6281

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THE TAMPA TRIBUNE

Published Daily
Tampa, Hillsborough County, Florida

State of Florida
County of Hillsborough } ss.

Before the undersigned authority personally appeared R. Putney, who on oath says that he is Accounting Manager of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida; that the attached copy of advertisement being a

LEGAL NOTICE HERNANDO

in the matter of

STATE OF FLORIDA

was published in said newspaper in the issues of

OCTOBER 6, 1995

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he 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.

R Putney

Sworn to and subscribed before me, this 9 *day of* OCTOBER, *A.D.* 95

*Personally Known*_____ *or Produced Identification*_____

*Type of Identification Produced*_____

(SEAL) I. Ina S. Kennedy

INA S. KENNEDY
Notary Public, State of Florida
My comm. expires Mar. 22, 1999
No CC187731

D.E.R.

OCT 19 1995

SOUTHWEST DISTRICT
TAMPA

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

AC 27-274892
PSD-FL-227

The Department of Environmental Protection (Department) gives notice of its intent to issue an construction permit to Florida Crushed Stone Company (FCS), 10311 Cement Plant Road, Brooksv Florida, for a second 63 ton per hour cement plant. The plant will be located at the site of the exis FCS/Central Power and Lime facility, 3.5 miles northwest of Brooksville, Hernando County. The pro includes a dry process kiln with a preheater, clinker cooler, crushers, raw mill, finish mill, material fuel handling equipment, silos, and shipping facilities. Pollution control equipment include a comm fabric filter system (baghouse) for particulate emissions from the kiln and cooler; absorption of su compounds and metals into the product; combustion controls for volatile organic compounds (VOC) carbon monoxide (CO); combustion controls for nitrogen oxides (NO_x) with additional controls to specified as needed to meet permit limits; and baghouses for particulate emissions from other proc emission units.

A Best Available Control Technology (BACT) determination was required for emissions of su dioxide (SO_2), nitrogen oxides (NO_x); particulate matter (PM), and carbon monoxide (CO) pursuant to CRF 52.21, Prevention of Significant Deterioration (PSD).

Emissions of these pollutants will not exceed the following limits:

Pollutant	Maximum Emissions (Tons Per Year)
PM	250
SO_2	98
NO_x	909
CO	727
VOC	39.8
Sulfuric Acid Mist	5.1
Lead	0.2
Mercury	0.009
Beryllium	0.00036

An air quality impact analysis was conducted. SO_2 and NO_2 impacts from the project will not ha a significant impact in the PSD Class II area; therefore, no Class II increment consumption was p dicted for these two pollutants. The maximum PM_{10} PSD Class II increment and maximum percent allowable PSD Class II increment consumed due to this project will be as follows:

PSD Class II Increment Consumed (ug/m³)	Allowable Increment (ug/m³)	Percent Increment Consumed
PM_{10}		
24-hour 27	30	90
Annual 3	17	18

The project, as amended by the Department BACT Determination, will not have a significa impact on the Chassahowitz ka PSD Class I area with respect to SO_2, PM_{10} and visibility; therefore, r increment consumption was determined for SO_2 and PM_{10} was determined. The maximum NO2 Cla I increment and maximum percent of allowable increment due to this project will be as follows:

PSD Class I Increment Consumed (ug/m³)	Allowable Increment (ug/m³)	Percent Increment Consumed
NO_2 Annual 1.0	2.5	40

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

Any person whose substantial interests are affected by the Department's proposed permitting dec sion may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florid Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399 2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the appl cant at the address indicated above at the time of filing. Failure to file a petition within this time perio shall constitute a waiver of any right such person may have to request an administrative determinatio (hearing) under Section 120.57 F.S.

The petition shall contain the following information; (a) The name, address and telephone numbe of each petitioner, the applicant's name and address, the Department Permit File Number and the coun ty in which the project is proposed; (b) A statement of how and when each petitioner received notice o the Department's action or proposed action; (c) A statement of how each petitioner's substantial inter ests 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 facts which petitioner contends warrant reversal o modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and, (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must con form to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition with in the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative code.

The application 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

Department of Environmental Protection
Southwest District Branch Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Hernando County Planning Department
20 North Main Street, Room 262
Brooksville, Florida 34601-2807

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department of Environmental Protection, Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

BV.1801 10-6-95

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October 24, 1995

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Dept. of Environmental Protection
111 S. Magnolia Drive, Suite 4
Tallahassee, FL 32301

Re: DEP Files PSD-FL-227, AC27-274892, PA82-17
Florida Crushed Stone, Proposed 2nd Cement Kiln

Dear Mr. Fancy:

The applicant wishes to provide the following comments on the Notice of Intent to Issue Permit, the Draft Permit, and the Department's BACT Determination for the proposed 2nd cement kiln at the Florida Crushed Stone (FCS) facility near Brooksville, Hernando County, Florida. These materials were attached to the October 3, 1995 letter from yourself to Mr. Joseph T. Piermatteo of FCS.

NOTICE OF INTENT TO ISSUE PERMIT

Class I Increment Consumption

On page 2, it should be noted that the maximum PSD Class I NO_2 increment consumed of 1.0 $\mu g/m^3$ is for emissions from both the proposed project as well as all other applicable PSD sources within at least 100 kilometers (km) of the Chassahowitzka National Wildlife Refuge.

BACT DETERMINATION

Minor Particulate Sources BACT Emission Limits

The applicant accepts the 5% opacity limit as an alternative limit to the lb/hour emission limits in accordance with standard Department policy given at FAC 17-297.620(4) for minor particulate sources equipped with baghouses.

NO_x Permit Limit

Attached is a summary of NO_x test data for Florida Mining and Minerals and Florida Crushed Stone. As can be noted from the data, the value of 2.8 lbs/ton of clinker is a very aggressive standard. Current stack tests from 1993 and 1994 for kiln alone testing at Florida Crushed Stone indicates values at or slightly above this number, while CEM data from Florida Mining and Minerals shows a 24-hour block average value as high as 3.11 on April 20, 1993.

Florida Crushed Stone still believes that the appropriate permit level for BACT for this kiln, considering the kiln design and available feed materials, is 4.33 lbs/ton of clinker. However, in the interest of expediting the permit application, we have agreed to accept the Department's suggested value of 2.8 lbs/ton of clinker. Good faith efforts will be made to achieve this limit within the first 18 months after start-up of commercial operations. However, we would also request that the Department re-review its position, and if possible, increase the permitted level to the originally proposed 4.33 lbs/ton of clinker or to extend the averaging period to 30 days, similar to the existing Florida Mining and Minerals permit.

As discussed with the Department, any of the increased levels will show compliance with air quality standards as well as AQRV values. The National Park Service U.S. Fish & Wildlife personnel have agreed that the PLUVUE-II model should be run with the rural dispersion coefficients, which would then demonstrate no significant impact.

DRAFT PERMIT

Feed Rates

Specific condition 3 (page 5) limits the kiln to a clinker production rate of 83.0 tons per hour (TPH) and a maximum preheater feed of 138.0 TPH. Based on the preheater feed rate, the kiln feed rate is calculated to be an equivalent of 127.0 TPH. Since preheater feed rates are easier to measure than kiln feed rates and in accordance with condition 3, the applicant requests that page 10 (condition 28) be rewritten as follows (revisions underlined) to require the preheater feed rate to be recorded rather than kiln feed rate:

> 28. FCS shall record, as a minimum, the daily dry preheater feed rate for 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.

Types of Fuels and Usage

In the air permit application and comment responses, FCS requested that tire derived fuel (TDF, i.e., shredded tires) as well as whole tires be permitted for the facility consistent with recent permit modifications for the existing kiln (see attachment 6 to the July 11, 1995 comment responses). FCS also requested the permit allow the use of natural gas as well as coal, tires, TDF, etc. during normal operation of the kiln. Therefore, please revise paragraph 2 on page 1 of the *Air Construction Permit* to include TDF with whole tires as supplemental fuel and natural gas with coal as the main fuel fired.

The Kiln 2 draft permit refers to blends of oil only and one condition specifically refers to No. 2 fuel oil. Since the same blend tank will be utilized for both kilns, FCS requests that the Kiln 2 permit conditions be no more restrictive than the Kiln 1 permit conditions, which allow the use

of any grade virgin oil and/or blended with on-spec used oil up to the 15% by volume maximum limit.

Therefore, please revise pages 5 (permit condition 4) and 6 (permit condition 6) of the *Air Construction Permit* to read as follows (revisions underlined):

> 4. Fuels fired in No. 2 kiln shall not exceed a total heat input rate of 303 MMBTU/hr and shall consist only of:
>
> a. Coal, whole tires, tire derived fuel (shredded tires), and natural gas for normal operation
>
> b. Natural gas, all grades of virgin fuel oil, and/or blends of virgin fuel oil and on-spec used oils for startup.
>
> 6. Whole tires and tire derived fuel may be fed continuously at the kiln inlet ...

Coal Sulfur Contents

The Kiln 1 permit was modified in August 1994 to remove references to coal sulfur contents and testing requirements. At that time, it was determined by the Southwest District office that restricting the coal sulfur content was not necessary to ensure compliance with the Kiln 1 SO_2 permit limit. For this reason and given that the permit requires an SO_2 Continuous Emission Monitor (CEM) to verify permit compliance, the applicant wishes to request that page 5 (permit condition 5) of the *Air Construction Permit* be revised to include only the following language:

> 5. The coal usage rate shall not exceed 10.3 TPH or 90,228 TPY based on continuous operation.

Use of Tire Derived Fuel

The following language which appears on page 6 (permit condition 7) of the *Air Construction Permit* does not exist in Kiln 1 permit: "Thereafter, gases exiting the kiln shall be maintained at an outlet temperature of 1750 degrees F." As written, this condition fails to specify any averaging time for compliance purposes and conflicts with the earlier requirement of 1400 degrees F for one hour prior to initiating tire firing (i.e., would require an instantaneous jump from 1400 to 1750 degrees F). As discussed in our October 11th meeting, this condition is difficult to measure and unnecessary. Therefore, the applicant requests that this language be removed.

In addition, permit condition 34 (page 11) of the *Air Construction Permit* requires that "In the event of...any malfunction of process equipment resulting in kiln emissions exceeding limits set forth in Tables I and II, the operator shall immediately stop the feeding of tires into the kiln and not resume the firing of tires until the emission control equipment has been put into proper working order." This conflicts with existing test data which suggests that tires and tire derived fuel may actually improve combustion conditions and lower NO_x emissions. If the kiln is in an upset condition, the last thing you want to do is to upset it further. Tire feed

is stopped when coal feed is stopped for the most part. Therefore, the applicant requests that this condition be removed.

Minor PM Emission Limits

The draft permit language gives minor sources emission limits as visibility limits and not lb/hour limits, which is contrary to current permit language for other existing FCS sources. The applicant is willing to accept an opacity limit of 5% as an alternative limit in accordance with standard Department policy given at FAC 17-297.620(4) for minor particulate sources equipped with baghouses. Therefore, the applicant requests that page 7 of the *Air Construction Permit* (permit condition 13) be revised to read as follows (added language underlined):

> 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 FAC 17-27.620(4), minor particulate sources equipped with baghouses with visible emissions which equal or exceed 5% opacity shall require the permittee to perform a stack test in accordance with approved methods to verify compliance with the 0.01 gr/dscm emission limit contained on Table I.

If standard Department policy as given at FAC 17-297.620(4) is not acceptable for the proposed minor particulate sources, then the applicant requests that the visibility limit be no more stringent than the recent BACT limit determined for Florida Rock Industries, namely 10% opacity. This would necessitate that the emission limits on Table I of the *Air Construction Permit* for the minor particulate sources be changed to 10 percent opacity.

NO_x Permit Limits

As discussed above, the applicant has accepted a change to the Table II allowable emissions for the main stack to 2.8 lbs/ton of clinker with compliance determined on a 24-hour basis.

Typographical Errors

The following typographical errors appear in the draft permit:

Page 5, Permit Condition 1: "...and operation of of the No. 2 kiln..."
Page 9, Permit Condition 27: "...for at least two (5) years..."

If you have any questions or need any additional information, please feel free to contact me at the above number.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

DFE/WEC/wec

cc: H. Oven/A. Linero/T. Heron/C. Holladay, DEP
L. Curtin, Esq., H&K
W. Corbin/M. Hober/M. Lewis/FCS Project File, RTP Env. Associates

SUMMARY OF NOx STACK TEST DATA FOR FLORIDA CRUSHED STONE KILN 1

Date	Test Number	Clinker Production (ton/hr)	NOx Emissions (lb/hr)	NOx Emissions (lb/ton)	Notes
06/14/89	1		387.6	4.85	
	2		227.8	2.85	
	3		238.4	2.98	
	Avg	80.0	284.6	3.56	Coal= 9.6 tph
08/20/90	1		378.13	4.45	
	2		560.75	6.60	
	3		447.48	5.26	
	Avg	85	462.10	5.44	Coal= 8.5 tph
03/02/91	1		66.9	1.01	
	2		59.4	0.90	
	3		152.6	2.31	
	Avg	66	92.9	1.41	Coal= 9.2 tph
10/13/91	1		434	5.56	
	2		240	3.08	
	3		384	4.92	
	Avg	78	353	4.53	Coal= 9.1 tph
10/21/91	1		210.6	2.74	
	2		174.6	2.27	
	3		212.3	2.76	Coal= 8.2 tph
	Avg	77	199.1	2.59	Tires= 1.2 tph
03/16/93	1		222.9	2.91	
	2		212.3	2.78	
	3		207.8	2.72	Coal= 7.51 tph
	Avg	76.5	214.3	2.80	Tires= 1.33 tph
06/01/94	1		200.12	2.51	
	2		170.19	2.14	
	3		306.68	3.85	Coal= 7.3 tph
	Avg	79.6	225.66	2.83	Tires= 1.28 tph

Sources: Koogler & Associates, Environmental Services Stack Test Reports:

"Summary of Particulate Matter, Sulfur Dioxide and Nitrogen Oxides Emission Measurements (and Visible Emission Observations), Cement Plant, Central Power and Lime, Inc." June 14, 1989; August 20, 1990; March 2, 1991; March 16, 1993; and June 1, 1994.

"Summary of Particulate Matter, Benzene, Total Hydrocarbons, Carbon Monoxide and Nitrogen Oxides Emission Rates under Baseline and Whole-Tire TDF Firing Conditions, Florida Crushed Stone Company, Cement/Lime Plant" November 13-21, 1991.

SUMMARY OF NOx STACK TEST DATA FOR FLORIDA MINING & MATERIALS/SOUTHDOWN

Date	Test Number	Clinker[a] Production (ton/hr)	NOx Emissions (lb/hr)	NOx Emissions (lb/ton)	Notes	Kiln Feed (ton/hr)
Kiln #1	1		322.9	4.07		
02/28/92	2		307.8	3.88		
	3		334.6	4.22	Coal=	
	Avg	79.3	321.8	4.06	9.75 tph	130
Kiln #2	1		108.0	1.36		
03/24/92	2		99.3	1.25		
	3		97.0	1.22	Coal=	
	Avg	79.6	101.4	1.27	7.79 tph	
Kiln #1	1	88.3	205.95	2.33		144.7
05/05/93	2	87.0	236.35	2.72		142.7
	3	90.2	205.38	2.28		147.8
	4	84.8	193.97	2.29		139.0
	5	84.8	190.08	2.24		139.0
	6	84.8	166.42	1.96		139.0
05/06/93	7	63.9	134.01	2.10		104.8
	8	86.3	185.79	2.15		141.5
	9	89.5	200.64	2.24		146.7
	10	88.9	242.86	2.73		145.7
	11	88.9	212.71	2.39		145.7
	12	88.9	194.41	2.19	Coal=	145.7
	Avg	85.5	197.38	2.30	8.4 tph	140.2
Kiln #1	1	84.5	118.78	1.41		138.5
06/08/93	2	62.2	92.30	1.48		101.9
	3	87.0	133.55	1.54		142.6
	4	81.3	161.73	1.99		133.3
	5	81.3	227.33	2.80		133.3
	6	83.1	215.70	2.60		136.3
06/09/93	7	86.9	166.34	1.91		142.4
	8	86.9	189.05	2.18		142.4
	9	86.9	242.46	2.79		142.4
	10	85.5	265.64	3.11	Coal=	140.2
	11	85.5	243.96	2.85	7.5 tph	140.2
	12	85.5	201.78	2.36	TDF=	140.2
	Avg	83.1	188.22	2.25	1.57 tph	136.1
Kiln #1	1		143.2	1.80		
01/26/94	2		195.1	2.45		
	3		151.5	1.90	Coal=	
	Avg	79.6	163.0	2.05	11.3 tph	
Kiln #2	1		179.8	2.38		
02/10/95	2		204.1	2.70		
	3		180.9	2.40	Coal=	
	Avg	75.5	188.2	2.49	10.4 tph	123.7

[a]Clinker production calculated as 61% of kiln feed where kiln feed shown.

SUMMARY OF NOx STACK TEST DATA FOR FLORIDA MINING & MATERIALS/SOUTHDOWN
(Concluded)

Date	24-Hour Block Averaged CEM Data for FMM Kiln #2 NOx Emissions (lb/hr)	NOx (lbs/ton clinker)	Date	24-Hour Block Averaged CEM Data for FMM Kiln #2 NOx Emissions (lb/hr)	NOx (lbs/ton clinker)
03/26/93	176.3	2.38	04/15/93	155.0	2.00
03/27/93	145.8	1.93	04/16/93	132.9	1.70
03/28/93	173.4	2.27	04/17/93	165.2	2.07
03/29/93	165.7	2.20	04/18/93	131.5	1.67
03/30/93	171.7	2.29	04/19/93	177.9	2.27
03/31/93	196.7	2.55	04/20/93	240.2	3.11
04/01/93	118.8	1.57	04/21/93	183.6	2.78
04/02/93	98.4	1.31	04/22/93	150.2	1.95
04/03/93	104.4	1.42	04/23/93	128.0	1.66
04/04/93	109.4	1.44	04/24/93	123.0	1.59
04/05/93	138.6	1.83	04/25/93	175.0	2.28
04/08/93	184.0	2.28	04/26/93	185.6	2.42
04/09/93	164.9	2.07	04/27/93	162.5	2.09
04/10/93	119.8	1.54	04/28/93	183.1	2.38
04/11/93	124.7	1.54	04/29/93	163.8	2.05
04/12/93	152.4	1.90	04/30/93	177.9	2.32
04/13/93	136.0	1.69	05/01/93	167.1	2.18
04/14/93	174.1	2.24	05/02/93	138.3	1.82

Sources: Koogler & Associates, Environmental Services Stack Test Reports:
"Particulate Matter, Particulate Size, Total Hydrocarbons, Sulfur Dioxide, Nitrogen Oxides and Carbon Monoxide, Kiln No.1, Coal, Florida Mining and Materials, Inc." February 28, 1992;
"Comparison of Particulate Matter, Sulfur Dioxide, Total Hydrocarbons, Carbon Monoxide, Nitrogen Oxides, Hydrogen Chloride, Speciated Volatile Organics, Metals and Dioxins/Furans Emission Measurements and Opacities of Emissions under Baseline and Coal/TDF Firing Conditions, Kiln No.1, Florida Mining & Materials" May 4-5, 1993 and June 8-9, 1993; and
"Particulate Matter, Total Hydrocarbons, Sulfur Dioxide, Carbon Monoxide, Nitrogen Oxides and Visible Emission Measurements, No.2 Cement Kiln, Coal, Florida Mining and Materials, Inc." February 10, 1995.
and Dr. John Koogler (personal communication), October 19, 1995.

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. Clair Fancy
FDEP
111 S. Magnolia Dr., Suite 4
Tallahassee, FL 32301

Date: 10-24-95 Proj. ID: FCS-100

RECEIVED
OCT 25 1995
BUREAU OF AIR REGULATION

WE ARE SENDING YOU: [X] Attached [ ] Under separate cover
VIA: [ ] 1st Class Mail [X] Federal Express [ ] Hand Delivery [ ]
THE FOLLOWING ITEMS: a.m. delivery

Copies	Date	No.	Description
1	10-24-95		Comment Response Letter RE: Florida Crushed Stone Company
1	10-24-95		Copy of Same As Above for Mr. Cleve Holladay
1	10-24-95		Copy of Same As Above for Mr. Al Linero
1	10-24-95		Copy of Same As Above for Ms. Teresa Heron

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.

Hard Copy confirmation of FAX to you on 10/12/95

Fla Crushed Stone

ol

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

IN REPLY REFER TO:

OCT 11 1995

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

Dear Mr. Fancy:

In our April 19, June 16, August 11, and September 11, 1995, letters to you, we commented on the Prevention of Significant Deterioration permit application and additional information for the new cement kiln proposed by Florida Crushed Stone. The kiln would be located 20 km southeast of Chassahowitzka Wilderness Area, a Class I air quality area administered by the Fish and Wildlife Service. The new kiln would emit significant amounts of PM-10, sulfur dioxide (SO_2), nitrogen oxides (NO_x), and carbon monoxide.

Our August 11 and September 11 letters expressed concern regarding predicted visible plume impacts at Chassahowitzka WA resulting from the FCS proposed kiln. We requested that FCS be required to reduce or offset emissions to eliminate the potential for visible plumes. As a result of our comments, FCS requested a conference call between FCS, your office, and our Air Quality Branch.

In this September 18, 1995, conference call, FCS proposed performing a more refined visibility modeling analysis with the PLUVUE 2 model. It was agreed that this would be acceptable. They submitted this analysis on September 27, 1995. Our Air Quality Branch believed that the FCS analysis did not adequately represent possible conditions at Chassahowitzka WA, and repeated the PLUVUE 2 analysis using an additional observer viewpoint. The Air Quality Branch analysis predicted a visible plume in the wilderness area due to emissions from the proposed FCS kiln. The Air Quality Branch has summarized their comments in the enclosed Technical Review Document.

Visible plume impacts in the Class I area would be unacceptable. We understand that you may require FCS to meet a lower NO_x emission rate of 207 pounds per hour, rather than the higher limit of 359 pounds per hour proposed by FCS. We are confident that if FCS meets the lower

emission rate, the potential for visible plumes at Chassahowitzka WA due to the proposed kiln will be eliminated.

We will continue to consult with your office on this project. If you have any questions, please contact Ms. Ellen Porter of our Air Quality Branch in Denver, Colorado at 303/969-2617.

Sincerely yours,

Noreen K. Clough

Noreen K. Clough
Regional Director

Enclosure

CC: Teresa Heron, BAR
Cleve Holladay, BAR
Buck Oven, DEP
B. Thomas, SWD
D. Beason, OGC
L. Jennings, Hernando Co
D. Elias, RTP
L. Curtin, Hq K

Technical Review of the
PLUVUE 2 Visibility Analysis
Submitted September 27, 1995,
For Florida Crushed Stone's
Proposed New Cement Kiln, Hernando County, Florida
by
Air Quality Branch, Fish and Wildlife Service - Denver

On July 11 and August 22, 1995, Florida Crushed Stone (FCS) submitted revised visibility analyses, as requested by our office. These analyses were needed to assess potential visible plume impacts at Chassahowitzka Wilderness Area (WA) from FCS's proposed new cement kiln. The new kiln would be located 20 kilometers southeast of Chassahowitzka WA, a Class I area administered by the U.S. Fish and Wildlife Service (FWS). The new kiln would emit significant amounts of PM-10, sulfur dioxide, nitrogen oxides (NO_x), and carbon monoxide.

The revised analyses, performed with the VISCREEN model, predicted that emissions from FCS would cause visible plume impacts in the wilderness area. Our letter of September 11, 1995, repeated concerns regarding these impacts expressed in previous letters (April 19, June 16, and August 11, 1995). We requested that FCS be required to reduce emissions to ensure that no visible plume impacts occur at the wilderness area during daylight hours due to the proposed kiln. As a result of our comments, FCS requested a conference call between FCS, the Florida Department of Environmental Protection (FDEP), and the FWS Air Quality Branch.

In the September 18, 1995, conference call, FCS proposed performing a more refined modeling analysis for plume impacts with the PLUVUE 2 model. It was agreed that FCS would submit the results of this modeling to our office. Our comments on the PLUVUE 2 analysis are presented below.

PLUVUE 2 Visibility Analysis

The FCS PLUVUE 2 analysis assumed a NO_x emission rate of 359 pounds per hour (lb/hr). FCS examined the impact of a coherent plume viewed from the southeastern portion of the wilderness area with the observer looking north-northeast. The analysis predicted that, from this observer viewpoint, a coherent plume would not be seen by the observer. Our office repeated the analysis to determine if a visible plume could be observed from other portions of the wilderness area. Our analysis placed the observer in the northeast section of the refuge looking south-southwest, with a wind direction of 130 degrees. Our analysis also assumed a wind speed of 1.0 meter per second (m/s), as is required of a worst-case seasonal analysis; FCS had used a wind speed of 1.5 m/s. Our analysis predicted that a visible plume with a "delta E" of 2.109 would occur during the winter season. A "delta E" value of 2.0 is the Environmental Protection Agency (EPA) accepted threshold value of a colored plume.

FCS expressed the concern that a wind direction of 130 degrees would place the observer within the edge of the plume. While this is not allowed in the VISCREEN model, it is acceptable for the PLUVUE 2 model. On page 28 of the User's Manual for the Plume Visibility Model, PLUVUE II Revised (EPA-454/B-92-008, October 1992) EPA states:

> "It should be noted that if the distance (r_p) and azimuthal angle (alpha) are such that the observer is within the plume, the total plume optical thickness along the line of

sight is reduced accordingly. The calculated distance r_p is the distance between the observer and the centroid of plume material viewed by the observer."

As we have stated before, predicted visible plume impacts in Chassahowitzka WA are unacceptable. We understand that FDEP intends to require FCS to meet a lower NO_x emission rate of 207 lb/hr, rather than the proposed rate of 359 lb/hr. If the lower emission rate is met, we are confident that the proposed kiln will not cause visible plumes at Chassahowitzka WA.

Contact: Ellen Porter
(303) 969-2617

CC: T. Heron, BAR
C. Holladay, BAR
B. Oven, DEP
B. Thomas, SWD
D. Beason, OGC
L. Jennings, HC
D. Elias, RTP
L. Curtin, H&K
EPA

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 3, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Dear Mr. Piermatteo:

Re: DEP Files PSD-FL-227, AC 27-274892, PA 82-17
Florida Crushed Stone, Proposed Cement Plant

Enclosed is one copy of the draft permit, Technical Evaluation and Preliminary Determination, proposed BACT determination, to construct a second cement plant at your existing facility in Hernando County, Florida. Also included is the Intent to Issue as well as the Notice of Intent to Issue Permit for you to publish in a newspaper of general circulation in Hernando County.

Please provide proof of publication along with any 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 address. If you have any questions please call Ms. Teresa Heron or Mr. Linero at (904)488-1344.

Sincerely,

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

CHF/th/t

Enclosure

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:

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, Gepol 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.

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.

Attachments are listed below:

1. Application received March 13, 1995.
2. Department's letters dated April 21, memo dated June 16, letter dated August 3 and August 10, 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, and September 14, 1995.
4. EPA's letter dated June 15, 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)
(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 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 tons per hour (TPH), 1992 tons per day (TPD) and 727,080 tons per year (TPY) based upon 8,760 hours of operation per year.. The permitted maximum preheater feed is 138.0 TPH, which is equivalent to a maximum kiln feed rate of 127.0 TPH. [Rule 62-212.200(58), F.A.C.]

4. Fuels fired in No. 2 kiln shall not exceed a total heat input rate of 303 MMBtu/hr and shall consist <u>only</u> of:

a. Coal and whole tires for normal operation

b. Natural gas and blends of unused No. 2 fuel oil and on-spec used oils for startup.

5. The maximum sulfur content of the coal fired in the No. 2 kiln shall not exceed 0.76% sulfur by weight. The coal usage rate shall not exceed 10.3 TPH or 90,228 TPY based on continuous operation. The coal sulfur content shall be determined using ASTM Method D-2234, D-3173, D-3176, D-3177 or D-4239.

6. Whole tires fired may be fed continuously at the kiln inlet at the base of the preheater at a rate not to exceed 45 MMBtu/hr (15% of total kiln fuel input) or 1.33 TPH and 11,039 tons per year based on 8300 hours per year.

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). Thereafter, gases exiting the kiln shall be maintained at an outlet temperature of 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.

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 emission rates for the No. 2 kiln, clinker cooler, raw mill and preheater 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.

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).
Method 29 Determination of Lead, Cadmium, and Mercury from Stationary Sources (proposed) (I).
Method 104 Determination of Beryllium Emissions from Stationary Sources (I).

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 consisting 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 two (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 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 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. In the event of any malfunction resulting in failure of emission control equipment or any malfunction of process equipment resulting in kiln emissions exceeding limits set forth in Tables I and II, the operator shall immediately stop the feeding of tires into the kiln and shall not resume the firing of tires until the emission control equipment has been put into proper working order. [Rules 62-212.200(58); 62-212.200(107)]

35. Objectionable odors associated with air emissions from this facility shall be prohibited. [Rule 62-296.320]

36. 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.

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.].

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

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Howard L. Rhodes, Director
Division of Air Resources Management

Table I
Allowable Opacity Limits

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 TPH Dry Feed				
Iron Ore Bin	Baghouse	2D-61	0.01	5
Fly Ash Bin	Baghouse	2D-64	0.01	5
Filter Dust Bin	Baghouse	2D-72	0.01	5
Raw Meal Transport	Baghouse	2F-03	0.01	5
Limo Silo Storage	Baghouse	2F-21	0.01	5
Raw Mill Storage and Homogenizing Silos	Baghouse	2T-01	0.01	5
Emission Unit: Kiln Operations Process Rate = 303 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 TPH Clinker				
Gypsum Storage Bin	Baghouse	2L-14	0.01	5
Clinker Transport	Baghouse	2L-03	0.01	5
Belt Conveyor	Baghouse	2M-08	0.01	5
Finish Mill Discharge Vent	Baghouse	2N-02	0.01	5
Finish Mill Sepal Separator	Baghouse	2N-08	0.01	5
Emission Unit: Cement Handling Process Rate: ~ 90 TPH Portland Cement				
Cement Storage Silo A	Baghouse	2Q-01, 2Q-20	0.01	5
Cement Storage Silo B	Baghouse	2Q-01, 2Q-20	0.01	5
Cement Silo Discharge Hopper	Baghouse	2Q-01, 2Q-20	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

Table II
Allowable Emissions
Main Stack

POLLUTANT	BACT EMISSION LIMIT		EMISSION RATE*		BASIS
	lb/ton clinker	lb/ton dry feed	lbs/hr	tons/yr	
PM/PM_{10} (kiln)	0.310	0.200	25.400	111.250	BACT
PM/PM_{10} (cooler)	0.150	0.100	12.700	55.620	BACT-NSPS
SO_2	0.270	0.176	22.410	98.156	BACT
NO_x	2.500	1.634	207.500	908.850	BACT
CO	2.000	1.307	166.000	727.080	BACT
VOC	0.100	0.065	8.300	36.354	FCS/DEP
H_2SO_4	0.014	0.009	1.162	5.090	FCS DATA
Beryllium	9.90E-07	6.47E-07	8.22E-05	3.60E-04	FCS/DEP
Mercury	2.40E-05	1.57E-05	1.99E-03	8.72E-03	FCS DATA
Lead	5.20E-04	3.40E-04	4.32E-02	1.89E-01	FCS DATA

Technical Evaluation
and
Preliminary Determination

Florida Crushed Stone Company
Brooksville, Hernando County, Florida

Portland Cement Plant
AC 27-274892
PSD-FL-227
PA 82-17
Hernando County

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

October 3, 1995

SYNOPSIS OF APPLICATION

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 second 83 ton per hour (TPH) cement plant at its existing facility located approximately 3.5 miles northwest of Brooksville, Hernando County. In addition to the existing cement plant, there are large limestone reserves, quarrying operations, a lime plant, and a 150 megawatt power plant on 6400 contiguous acres.

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) 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 emitting facility. As proposed, the project is subject to New Source Review because it constitutes a Major Source with emissions of approximately 301 tons per year (TPY) of particulate matter (PM and PM_{10}), 199 TPY of sulfur dioxide (SO_2), 1581 TPY of nitrogen oxides (NO_x) and 569 TPY of carbon monoxide (CO).

Less than significant emissions of other criteria pollutants, as proposed, are 31 TPY of volatile organic compounds (VOC), 5.1 TPY of sulfuric acid mist (H_2SO_4 as SO_3), 0.04 TPY of lead (Pb), and 0.009 TPY of mercury (Hg), and 0.0003 TPY of beryllium (Be).

III. PROJECT DESCRIPTION

The proposed cement plant will be designed to produce up to 83 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 be 727,080 TPY clinker (i.e. 83 TPH x 8760 hours per year). The major equipment will include a kiln with a preheater, 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.

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, and dry preheater/precalciner 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 preheater/precalciner process. FCS proposes to use the dry preheater process depicted in simplified form in Figure 1.

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, combustion occurs in the kiln. In the dry

KRUPP POLYSIUS

MATERIAL AND GAS FLOW DIAGRAM FOR RAW MATERIAL GRINDING AND PYROPROCESSING

NAME:	DEPARTMENT:	DATE:	PAGE:
OLEG G.	110	7/10/95	E1
CALL SIGN:	FLORIDA CRUSHED STONE	SHORTHAND SYMBOL:	FCS

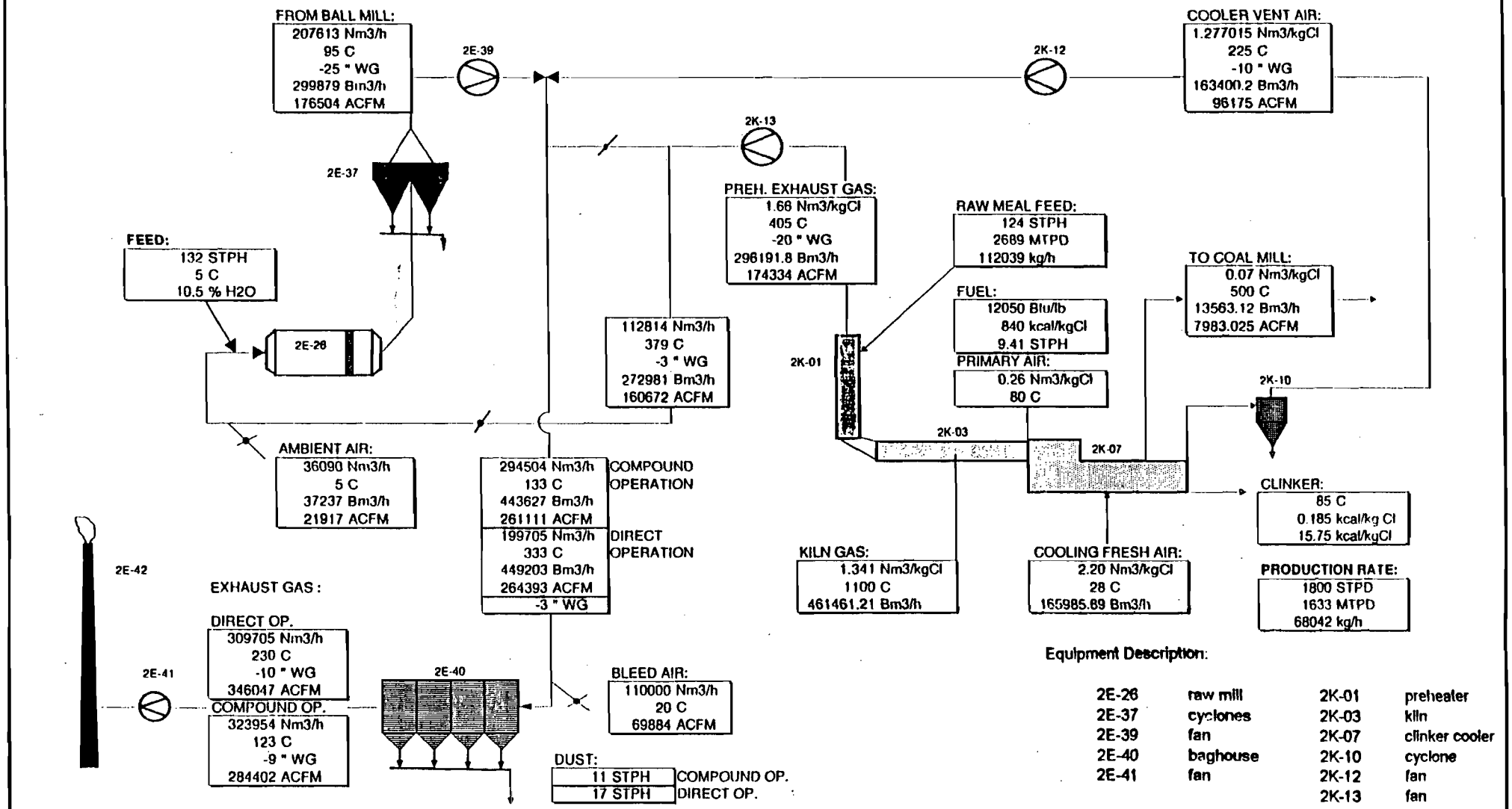

Figure 1

preheater/precalciner process, substantial fuel combustion also occurs in a calcining loop between the preheater and kiln material feed point. It is also not uncommon to introduce some fuel in the preheater section in dry preheater pyroprocessing systems (e.g. to assist in controlling NO_X). As mentioned above, FCS will introduce tires near the kiln entrance.

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 (if present). 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 material temperature increases to 100°C (212°F) in the raw mill and preheater.

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

3. Between 430°C and 900°C (1650°F), calcination occurs between the lower preheater, and within the kiln near the entrance. Carbon dioxide is liberated from the carbonates. A portion of the fuel may be burned in this section, particularly if a separate calcining loop is present.

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 preheater. They exit the preheater 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 countercurrent 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.

IV. FUEL CONSUMPTION

The main fuels to be burned in the kiln are coal (0.76% S) 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 maintained high enough to destroy dioxins and furans.

V. 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 62-210 through 62-297, Florida Administrative Code (F.A.C.).

The new cement plant will be a major emitting facility for PM, PM10, SO2, NOx, and CO. The proposed plant will be located in an area (Hernando County) designated attainment for all criteria

pollutants (Rule 62-275.400 F.A.C.) The proposed facility is subject to the Prevention of Significant Deterioration (PSD) regulations because the potential emissions of each of these pollutants exceed 100 TPY (Rule 62-212.200, F.A.C.).

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 62-212.410, 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 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 0.27 pounds per ton of clinker will be accomplished by firing low sulfur content coal (0.76% S), and limiting fuel oil use to startup. Sulfur dioxide emissions will minimized 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.

NITROGEN OXIDE

A nitrogen oxides emission limit of 2.5 pounds per ton of clinker will be met through proper combustion practices and secondary tire burning. If this method is 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

Carbon Monoxide and Volatile Organic Compounds emission limits of 2.0 and 0.10 pounds per ton of clinker, respectively, will be accomplished through combustion controls.

B. EMISSION LIMITATIONS

The proposed facility will emit the following PSD pollutants (Table 212.400-2): particulate matter, sulfur dioxide, nitrogen oxides, and carbon monoxide in significant amounts and volatile organic compounds, sulfuric acid mist, beryllium, mercury and lead at less than significant levels. The proposed emissions for this facility are summarized in Table A. Table I and Table II list permitted emissions for each emission unit.

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 that FCS will recycle or sell 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.

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 is located in an attainment area for all regulated pollutants, but will emit four pollutants at levels in excess of PSD significant amounts as shown in Table B. These pollutants are SO_2, PM/PM_{10}, NO_x and CO.

The air quality impact analyses required by the PSD regulations for these pollutants include:

* An analysis of existing air quality;
* A PSD increment analysis (SO_2, PM_{10}, and NO_2);
* An Ambient Air Quality Standards (AAQS) analysis;
* An analysis of impacts on soils, vegetation, and visibility and of growth-related air quality modeling impacts; and,
* A "Good Engineering Practice" (GEP) stack height determination.

The analysis of existing air quality generally relies on preconstruction monitoring data collected with EPA-approved methods. The 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 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 modeling procedure and 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. However, an exemption to the monitoring requirement can 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.

Even if preconstruction ambient monitoring is exempted, determination of background concentrations for PSD significant pollutants may 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.

Table C shows that SO_2, PM_{10}, 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. However, since an AAQS analysis is required for PM_{10} (the project's impacts alone for this pollutant are greater than significant, as will be discussed later in this section), previously existing representative monitoring data from PM_{10} monitors located just east of the FCS fenceline are used to establish background concentrations. Background concentrations for PM_{10} are given in Table H.

3. MODELING PROCEDURE

The EPA-approved SCREEN2 and Industrial Source Complex Short-Term (ISCST2) dispersion models were used to evaluate the pollutant emissions from the proposed project. SCREEN2 is a single-source

screening model which uses default meteorology inputs to predict pollutant impacts. The ISCST2 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 ISCST2 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.

Initially, the applicant conducted preliminary modeling using only the proposed project's emissions. This modeling was done to determine the significant impact area (SIA), if any, for each pollutant subject to PSD. This preliminary modeling used both models. For determination of the proposed project's SIA, the receptor grid consisted of discrete receptors located at 0.1 km intervals around the entire property boundary and polar receptors outside the property boundary from the property boundary to 10 km, with a receptor spacing of 1.0 km.

For the AAQS and PSD Class II analyses, the ISCST2 model is used and the receptor grids are based on the size of the SIA for each pollutant, if any. Only maximum predicted impacts for PM_{10} emissions were greater than the significant impact levels (SIL) as shown in Table D.

The Chassahowitzka National Wilderness Area (CNWA) is a PSD Class I area that is located approximately 20 to 30 km west to northwest from the project site. In the PSD Class I analysis, CNWA is represented by 13 Department-approved standard discrete receptors.

Meteorological data used in the ISCST2 model to determine air quality impacts 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 (surface data) and Ruskin (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 ISCST2, the highest second-high (HSH) short-term predicted concentrations were compared with the appropriate ambient air quality standards or PSD

increments. For the annual averages, the highest predicted yearly average was compared with the standards. For determining the SIA, 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

As stated in the section above and as shown in Table D, the maximum air quality impacts due to SO_2, NO_x and CO emissions from the proposed project are less than the applicable PSD Class II significant impact levels. Therefore, the applicant was not required to do further impact analyses for these pollutants for comparison with the AAQS and the PSD Class II increments. However, the maximum 24-hour average PM10 air quality impacts due to emissions from the proposed project are greater than the significant impact level. Therefore, a further impact analysis for comparison with the AAQS and PSD Class II increments was required for this pollutant.

5. PSD INCREMENT ANALYSIS

a. Class II Area

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant. Atmospheric dispersion modeling, as previously described, was performed to quantify the amount of PSD increment consumed. The results, given in Table E, show that the maximum PM_{10} PSD increment consumption will not exceed the allowable Class II PSD increments.

b. Class I Area

Table F shows the comparison between the maximum predicted PM_{10}, SO_2 and NO_2 impacts at the CNWA due to the proposed project and the National Park Service's SIL. The maximum impacts are less than the applicable SIL for PM_{10} and SO_2 (using the Department's BACT limit). Therefore, no further Class I modeling was necessary for these pollutants. However, the maximum NO_2 impact was greater than the SIL; therefore, further refined NO_2 Class I increment modeling was required. The results of this modeling is given in Table G, and shows that maximum predicted NO_2 increment consumption is less than the NO_2 increment in the CNWA.

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 (approximately one-third of a square km immediately outside the east and southeast property fenceline) 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 1991 to 1993 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 for PM_{10} are summarized in Table H. As shown in this table, emissions from the proposed facility are not expected to cause or contribute to a violation of an AAQS.

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 Table I. 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.

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 visibility computer models were used to estimate the impact of the proposed project's stack emissions on visibility in the CNWA. Based on the applicant's

proposed emission rate of NO_2, the results of these three analyses showed that a plume may be visible to an observer located in the CNWA greater than 0% of the time. However, the Department's BACT determination for NO_2 emissions is less than that requested by the applicant. When this emission rate is input into the level-3 PLUVUE-II analysis, a visible plume is predicted 0% of the time. As a result, there is no significant impact on visibility predicted for this Class I area with the Department's proposed NO_2 emission rate.

3. GROWTH-RELATED AIR QUALITY IMPACTS

There will be a small number of temporary construction workers during construction and even smaller number of new permanent workers after project is completed. However, there will be no significant impacts on air quality caused by associated population growth.

Locally, there will be impacts upon background noise and traffic congestion due to increased truck traffic. The area has been zoned for the proposed activities for many years. The developmental effects fall within the purview of the transportation and planning bodies having jurisdiction over the area.

4. GEP STACK HEIGHT DETERMINATION

Good Engineering Practice (GEP) stack height means the greater of: (1) 65 m (213 ft) or (2) the maximum nearby building height plus 1.5 times the building height or width, whichever is less. The plant's main stack will be 97.6 m (320 ft). This stack height represents the GEP stack height and will comply with GEP stack height regulations.

VII. 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.

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Table A
Summary of Proposed Emissions

POLLUTANT	POTENTIAL INCREASE IN FACILITY EMISSIONS (tons/year)	PSD SIGNIFICANT EMISSION RATES (tons/year)	SUBJECT TO PSD REVIEW
SO_2	198.5	40	Yes
NO_x	1581.2	40	Yes
CO	569.4	100	Yes
TSP	300.9	25	Yes
PM_{10}	300.9	15	Yes
O_3 (VOC emission	31.21	40	No
Pb	0.04	0.6	No
Hg	0.07	0.1	No
Be	0.0003	0.0004	No
H_2SO_4	5.1	7	No
Fluorides	0.07	3	No

Table B. Projected Cement Plant Emission Rates for Comparison with PSD Significant Emission Rates (Tons per Year)

Pollutant	Proposed Emission Rate	Significant Emission Rate	Applicable Pollutant (Yes/No)
PM	226	25	Yes
PM_{10}	147	15	Yes
SO_2	98	40	Yes
NO_x	909	40	Yes
CO	556	100	Yes
VOC	28	40	No
Pb	0.027	0.6	No
Be	0.0002	0.0004	No
H_2SO_4	5.1	7	No
Hg	0.009	0.1	No

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

Pollutant	Avg. Time	Max Predicted Impact[1] (ug/m^3)	De Minimus Level (ug/m^3)
SO_2	24-hour	0.6	13
PM_{10}	24-hour	9.0	10
NO_2	Annual	0.3	14
CO	8-hour	4	575

1. Highest, high value over a five year period for all averaging times.

Table D. Maximum Project Air Quality Impacts for Comparison to the PSD Class II Significant Impact Levels.

Pollutant	Avg. Time	Max Predicted Impact[1] (ug/m^3)	Significant Impact Level (ug/m^3)
SO_2	Annual	0.04	1
	24-hour	0.6	5
	3-hour	2.4	25
PM_{10}	Annual	0.7	1
	24-hour	9.0	5
NO_2	Annual	0.3	1
CO	8-hour	4	500
	1-hour	14	2000

1. Highest, high value over a five year period for all averaging times.

Table E. PSD Class II Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	Allowable Increment (ug/m^3)
PM_{10}	Annual	3	17
	24-hour	27	30

1. Highest, second-highest value over a five year period for 24-hour averaging time.

Table F. Maximum Project Air Quality Impacts for Comparison to the PSD Class I Significant Impact Levels

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	National Park Service (NPS) Significant Impact Level (ug/m^3)
SO_2	Annual	0.003	0.025
	24-hour	0.0699	0.07
	3-hour	0.27	0.48
PM_{10}	Annual	0.01	0.08
	24-hour	0.22	0.27
NO_2	Annual	0.091	0.025

1. Highest, high value over a five year period for all averaging times.

Table G. PSD Class I Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	Allowable Increment (ug/m^3)
NO_2	Annual	1.0	2.5

1. Highest, high value over a five year period.

Table H. Ambient Air Quality Impacts

Pollutant	Averaging Time	Major Sources Impact[1] (ug/m^3)	Background Conc. (ug/m^3)	Total Impact (ug/m^3)	Florida AAQS (ug/m^3)
PM_{10}	Annual	1	33	34	50
	24-hour	10	67	77	150

1. Highest, second-highest value over a five year period for 24-hour averaging time.

Table I. 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	3.58e-04	2	1.28e-04	0.48	1.3e-05	2.3e-04
Benzene	0.15	30	0.05	7.2	5.2e-03	1.2e-01
Beryllium	7.4e-06	0.02	2.6e-06	4.8e-03	3.0e-07	4.2e-04
Biphenyl	6.0e-05	13	2.0e-05	3.12	-	-
Cadmium	4.47e-04	0.5	1.60e-04	0.12	1.6e-05	5.6e-04
Carbon disulfide	1.9e-02	310	6.65e-03	74	6.8e-04	200
Chlorobenzene	2.91e-03	3450	1.04e-03	828	-	-
Chromium	1.86e-03	5	6.6e-04	1.2	7.0e-05	8.3e-04
Cobalt	4.5e-04	0.5	1.6e-04	0.12	-	-
Dioxin	-	-	-	-	1.78e-10	2.2e-08
Ethylbenzene	1.34e-03	4340	4.79e-04	1042	4.9e-05	1000
Formaldehyde	4.03e-03	12	1.44e-03	2.88	1.5e-04	7.7e-02
Hexane	4.25e-04	1760	1.52e-04	422	1.6e-05	200
Hydrogen Chloride	1.04	75	0.373	18	0.038	7
Lead	0.012	0.5	4.25e-03	0.12	4.4e-04	9.0e-02
Manganese	8.2e-03	50	2.92e-03	12	3.0e-04	0.4
Mercury	3.58e-03	0.1	1.28e-03	2.4e-02	1.3e-01	0.3
Methyl Chloride	2.68e-03	1030	9.6e-04	247	-	-
Methyl Ethyl Ketone	2.24e-04	5900	8.0e-05	1416	8.0e-06	80
Methylene Chloride	5.82e-03	1740	2.07e-03	418	2.1e-04	2.1
Napthalene	0.029	520	0.01	125	-	-
Nickel	1.79e-03	1	6.4e-04	0.24	7e-05	4.2e-03
Phenol	8.2e-04	190	2.92e-04	46	3.0e-05	30
Selenium	1.94e-03	2	6.9e-04	0.48	-	-
Styrene	3.88e-03	2130	1.38e-03	511	-	-
Toluene	0.02	3770	6.38e-03	898	6.6e-04	300
Trichloroethylene	3.2e-05	2690	1.1e-05	646	-	-
Xylene	5.15e-03	4340	1.83e-03	1042	1.9e-04	80

Note: ARC = Ambient Reference Concentration

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Pollutant	Proposed Emission Rate	Significant Emission Rate	Applicable Pollutant (Yes/No)
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SO_2	98	40	Yes
NO_x	909	40	Yes
CO	556	100	Yes
VOC	28	40	No
Pb	0.027	0.6	No
Be	0.0002	0.0004	No
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Pollutant	Avg. Time	Max Predicted Impact[1] (ug/m^3)	Significant Impact Level (ug/m^3)
SO_2	Annual	0.04	1
	24-hour	0.6	5
	3-hour	2.4	25
PM_{10}	Annual	0.7	1
	24-hour	9.0	5
NO_2	Annual	0.3	1
CO	8-hour	4	500
	1-hour	14	2000

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Table E. PSD Class II Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	Allowable Increment (ug/m^3)
PM_{10}	Annual	3	17
	24-hour	27	30

1. Highest, second-highest value over a five year period for 24-hour averaging time.

Table F. Maximum Project Air Quality Impacts for Comparison to the PSD Class I Significant Impact Levels

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	National Park Service (NPS) Significant Impact Level (ug/m^3)
SO_2	Annual	0.003	0.025
	24-hour	0.0699	0.07
	3-hour	0.27	0.48
PM_{10}	Annual	0.01	0.08
	24-hour	0.22	0.27
NO_2	Annual	0.091	0.025

1. Highest, high value over a five year period for all averaging times.

Table G. PSD Class I Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	Allowable Increment (ug/m^3)
NO_2	Annual	1.0	2.5

1. Highest, high value over a five year period.

Table H. Ambient Air Quality Impacts

Pollutant	Averaging Time	Major Sources Impact[1] (ug/m^3)	Background Conc. (ug/m^3)	Total Impact (ug/m^3)	Florida AAQS (ug/m^3)
PM_{10}	Annual	1	33	34	50
	24-hour	10	67	77	150

1. Highest, second-highest value over a five year period for 24-hour averaging time.

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	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	3.58e-04	2	1.28e-04	0.48	1.3e-05	2.3e-04
Benzene	0.15	30	0.05	7.2	5.2e-03	1.2e-01
Beryllium	7.4e-06	0.02	2.6e-06	4.8e-03	3.0e-07	4.2e-04
Biphenyl	6.0e-05	13	2.0e-05	3.12	-	-
Cadmium	4.47e-04	0.5	1.60e-04	0.12	1.6e-05	5.6e-04
Carbon disulfide	1.9e-02	310	6.65e-03	74	6.8e-04	200
Chlorobenzene	2.91e-03	3450	1.04e-03	828	-	-
Chromium	1.86e-03	5	6.6e-04	1.2	7.0e-05	8.3e-04
Cobalt	4.5e-04	0.5	1.6e-04	0.12	-	-
Dioxin	-	-	-	-	1.78e-10	2.2e-08
Ethylbenzene	1.34e-03	4340	4.79e-04	1042	4.9e-05	1000
Formaldehyde	4.03e-03	12	1.44e-03	2.88	1.5e-04	7.7e-02
Hexane	4.25e-04	1760	1.52e-04	422	1.6e-05	200
Hydrogen Chloride	1.04	75	0.373	18	0.038	7
Lead	0.012	0.5	4.25e-03	0.12	4.4e-04	9.0e-02
Manganese	8.2e-03	50	2.92e-03	12	3.0e-04	0.4
Mercury	3.58e-03	0.1	1.28e-03	2.4e-02	1.3e-01	0.3
Methyl Chloride	2.68e-03	1030	9.6e-04	247	-	-
Methyl Ethyl Ketone	2.24e-04	5900	8.0e-05	1416	8.0e-06	80
Methylene Chloride	5.82e-03	1740	2.07e-03	418	2.1e-04	2.1
Napthalene	0.029	520	0.01	125	-	-
Nickel	1.79e-03	1	6.4e-04	0.24	7e-05	4.2e-03
Phenol	8.2e-04	190	2.92e-04	46	3.0e-05	30
Selenium	1.94e-03	2	6.9e-04	0.48	-	-
Styrene	3.88e-03	2130	1.38e-03	511	-	-
Toluene	0.02	3770	6.38e-03	898	6.6e-04	300
Trichloroethylene	3.2e-05	2690	1.1e-05	646	-	-
Xylene	5.15e-03	4340	1.83e-03	1042	1.9e-04	80

Note: ARC = Ambient Reference Concentration

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION
PORTLAND CEMENT PLANT
Florida Crushed Stone
PSD-FL-227 and AC 27-274892
Hernando County

The applicant, Florida Crushed Stone Company (FCS), plans to construct an 83 ton per hour (maximum TPH as clinker) dry process portland cement kiln with a preheater 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 727,080 tons per year (maximum TPY as clinker) and approximately between 760,000 and 800,000 TPY of portland cement. A 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)	0.3 lbs/ton of dry kiln feed
Particulate Matter (cooler)	0.1 lbs/ton of dry kiln feed
Particulate Matter (material handling, conveying, storage)	0.01 gr/dscf by baghouses
Sulfur Dioxide (kiln)	0.55 lbs/ton clinker
Sulfuric Acid Mist (kiln)	0.014 lbs SO_3/ton clinker
Nitrogen Oxides (kiln)	4.3 lbs/ton clinker
Carbon Monoxide (kiln)	1.0 lbs/ton dry kiln feed
Volatile Organic Compounds (kiln)	0.07 lbs/ton clinker
Beryllium	6.6×10^{-7} lbs/ton clinker
Lead	7.5×10^{-5} lbs/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 is a list of the emission units to be controlled by baghouses.

Portland cement plants are among the major facilities listed in Florida Administrative Code (F.A.C.) Chapter 62-212, Prevention of Significant Deterioration (PSD), Table 212.400-1, "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 (NO_x).

This facility is also subject to:

- 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:

March 13, 1995

Review Group Members:

Teresa Heron, Marty Costello, 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 infeasible 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:

- Combustion Products (e.g., SO_2, NO_x, PM). Controlled generally by good combustion of clean fuels, reactions with clinker and raw materials, removal in add-on control equipment.

- Products of Incomplete Combustion (e.g., CO, VOC). Control is largely achieved by proper combustion techniques.

- 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.

COMBUSTION PRODUCTS

Nitrogen Oxides (NOx)

Emissions of NO_x from dry process cement plants with a preheater include the kiln and any fuel-fired support operation.

Oxides of nitrogen (NOx) are generated during fuel combustion by oxidation of chemically bound nitrogen in the fuel (fuel NOx) and by thermal fixation of nitrogen in the combustion air (thermal NOx). As flame temperature increases, the amount of thermally generated NOx increases. Fuel type affects the quantity and type of NOx generated. Generally, natural gas is low in nitrogen. However it causes higher flame temperatures and generates more thermal NOx 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 NOx can potentially be reduced at Portland cement plants by two methods:

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

2. Reducing the quantity of NOx 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. Introduction of tires in the material feed end of the kiln will reduce the thermal load on the burner end and possibly result in lower NO_X emissions. In its original submittal, the applicant ruled out Selective Catalytic Reduction (SCR) and Selective Non-Catalytic Reduction (SNCR) as technically infeasible 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 Department requested that the applicant provide an expanded BACT analysis using the procedures described in the EPA New source Review Workshop Manual to show, at a minimum, a technical, economic, and environmental analysis of any applicable control

technology. The applicant's response was that the "top" technology was selected for all pollutants and that the technical, economic, and environmental analyses were not required.

The applicant has proposed a NOx emission rate of 359 lb/hr and 4.3 lb/ton clinker. 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 1995
lb/ton clinker	11.13	0.85	4.3

It is important to note that the facility which was given the 0.85 lb/ton NO_X limit has not been able to meet it since construction. A dry process plant with preheater/precalciner received a NO_X limit of 1.11 lb/ton but was never built. Another dry process plant with preheater and calcining loop received a BACT determination of 2.09 lb NO_X/ton. However, it appears that since that time a less stringent standard was applied. Two other dry process preheater/precalciner plants (including proposed Florida Rock Industries Plant) received a NO_X value of 2.5 lb/ton. A review of the NOx emission rate summary indicates that the applicant's proposal is not representative of the most stringent BACT determinations made to-date for plants utilizing dry processes.

The dry process with preheater/precalciner is considered to be the most energy-efficient process. Dry process preheater designs, such as the one to be employed by FCS, are also energy efficient. Therefore one would expect the lower fuel use to result in relatively low NO_X, all else being equal.

A survey of stack test data from various kilns around the country, operating for more than three years, suggests that a lower emission level than the one proposed for NOx is possible. Additionally, the Department became aware of a recent BACT determination in Nevada which was based on application of SNCR. These factors will also be considered in determining what emission rate can be achieved in accordance with a top-down BACT determination.

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.

The SO_2 limit proposed by the applicant (0.55 lbs/ton clinker) is less stringent than some BACT determinations for other portland cement plants.

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.

A survey of stack test data from different facilities around the country operating for at least three years demonstrates lower rates possible for SO_2. This factor along with the energy efficiency of the plant, and the possible benefits of removal by the particulate control system will be considered by the Department in making a top-down BACT determination.

COMBUSTION PRODUCTS

Particulate Matter (PM, PM10) and Beryllium

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. FCS has not stated that all cement kiln dust (CKD) captured in the baghouse will be returned to the pyroprocessing system as raw material. It is expected that the majority of it 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 various 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) are generated by the combustion of coal and fuel oil blends. Beryllium will be generated as a particulate emission from the combustion of fuels, and will be controlled by the kiln/cooler baghouse. The applicant projects low emissions of Be such that it will not be subject to BACT.

A review of the BACT Clearinghouse shows 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 the New Source Performance Standard NSPS limits of 0.3 pounds per ton of dry feed (kiln) and 0.1 pounds per ton of dry feed (cooler) as BACT for this facility. The NSPS values constitute the "floor" for BACT determinations. Consideration will also be given to any more stringent emission rates determined for kilns in Florida.

PRODUCTS OF INCOMPLETE COMBUSTION

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.

VOC is also a pollutant formed by the incomplete combustion of fuel or hydrocarbons contained in the raw materials.

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 flu gas stream (flue gas control).

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:

Based on the information provided by the applicant and the information searches conducted by the Department, lower emissions limits can be obtained employing the top-down BACT approach for SO_2 and NO_X.

The Department has determined that the NO_X and SO_2 levels proposed by the applicant are roughly equal to typical emission limits from plants already in operation throughout the country and do not reflect previous BACT determinations for portland cement plants.

The Department reviewed Document EPA-453/R-94-004, "Alternative Control Techniques - NO_X Emissions from Cement Manufacturing." Various methods beyond the one proposed by the applicant are detailed. As previously mentioned, the high energy efficiency of the dry preheater process also suggests a lower NO_X limit is achievable. Based on the referenced document, it appears that SNCR, Low NO_X burners and Indirect Firing are available (at least as technology transfer) to consider in achieving a lower NO_X emission limit.

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 NO_XOUT 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.

Recently a proposed cement plant (Great Star Cement, Clark County, Nevada) was permitted with the urea-based SNCR/NO_XOUT 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 the BACT limit of 3.1 lb/ton clinker.

The Department recently issued a BACT determination to Florida Rock Industries (FRI) with a NO_X limit of 2.5 lb/ton clinker. FRI had proposed a BACT limit of 4.6 lbs/ton. The Department is requiring FRI to examine additional control options, such as SNCR to insure the limit is achieved.

Based on a recent Nalco estimate prepared for Great Star Cement, the capital costs for SNCR on a 3100 TPD kiln is $471,000 ($54,165 on an annualized basis). Operating costs to reduce NO_X emissions by 3.0 lb/ton clinker are $674,000. First year costs are projected to be $728,000 and $410/ton NO_X removed.

The Department examined the worst case scenario which assumes that FCS can only achieve its proposed BACT NO_X value of 4.3 lb/ton clinker while employing proper combustion practices. The Department reviewed the degree to which SNCR can be employed in order to achieve a further (roughly 40%) NO_X reduction to 2.5 lb/ton clinker.

For the FCS plant, the purchase and installation of an SNCR system similar to the one proposed for Great Star Cement (but with a lower removal objective) would be approximately $575,000 for an annualized capital investment of approximately $65,000 per year. Annual operating costs would be approximately $200,000. First year costs would be approximately $265,000 or approximately $425 per additional ton of NO_X removed.

The cost per ton of NO_X removed is well within BACT costs for industry in general. The added cost to clinker production is low (approximately $0.40 per ton of clinker) relative to other factors such as raw materials, product, and transportation cost fluctuations.

The Department is also aware of a cement plant owned by Mitsubishi in California, which makes use of a similar principal by injecting municipal wastewater sludge into a preheater section and relying (to some extent) on released ammonia to help lower NO_X emissions.

FCS previously ruled out SNCR as infeasible 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 contends that injection of ammonia/urea in the kiln will cause increases in NO_X.

Although SNCR has been demonstrated in the U.S. on a preheater/precalciner kiln and is being required at another one, the previously-mentioned EPA cement plant NO_X document refers to an SNCR demonstration in Europe on a preheater type kiln. It is possible that the applicant considered the temperature of the materials entering the kiln rather than the gases leaving the kiln.

For SO_2 the Department reviewed information in the BACT Clearinghouse, performance test results, and various cement technology documents detailing the chemical reactions and technological problems of making cement. It is the conclusion of the Department that the key factors in SO_2 removal is 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 BACT. It is clear that FCS can insure low SO_2 emissions is through its preheater dry process.

The Department believes that lower values than proposed by the applicant with no add-on gas treatment, are possible. This is substantiated by the letter of October 28, 1983 from Sholtes and Koogler, Environmental Consultants, regarding the original kiln at FCS (which is identical to the one proposed). 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 lbs of SO_2 per hour or approximately 0.1 lbs/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.

The BACT emission levels are established by the Department as follows:

Source	Pollutant Emission Limit
Kiln (PM)	0.20 lbs/ton kiln feed (dry basis) and 0.31 lbs/ton clinker - 1 hour average
Kiln (PM_{10})	0.26 lbs/ton clinker - 1 hour average
Kiln (VE)	Visible emissions not to exceed 10 percent opacity
Kiln (SO_2)	0.27 lbs/ton clinker 24 hr rolling average Coal (0.76% sulfur by weight), blend of fuel oil and on-spec used oil (1.5 sulfur by weight), tires (up to 15% of heat input), and natural gas are the <u>only</u> fuels allowed

Kiln (NOx)	2.5 lbs/ton clinker - 24 hr rolling average
Kiln (CO)	2.0 lbs/ton clinker - 1 hr average
Kiln (SO_3)	0.014 lbs/ton clinker (non-BACT)
Kiln (VOC)	0.10 lbs/ton clinker (non-BACT)
Kiln (Be)	9.9×10^{-7} lbs/ton clinker (non-BACT)
Kiln (Hg)	2.4×10^{-5} lbs/ton clinker (non-BACT)
Kiln (Pb)	5.2×10^{-4} lbs/ton clinker (non-BACT)
Cooler (PM)	0.10 lbs/ton kiln feed (dry basis) and 0.16 lbs/ton clinker
Cooler (PM10)	0.13 lbs/ton clinker
Cooler (VE)	Visible emissions not to exceed 10% opacity
Minor points with baghouses	Visible emissions not to exceed 5% opacity
Fugitive sources	Visible emissions not to exceed 10% opacity

Compliance with the particulate emission limitations shall be in accordance with the 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 shall be determined by conducting observations in accordance with 40 CFR 60, Appendix A, Method 9.

Compliance with the SO_2 and NO_x emission limitations shall be demonstrated using CEMS.

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(5)(c) and 62-296.330, 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.

BACT Determination Rationale:

BACT for visible emissions was determined to be more stringent than the NSPS for Portland Cement Plant, 40 CFR 60, Subpart F. With respect to the kiln, BACT for PM was determined to be more stringent than the NSPS for Portland Cement Plant, 40 CFR 60, Subpart F. The basis is the BACT Determination set by EPA for Pennsuco Cement, Medley, Florida in 1980.

BACT for SO_2 emissions from the cement kiln was based on the lowest number (0.28 lbs/ton clinker) given in the BACT Clearinghouse database. A slightly lower value of 0.27 lbs/ton clinker will also insure that ambient SO_2 concentration increases will be less than 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.

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.

BACT for NO_X emissions from the cement kiln was determined to be equal to 2.5 lbs/tons of clinker. This rate was obtained from the BACT Clearinghouse. Unless the company commits to installing SNCR, FCS will need to develop a contingency project plan to implement additional technology if the plant fails to meet the NO_X limit. The Department will need to review and approve that plan prior to initiation of construction.

BACT for CO was determined to be 2.0 lbs/ton clinker. This value is greater than the proposed by FCS or given in AP-42. It will provide additional flexibility to minimize NO_X and SO_2 emissions. No BACT determination was required for VOC. The Department set a limit higher than requested by FCS which will result in annual emissions less than the BACT threshold, but allow FCS a little more flexibility in optimizing all control for all combustion products.

No BACT determination was required for Pb. The limit requested by FCS was adopted insures BACT will not be triggered.

No BACT was required for Be. The limit requested by FCS was not adopted because it would trigger BACT. The adopted value will

result in emissions less than the PSD significant threshold value.

No BACT was required for Hg. The estimate provided by FCS will result in emissions less than the applicable BACT threshold.

Details of the Analysis May be Obtained by Contacting:

Teresa Heron, Review Engineer,
A. A. Linero, 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:

_____
Howard L. Rhodes, P.E., Director
Division of Air Resources Management

Date: _____

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of an
Application for Permit by:

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

DEP File No. AC 27-274892
PSD-FL-227
PA 82-17

_____/

INTENT TO ISSUE

The Department of Environmental Protection hereby gives notice of its intent to issue a construction permit (copy attached) for the proposed project, as detailed in the application specified above, and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Florida Crushed Stone Company applied on March 13, 1995, to the Department of Environmental Protection for a permit to construct a second cement plant at its existing facility, 3.5 miles northwest of Brooksville, Hernando County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-212 and 62-4, Florida Administrative Code (F.A.C.). The project is not exempt from permitting procedures. The Department has determined that a construction permit is required for the proposed project.

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 Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "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. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 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.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 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 at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department 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 facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this

proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

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 INTENT TO ISSUE and all copies were mailed by certified mail before the close of business on 10-3-95 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 10-3-95 Date

Copies furnished to:

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

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

AC 27-274892
PSD-FL-227

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Florida Crushed Stone Company (FCS), 10311 Cement Plant Road, Brooksville, Florida, for a second 83 ton per hour cement plant. The plant will be located at the site of the existing FCS/Central Power and Lime facility, 3.5 miles northwest of Brooksville, Hernando County. The project includes a dry process kiln with a preheater, clinker cooler, crushers, raw mill, finish mill, material and fuel handling equipment, silos, and shipping facilities. Pollution control equipment include 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 carbon monoxide (CO); combustion controls for nitrogen oxides (NO_x) with additional controls to be specified as needed to meet permit limits; and baghouses for particulate emissions from other process emission units.

A Best Available Control Technology (BACT) determination was required for emissions of sulfur dioxide (SO_2), nitrogen oxides (NOx), particulate matter (PM), and carbon monoxide (CO) pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD).

Emissions of these pollutants will not exceed the following limits:

Pollutant	Maximum Emissions (Tons Per Year)
PM	250
SO_2	98
NOx	909
CO	727
VOC	39.8
Sulfuric Acid Mist	5.1
Lead	0.2
Mercury	0.009
Beryllium	0.00036

An air quality impact analysis was conducted. SO_2 and NO_2 impacts from the project will not have a significant impact in the PSD Class II area; therefore, no Class II increment consumption was predicted for these two pollutants. The maximum PM_{10} PSD Class II increment and maximum percent of allowable PSD Class II increment consumed due to this project will be as follows:

PSD Class II Increment Consumed (ug/m^3)		Allowable Increment (ug/m^3)	Percent Increment Consumed
PM_{10}			
24-hour	27	30	90
Annual	3	17	18

The project, as amended by the Department BACT Determination, 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 was determined for SO_2 and PM_{10} was determined. The maximum NO2 PSD Class I increment and maximum percent of allowable increment due to this project will be as follows:

PSD Class I Increment Consumed (ug/m^3)		Allowable Increment (ug/m^3)	Percent Increment Consumed
NO_2 Annual	1.0	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.

Any person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (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 at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department 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 facts which petitioner

contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and, (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

The application 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

Department of Environmental Protection
Southwest District Branch Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Hernando County Planning Department
20 North Main Street, Room 262
Brooksville, Florida 34601-2807

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department of Environmental Protection, Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

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. Permatteo
FA Crushed Stone
10311 Cement Plant Rd
Brooksville, Fl 34601

4a. Article Number
Z 127 632 530

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

7. Date of Delivery
9-5-95

5. Signature (Addressee)

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

6. Signature (Agent)

PS Form

14

Thank you for using Return Receipt Service.

Z 127 632 530

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to
Joseph Permatteo
Street and No.
FA Crushed Stone
P.O., State and 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, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	PSD-FL-227 AC 27-274892 10-3-95 PA 82-17

PS Form 3800, March 1993

MEMORANDUM

TO: Teresa Heron

FROM: Donald F. Elias, William E. Corbin

DATE: September 12, 1995

SUBJECT: Florida Crushed Stone Emissions as compared to 62-296 FAC limits

The NO_x RACT limit for cement plants is given as 2.0 lbs/MMBTU at 62-296.570(4)(b)(8) FAC. The current air permit for the existing cement kiln limits the sum total maximum heat input to the equivalent of 10.3 tons/hour of coal. Due to the variability in coal heat contents, there is no limit in the existing kiln permit for the total heat input in units of MMBTU/hour. We adopted the same language in the proposed draft permit provided to you on July 17th -- namely a maximum coal feed rate but no maximum heat input rates.

In the permit application forms on page 19, we provided an estimate of the maximum heat input rate as 276.62 MMBTU/hour based on a July 1994 coal sample showing 13,428 BTU/lb. Based on historical data, the maximum tested coal sample was 14,029 BTU/lb, giving a heat input rate to the cement kiln of 289.00 MMBTU/hr. At the proposed NO_x emission limit of 359 lbs/hour, these heat inputs would give NO_x emissions of 1.24 to 1.30 lbs/MMBTU. Due to the variability in coal shipments, we have revised page 19 of the air permit application forms (attached) utilizing a 5% factor on the recent measurement, yielding 14,730 BTU/lb. This gives a maximum heat input of about 303 MMBTU/hr and a NO_x emission rate of 1.18 lbs/MMBTU. All of these lb/MMBTU emission factors are very much less than the RACT limit of 2.0 lbs/MMBTU and would allow for any variation in the coal heat contents.

The PM emission limit for new plants is given as 0.3 lbs/ton feed for the kiln and 0.1 lbs/ton feed for the clinker cooler at 62-296.407 FAC[a]. We adopted these NSPS limits in our proposed draft permit for the cement kiln. At the kiln feed rate of 127 tons/hour, NSPS translates to total PM emissions of 50.8 lbs/hour from the kiln and clinker cooler. In order to conform with the existing cement kiln permit, we also adopted an hourly emission limit of 49.5 lbs/hour (approximately 0.39 lbs/ton feed total) in the proposed draft permit.

If you have any questions or need any additional information, please feel free to contact us at 908-968-9600. If you need any assistance, either technical or clerical, please don't hesitate to call.

cc: T.Mountain
L.Curtin
M.Hober/M.Lewis/FCS Project File

[a]These PM emission limits are more restrictive than the RACT PM emission limits for cement

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**303** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **Not Applicable**		
4. Maximum Production Rate: **83 tons clinker/hour**		
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

Revised 09/12/95

RTP ENVIRONMENTAL ASSOCIATES INC.®

MEMORANDUM

TO: Teresa Heron

FROM: Donald F. Elias, William E. Corbin WEC

DATE: September 12, 1995

SUBJECT: PCB Limits on On-Spec Used Oil

FAXED 09-12-95

Florida Crushed Stone is willing to revise the PCB limit in the permit application as a result of discussions by Mr. Tom Mountain of Florida Crushed Stone with Ms. Lizanne Garcia of the Hernando County Planning Department. The allowable concentration for Polychlorinated Biphenyls (PCBs) should be revised from 50 ppm to 2 ppm in Specific Condition 10 of the proposed draft permit conditions we transmitted to you with our letter dated July 17, 1995.

It is our understanding that this resolves all outstanding issues with Hernando County. Please call us at 908-968-9600 is you need any additional assistance.

cc: T.Mountain, Florida Crushed Stone
L.Curtin, Holland & Knight
M.Hober/M.Lewis/FCS Project File, RTP

RECEIVED
SEP 15 1995
Bureau of Air Regulation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

SEP 11 1995

IN REPLY REFER TO:

RECEIVED
SEP 12 1995
Bureau of
Air Regulation

RECEIVED
SEP 13 1995
Bureau of
Air Regulation

Mr. Clair H. Fancy
Chief, Bureau of Air Regulation
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road, MS 48
Tallahassee, Florida 32399

Dear Mr. Fancy:

Enclosed are additional comments on the Prevention of Significant Deterioration permit application for the new cement kiln proposed by Florida Crushed Stone.

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 telephone number 303/969-2617.

Sincerely yours,

For Noreen K. Clough
Regional Director

Enclosure

CC: T. Heron
Hernando Co.
EPA
SWD
T. Mountain
L. Curtin
D. Elias
H. Oven
C. Holladay

Technical Review of the
Prevention of Significant Deterioration
Permit Application for the New Cement Kiln
Proposed by Florida Crushed Stone
by
Air Quality Branch, Fish and Wildlife Service - Denver

In our April 19, June 16, and August 11, 1995, letters to you, we commented on the Prevention of Significant Deterioration permit application and additional information for the new cement kiln proposed by Florida Crushed Stone (FCS). The kiln would be located 20 kilometers southeast of Chassahowitzka Wilderness Area (WA), a Class I air quality area, administered by the U.S. Fish and Wildlife Service (FWS). The new kiln would emit significant amounts of PM-10, sulfur dioxide (SO_2), nitrogen oxides, and carbon monoxide.

Our August 11 letter expressed concern regarding the FCS visibility analysis of July 12, 1995, that predicted visible plume impacts at Chassahowitzka WA 3.2 percent of the time (289 hours per year) due to emissions from the proposed kiln. We requested that FCS repeat the analysis, eliminating the hours between 6 p.m. and midnight, in order to better assess visible plume impacts during daylight hours. The FWS Air Quality Branch, your office, and FCS agreed that a visible plume formed during these hours would probably not impact Chassahowitzka WA during daylight.

We received the requested analysis August 23, 1995. The analysis predicted that a visible coherent plume resulting from emissions from the proposed kiln would occur 2.23 percent of daylight hours in Chassahowitzka WA, or approximately 146 hours. According to FWS policy, such visible plume impacts would constitute an adverse impact to visibility at the wilderness area. In addition, such impacts would be contrary to the national goal set by Congress in the Clean Air Act Amendments of 1977: "the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution."

Therefore, we request that FCS be required to reduce emissions to ensure that no visible plume impacts occur at Chassahowitzka WA during daylight hours due to the proposed kiln. If emission reductions cannot be achieved, we ask that FCS obtain emissions offsets and demonstrate that such offsets would result in a net environmental benefit to the wilderness area. We ask that your office consult with us on any proposed offsets.

In addition, we are concerned about the potential impacts of SO_2 emissions from the FCS proposed kiln. Our June 9 letter expressed concern regarding predicted exceedances of the 3-hour and 24-hour SO_2 Class I increments. Emissions from the new kiln would contribute significantly to these exceedances. In a July 5, 1995, conference call with your office and FCS, the FWS Air Quality Branch proposed that the SO_2 emission rate from the new kiln be reduced to ensure that its contribution to increment consumption would be below the FWS significant impact levels. As you know, your office has applied the FWS significant impact levels to evaluate all Prevention of Significant Deterioration permit applicants since 1993. We understand that FCS is now asking your office to apply less protective significant impact levels that may be proposed by the Environmental Protection Agency. To ensure consistency in evaluating emissions impacts to Class I increment consumption, we ask that the FWS levels be applied until the EPA not only proposes, but promulgates, alternate significant impact levels.

Fla. Crushed Stone

RTP ENVIRONMENTAL ASSOCIATES INC.®

RECEIVED
SEP 14 1995
Bureau of Air Regulation

MEMORANDUM

TO: Teresa Heron, Florida Dept. of Env. Protection

FROM: Bill Corbin, RTP Environmental Associates, Inc. BC

DATE: September 6, 1995

SUBJECT: Telephone Conversation of September 5, 1995

In our telephone conversation yesterday, you noted some differences between the draft permit conditions you were preparing and the draft permit conditions we proposed in our July 17, 1995 letter to the Department. Our proposed draft permit conditions were derived from the latest operating permit, A027-231888A, for the existing cement kiln, amended August 30, 1994, which was faxed to you yesterday. With respect to the differences in some of the numbers, I can offer you the following observations:

(1) The clinker production rate of 75 tons/hour, contained in permit A027-183508 dated May 29, 1991, was based on previous Department policy allowing operation at +/- 10% of design. When the Department changed the policy to require absolute maximum production rates, the number was revised to 83.0 tons/hour (i.e., 75 tons/hour plus 10%) as shown in permits A027-231888 dated March 11, 1994 and A027-231888A dated August 30, 1994. This value was reviewed and approved by the Southwest District Office and Mr. Clair Fancy. ✓

(2) The used oil sampling methodologies contained in our proposed draft permit conditions are the most recent methodologies as described in the August 10, 1994 letter from Mr. Howard L. Rhodes of FDEP to Mr. Tom Mountain of Florida Crushed Stone, which amends permit AC222095. One of the specific reasons for the permit update reflected in A027-231888A was to update these test methods.

(3) All of the versions of Florida Crushed Stone permits and correspondence in our possession contain the 1400 degrees Fahrenheit value specified in our proposed draft permit condition number 16(A) for firing tire derived fuel. The November 18, 1992 letter from Ms. Carol M. Browner of FDEP to Mr. Randy Thompson of Florida Crushed Stone, amended permit AC27-118674 and authorized the continuous utilization/firing of tire derived fuel. This correspondence contained the 1400 degrees F temperature value also.

(4) The requirement to test the coal sulfur content was dropped in the latest permit, A027-231888A in accordance with findings by Mr. John Taylor of the Southwest District Office (see August 23, 1994 letter from Mr. Taylor to Mr. Tom Mountain). If you have any questions, please call Mr. Taylor of the Southwest District Office.

(5) As shown in the permit application, the H_2SO_4 emission rate is less than the PSD significant emission level. Therefore, testing for H_2SO_4 or SO_3 should not be required if you are requiring testing for PSD significant pollutants only.

cc: T. Mountain
MJH, MCL, FCS Project File

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

August 22, 1995

Mr. C. H. Fancy, P.E.
Chief, Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Brooksville Cement Plant
Permit Nos. AC27-274892 and PSD-FL-227

Dear Mr. Fancy:

RTP Environmental Associates, Inc. (RTP) and the applicant have prepared the following responses to the comments of the Department's August 10, 1995 memorandum regarding the Florida Crushed Stone air permit application for the additional cement kiln. These responses are given below in the numbered order of the FDEP memorandum. In addition, responses to the National Park Service letter follow the FDEP responses.

(1) Attachment 1 contains emissions estimates from secondary vehicular traffic as prepared by Koogler and Associates and presented in the Power Plant Siting Application for the Florida Crushed Stone Unit I kiln. Emissions estimates from secondary vehicular traffic resulting from the proposed Unit II kiln were conservatively assumed to be equivalent to those produced from the Unit I kiln. Thus, total secondary vehicular emissions for the proposed Unit II kiln were calculated to be twice those estimated for the Unit I kiln as presented in Section 3.3.2 of the Air Permit Application Document.

(2) Attachment 2 is a projected chemical analysis of the raw materials and additives likely to be used at this plant. The data shown under the heading "Materials" indicates the elemental oxide composition in percentage by weight of each of the raw material additives making up the kiln feed. The "Loss" column indicates in percentage by weight the amount of material that is lost during the combustion process. The chemical composition of the raw material may total greater than 100% in certain cases due to subtraction algorithms used to calculate weight loss in the computer program generating this data.

The data shown under the heading "Solution" indicates a typical raw material mix in percent by weight for the kiln feed. The data shown under the heading "Calculated Analysis" indicates the elemental oxide composition in percentage by weight for the kiln

feed (unignited), partially fired material inside the kiln (ignited), and clinker (final product).

(3) Attachment 2 also shows a chemical analysis of the cement kiln dust, identified as "CKD" under the heading "Materials", based on likely raw materials and processes to be used at the facility. This cement kiln dust composition will likely differ from cement kiln dust at other facilities due to the unique raw material mix of each cement facility. The nature of the mix is dependant on a number of factors, one being the desired characteristics of the product being manufactured.

(4) 40 CFR 60, NSPS Subpart Kb applies to vessels greater than 40 cubic meters in size storing volatile organic liquids (VOLs). There will be no storage vessels of that size constructed to hold organic liquids as a result of this project.

(5) Environmentally related federal, state, and local permits required for this facility are included in the Power Plant Siting Act (PPSA) modification. The existing mining operation is in compliance with its existing permits.

(6) Proposed draft conditions for the cement kiln dated July 17, 1995, were submitted to FDEP and outline procedures in place to help ensure continuous compliance with emission limits. Relevant requirements include emission testing on the Unit II kiln for particulate matter (PM), opacity, nitrogen oxides (NO_x), and sulfur dioxide (SO_2 [Condition 19] and the installation of a continuous opacity monitoring system (Condition 29). Other conditions which will help ensure continuous compliance include requirements that used oil be sampled quarterly and analyzed (Condition 14), a used oil control system be implemented (Condition 27) and a coal usage system be established to ensure coal usage does not exceed allowable limits (Condition 26).

(7) Design specifications for the minor source dust collectors were contained in the April 25, 1995 comment responses. These preliminary design specifications on the dust collectors are provided in Attachment 3 and are revised to reflect the percent moisture values contained in the permit application forms and to show the outlet grain loadings in gr/dscf. More extensive design details and vendor specifications will be available subsequent to permit approval, after the preparation of bid specifications and the issuance of contracts for equipment, if desired.

(8) A comparison of the existing cement production technologies currently utilized in the United States relative to NO_x emissions and control is presented in the USEPA *Alternative Control Techniques (ACT) Document - NO_x Emissions from Cement Manufacturing* (EPA-453/R-94-004, March, 1994). In this document, ranges of NO_x emissions data for each technology, as well as average emissions, are presented. The data shows considerable overlap for all cement kiln technologies. In the case of pre-

heater/kilns, such as FCS Unit I, NO_x emissions data ranged from 2.5 to 11.7 lbs. per ton of clinker with an average of 5.9 lbs. per ton of clinker. In the case of pre-heater/pre-calciner/kilns, NO_x emissions data ranged from 0.9 to 7.0 lbs. per ton of clinker with an average of 3.4 lbs. per ton of clinker.

FCS Unit I NO_x emissions testing have resulted in average emissions of 275.9 lbs per hour or 3.32 lbs. per ton of clinker. Furthermore, FCS has proposed a NO_x emission limit of 2.9 lbs. per ton of kiln feed (4.437 lbs per ton of clinker) with a not-to-exceed hourly limit of 359 lbs. per hour, which is at the lower end of the range for pre-heater kilns and in the middle of the range for the pre-heater/pre-calciner/kiln. NO_x emissions from the Unit II kiln are expected to be in line with those from the Unit I kiln.

The choice of the pre-heater/kiln design, rather than the pre-heater/pre-calciner/kiln design, for FCS Unit II provides many advantages in maintaining synergy of operations at the facility. FCS Unit I is a dry pre-heater/kiln design, thus, all FCS personnel are trained in the operation of this technology. To introduce a different technology at the facility would require training and maintaining an additional staff of operators, technicians, etc. to operate the facility. In addition, raw material feed requirements may be different for the pre-heater/pre-calciner/kiln design, thus, adding another layer of complexity and potential for mistakes. The design engineer, The Polysius Corporation, feels that the Gepol pre-heater design is the best match for the material feed at FCS. In this regard, the potential benefit from installation of a different technology at FCS for Unit II is questionable both environmentally and operationally.

(9) Estimates of potential Hazardous Air Pollutant (HAP) emissions from the Unit II kiln were presented in the letter to Mr. Hamilton S. Oven, Jr., P.E., dated May 10, 1995. Estimates of potential HAP emissions were derived from two sources: (a) existing test data for FCS Unit I and similar plants and (b) the USEPA "Emission Factor Documentation for AP-42, Section 11.6 - Portland Cement Manufacturing". Table A from the May 10, 1995 comment response, provided in Attachment 4, listing the specific Hazardous Air Pollutants (HAPs) and associated worst-case emission values has been revised to include units of tons per year. In addition, the emission factor previously utilized for estimated hydrogen chloride emissions (1.4×10^{-1} lbs/ton clinker taken from the AP-42 Document) has been revised to reflect data from the existing cement kiln similar to the proposed Unit II kiln. Data from this kiln were also used in the emission factor presented for hexane on Table A.

It should be noted that the bulk of the emission rate estimates of HAPs presented in Table A are taken from generic data of numerous kilns with different technologies and material mixes and in most cases were worst-case values as stated in the May 10, 1995 comment response. Despite these worst-case emission estimates, projected HAP emissions from the proposed Unit II kiln are 16.64 tons per year. Thus, the proposed

Unit II kiln will not be a major source of HAP emissions. Emission testing of the proposed Unit II kiln in operation may very well demonstrate substantially different (lower) levels of HAP emissions.

10) A material and gas flow diagram for the kiln was provided in the July 11, 1995 letter to you. The complexity of the manufacturing process makes it extremely difficult to show in a single diagram all raw material feeds and gas flow for all operations at the facility. Florida Crushed Stone is willing to meet with representatives of the FDEP in order to answer questions or provide available information on the material and gas flow for all operations at the facility, if desired.

11) To the best knowledge of the senior representatives of Florida Crushed Stone, neither Florida Crushed Stone nor the parent company have received citations for violations of Department regulations at any of their facilities.

12) All personnel operating the Brooksville facility pollution control equipment will undergo formal operator training program on the proper operation and maintenance of the equipment. In addition, employees will be trained in the regulatory requirements of the environmental permits. Between one and four employees will be certified as smoke readers and trained in procedures listed in EPA Method 9, to help ensure that opacity requirements are met. The facility, on average, devotes three hundred man hours/month to employee training programs which incorporate pollution mitigation and pollution prevention training.

13) Several theories exist concerning the formation of dioxins (PCDD) and furans (PCDF) from combustion of fuels. All theories involve the formation of precursors (during post-combustion) that can be converted to PCDD/PCDF at lower temperatures and potentially catalyzed by fly ash particles. Studies of Municipal Waste Combustion (MWC) facilities have shown that combustion temperatures exceeding 1600°F and a residence time of two to three seconds at this temperature are sufficient to destroy the precursors of PCDD and PCDF formation. Combustion temperatures in the range of 2750°-3000°F are necessary to pyro-process the cement raw materials to produce clinker. Thus, with the temperature in the combustion zone greatly exceeding the destruction temperature of PCDD/PCDF precursors, the potential for post-combustion formation of dioxins and furans is expected to be negligible.

14) The project is not anticipated to have any appreciable impact on any sensitive receptors in the vicinity of the cement plant. As discussed in the application, the SO_2, NO_x, and CO concentrations, even at the point of maximum predicted impact, are all well below levels which have been observed to result in damage to vegetative materials. No impact on water supplies or livestock is expected to be observed in any area surrounding the facility due to the low concentration of contaminants emitted from the facility.

(15) A revised visibility analysis was performed in accordance with the NPS comments. To better assess impacts, a refined Level 2 analysis was performed eliminating the period between 6 p.m. and midnight. Attachment 5 contains a table showing that the revised cumulative frequency of a visible plume *due to emissions from the proposed kiln only* is 2.23 percent based on the conservative assumptions in the analysis. As noted in our July 11, 1995 comment responses, this case was modeled at the request of the NPS even though it is not indicative of the change in visibility impacts from the proposed kiln. Since the proposed kiln flue is attached to the main facility stack similar to a multiflued arrangement, the difference between the existing facility (power plant + one cement kiln) and proposed facility (power plant + two cement kilns) impacts must be evaluated to consider the impacts of the proposed action.

Included on the attached table are the revised frequencies (eliminating the period between 6 p.m. to midnight) showing the VISCREEN predicted frequencies of a visible plume *due to emissions from the existing and proposed facility configurations*. As can be seen, the increase in visibility impacts for the proposed action is about 0.3 percent, i.e., the difference between 3.9 percent for proposed facility emissions and 3.6 percent for existing facility emissions. Since this increase in facility impacts is less than 1 percent, no significant facility impacts on Class I visibility is expected for the proposed action.

Should you have any questions or need any additional information, please feel free to contact me at 908-968-9600.

Sincerely,
RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

cc: T. Mountain, Florida Crushed Stone
L. Curtin, Holland & Knight
H. Oven, T. Heron, A. Linero, C. Holladay, FDEP
S. Kukier, USEPA Region IV
J. Bunyak, NPS
M. Hober, W. Corbin, M. Lewis, RTP
FCS Project File

ATTACHMENT 1

EMISSION ESTIMATES FOR SECONDARY VEHICULAR TRAFFIC

Auto Traffic

90 persons x (1/1.25) cars/employee x 350 trips/yr x 2 miles/trip

= 50,000 miles/yr

Emissions

Part. Matter

Roads = 0.012 lb/mile x 50,000 miles x 1/2000 = 0.3 tpy

Auto = 0.6 g/mi x 1/453.6 x 50,000 x 1/2000 = <0.1

CO	= 76.5 g/mi x (	)	= 4.2
HC	= 10.8 g/mi x (	)	= 0.6
NO_x	= 4.9 g/mi x (	)	= 0.3
SO_2	= 0.2 g/mi x (	)	= <0.1

Truck Traffic

20,800 trucks/yr x 2 mi/trip = 41,600 miles/yr

Emissions

Part. Matter

Roads = 0.024 lb/mi x 41,600 x 1/2000 = 0.5 tpy

Auto = 1.3 g/mi x 1/453.6 x 41,600 x 1/2000 = 0.1

CO	= 28.7 g/mi x (	)	= 1.3
HC	= 4.6 g/mi x (	)	= 0.2
NO_x	= 20.9 g/mi x (	)	= 1.0
SO_2	= 2.8 g/mi x (	)	= 0.1

Rail Traffic

Assume one locomotive will operate on-site 6 hours per day for 30 days/year at a fuel consumption rate of 100 gal/hour.

$$6\ hr/day \times 30\ day/yr \times 100\ gal/hr = 18 \times 10^3\ gal\ \#2\ fuel/yr$$

Emissions

Part. Matter @ 25 lb/1000 gal	=	0.2 tpy
CO @ 130 lb/1000 gal	=	1.2
HC @ 94 lb/1000 gal	=	0.9
NO_x @ 370 lb/1000 gal	=	3.3
SO_2 @ 57 lb/1000 gal	=	0.5

Total Secondary Emissions

Part Matter	–	1.2 tpy
CO	–	6.7 tpy
HC	–	1.7 tpy
NO_x	–	4.6 tpy
SO_2	–	0.7 tpy

ATTACHMENT 2

RAW MATERIAL AND KILN DUST CHEMICAL ANALYSIS

MIX DESIGN SUMMARY:

Materials:

	SiO2	Al2O3	Fe2O3	CaO	MgO	SO3	Na2O	K2O	Loss
2 FCS HIGH LIMESTONE	4.87	0.40	0.20	52.30	0.40	0.01	0.01	0.07	41.23
3 MILL SCALE	2.60	2.30	100.00	0.30	0.10	0.10	0.10	0.10	-5.50
7 WASTE FINES @ 11.0% SIO2	11.00	0.50	0.20	48.30	0.42	0.01	0.01	0.07	39.20
8 GAINSVILLE FLYASH 8/92	50.39	25.00	7.50	0.90	1.00	0.50	0.25	3.10	11.00
6 CRYSTAL RIVER FLYASH CKD	56.40 9.15	30.28 4.19	4.84 1.27	1.34 44.70	0.25 0.08	0.19 1.95	0.29 0.15	1.82 0.95	2.30 27.00

Solution: Dry, Unignited Basis

	%
FCS HIGH LIMESTONE	14.02
MILL SCALE	1.43
GAINSVILLE FLYASH 8/92	10.70
WASTE FINES @ 11.0% SIO2	73.85

Calculated Analyses:

	Unignited	Ignited	Clinker
SiO2.....	14.24	22.19	22.60
Al2O3.....	3.14	4.90	5.21
Fe2O3.....	2.41	3.76	3.77
CaO.....	43.54	67.84	67.03
MgO.....	0.47	0.74	0.73
SO3.....	0.06	0.10	0.10
Na2O.....	0.04	0.06	0.06
K2O.....	0.39	0.62	0.63
Equiv.....	0.30	0.46	0.47
Loss.....	35.83	0.00	0.03
Total....	100.16	100.26	100.23

ATTACHMENT 3

DUST COLLECTOR SPECIFICATIONS

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2D-63
Emission Unit Description:	Iron Ore Bin

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	500
Bag Fabric:	Polyester	**Flowrate (ACFM):**	3000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	100	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.011		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2D-67		
Emission Unit Description:	Fly Ash Bin		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	567
Bag Fabric:	Polyester	**Flowrate (ACFM):**	3400
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Outlet Grain Loading (gr/ACF):	0.010	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/DSCF):	0.011		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2D-75
Emission Unit Description:	Filter Dust Bin

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	750
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4500
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.013		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2F-14
Emission Unit Description:	Raw Meal Transport

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	167
Bag Fabric:	Polyester	**Flowrate (ACFM):**	1000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.012		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2F-30
Emission Unit Description:	Lime Silo Storage

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	667
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.013		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2G-12		
Emission Unit Description:	Raw Meal Storage and Homogenizing Silo		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	2833
Bag Fabric:	Polyester	**Flowrate (ACFM):**	17000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.012		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2H-15
Emission Unit Description:	Kiln Feed System

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	1200
Bag Fabric:	Polyester	**Flowrate (ACFM):**	7200
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.012		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2L-08		
Emission Unit Description:	Gypsum Storage Bin		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	333
Bag Fabric:	Polyester	**Flowrate (ACFM):**	2000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	70	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.010		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2L-16		
Emission Unit Description:	Clinker Transport		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	333
Bag Fabric:	Polyester	**Flowrate (ACFM):**	2000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.012		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2M-08		
Emission Unit Description:	Belt Conveyer		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	750
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4500
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.011		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2N-13
Emission Unit Description:	Finish Mill Discharge Vent

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	10000
Bag Fabric:	Polyester	**Flowrate (ACFM):**	40000
Air To Cloth Ratio:	4:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.013		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2N-20
Emission Unit Description:	Finish Mill Sepol Separator

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	28750
Bag Fabric:	Polyester	**Flowrate (ACFM):**	115000
Air To Cloth Ratio:	4:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	160	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.012		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2Q-15A
Emission Unit Description:	Cement Storage Silo A

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	770
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4620
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.013		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2Q-15B
Emission Unit Description:	Cement Storage Silo B

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	770
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4620
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.013		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2Q-17		
Emission Unit Description:	Cement Silo Discharge Hopper		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	600
Bag Fabric:	Polyester	**Flowrate (ACFM):**	3000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.011		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2S-04
Emission Unit Description:	Coal Transport Conveyer

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	444
Bag Fabric:	Polyester	**Flowrate (ACFM):**	2000
Air To Cloth Ratio:	4.5:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	70	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.010		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2S-07		
Emission Unit Description:	Coal Storage Bin		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	444
Bag Fabric:	Polyester	**Flowrate (ACFM):**	2000
Air To Cloth Ratio:	4.5:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	70	**Inlet Moisture Content:**	2-3%
Outlet Grain Loading (gr/ACF):	0.010		
Outlet Grain Loading (gr/DSCF):	0.010		

ATTACHMENT 4

HAZARDOUS AIR POLLUTANT EMISSIONS

TABLE A (Revised)

HAP EMISSION FACTORS
For Volatile Organic Compounds

#	COMPOUND	EMISSION FACTOR (lbs/ton Clinker)	ANNUAL EMISSIONS (tons/year)	SOURCE[a]
1.	Benzene	1.9×10^{-2}	6.91	(1)
2.	Biphenyl	7.8×10^{-6}	0.003	(1)
3.	Carbon disulfide	2.5×10^{-3}	0.91	(2)
4.	Chlorobenzene	3.9×10^{-4}	0.14	(2)
5.	Ethylbenzene	1.8×10^{-4}	0.07	(2)
6.	2-Ethyl hexyl phthalate	2.1×10^{-4}	0.08	(1)
7.	Formaldehyde	5.4×10^{-4}	0.20	(1)
8.	Hexane	5.7×10^{-5}	0.02	(3)
9.	Hydrogen chloride[b]	1.0×10^{-2}	3.64	(3)
10.	Methyl chloride	3.6×10^{-4}	0.13	(2)
11.	Methylene chloride	7.8×10^{-4}	0.28	(1)
12.	Methyl ethyl ketone	3.0×10^{-5}	0.01	(1)
13.	Naphthalene	3.9×10^{-3}	1.42	(1)
14.	Phenol	1.1×10^{-4}	0.04	(1)
15.	Styrene	5.2×10^{-4}	0.19	(2)
16.	2,3,7,8-TCDD[c]	6.5×10^{-10}	0.000000236	(2)
17.	Toluene	2.4×10^{-3}	0.87	(2)
18.	Trichloroethane	4.3×10^{-6}	0.0016	(1)
19.	Xylenes	6.9×10^{-4}	0.25	(2)

[a](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.

[b]HCl is not a Volatile Organic Compound.

[c]Total penta through octa dioxin and furan emissions as 2,3,7,8-TCDD equivalents.

TABLE A (Revised)(Concluded)

HAP EMISSION FACTORS
For Metals

#	COMPOUND	EMISSION FACTOR (lbs/ton clinker)	ANNUAL EMISSIONS (tons/year)	SOURCE[a]
1.	Arsenic	4.8×10^{-5}	0.02	(1)
2.	Beryllium	9.9×10^{-7}	0.00036	(2)
3.	Cadmium	6.0×10^{-5}	0.02	(1)
4.	Chromium	2.5×10^{-4}	0.09	(2)
5.	Cobalt	6.0×10^{-5}	0.02	(1)
6.	Lead	1.6×10^{-3}	0.58	(1)
7.	Manganese	1.1×10^{-3}	0.40	(2)
8.	Mercury	4.8×10^{-4}	0.17	(1)
9.	Nickel	2.4×10^{-4}	0.09	(1)
10.	Selenium	2.6×10^{-4}	0.09	(2)
TOTAL (VOCs and Metals)			16.64	

[a](1) Emissions 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.

ATTACHMENT 5

LEVEL-2 VISIBILITY SCREENING ANALYSES

LEVEL-2 VISIBILITY SCREENING ANALYSES FOR SINGLE CEMENT KILN EMISSIONS

Stab Class	WS Class (m/s)	Avg. WS (m/s)	$u\sigma_y\sigma_z$ (m^3/s)	Transport Time (hrs)	Freq.	Cumul Freq.	VISCREEN RESULTS for Single Cement Kiln ΔE	Contrast
F	1-2	1.5	4.51E+04	3.7	0.38%	0.38%	7.565*	-.049
F	2-3	2.5	7.52E+04	2.2	1.10%	1.48%	4.748*	-.030
F	3-4	3.5	1.05E+05	1.6	0.26%	1.74%	3.458*	-.022
E	1-2	1.5	1.23E+05	3.7	0.07%	1.81%	4.356*	-.028
F	4-5	4.5	1.35E+05	1.2	0.00%	1.81%	2.718*	-.017
E	2-3	2.5	2.05E+05	2.2	0.42%	2.23%	2.679*	-.017

LEVEL-2 VISIBILITY SCREENING ANALYSES FOR PROPOSED VERSUS EXISTING FACILITY EMISSIONS

Stab Class	WS Class (m/s)	Avg. WS (m/s)	$u\sigma_y\sigma_z$ (m^3/s)	Transport Time (hrs)	Freq.	Cumul Freq.	---------- VISCREEN RESULTS ---------- -Power+2 Kilns- ΔE	Contrast	-Power+1 Kiln- ΔE	Contrast
F	1-2	1.5	4.51E+04	3.7	0.38%	0.38%	22.893*	-.160*	19.233*	-.126*
F	2-3	2.5	7.52E+04	2.2	1.10%	1.48%	16.175*	-.108*	13.204*	-.085*
F	3-4	3.5	1.05E+05	1.6	0.26%	1.74%	12.521*	-.082*	10.069*	-.063*
E	1-2	1.5	1.23E+05	3.7	0.07%	1.81%	15.128*	-.100*	12.286*	-.079*
F	4-5	4.5	1.35E+05	1.2	0.00%	1.81%	10.206*	-.065*	8.122*	-.049
E	2-3	2.5	2.05E+05	2.2	0.42%	2.23%	10.077*	-.064*	8.014*	-.049
E	3-4	3.5	2.87E+05	1.6	0.29%	2.52%	7.539*	-.046	5.934*	-.035
D	1-2	1.5	3.02E+05	3.7	0.04%	2.56%	8.999*	-.056*	7.125*	-.043
E	4-5	4.5	3.69E+05	1.2	0.15%	2.71%	6.017*	-.036	4.708*	-.028
E	5-6	5.5	4.51E+05	1.0	0.02%	2.73%	5.005*	-.030	3.901*	-.023
D	2-3	2.5	5.03E+05	2.2	0.38%	3.11%	5.715*	-.035	4.467*	-.026
E	7-8	7.5	6.15E+05	0.7	0.00%	3.11%	3.743*	-.022	2.905*	-.017
D	3-4	3.5	7.04E+05	1.6	0.46%	3.57%	4.183*	-.025	3.251*	-.019
D	4-5	4.5	9.05E+05	1.2	0.32%	3.89%	3.298*	-.020	2.555	-.015

Values identified by VISCREEN as exceeding the visibility screening criteria are starred "*".

Board of County Commissioners

Hernando County

PLANNING DEPARTMENT

Government Center / Administration Building
20 North Main Street, Room 262
Brooksville, Florida 34601-2807

Planning - (904) 754-4057
Fax - (904) 754-4420

August 11, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. A.A. Linero, P.E.
Administrator, New Source Review Section
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Florida Crushed Stone Company
New Cement Kiln, Hernando County, PSD-FL-227

Dear Mr. Linero:

Thank you for your letter dated August 3, 1995. The information provided addresses staff's concerns regarding the above referenced permit application. However, please be advised that the County's final position on the proposed project must be determined by the Board of County Commissioners and will depend on the conditions contained in the permit, if issued.

To date we have provided information to our Board regarding this project as it was made available to us. Therefore, please ensure that this Department is copied on the Notice of Intent when it is issued so that we may quickly review the document and present the information to the Board of County Commissioners for their consideration.

If you have any questions or would like to discuss this information, please contact Ms. Lizanne Garcia at (904)754-4057 (SunCom 669-4057).

Thank you again for your cooperation in this matter. You and your staff have been helpful in coordinating this complex process.

Sincerely,

Lawrence Jennings,
Department Director

KLG:tag
pc: Claire Fancy, DEP

E:\WPDATA\KLG\DEPPERMT\NWKILN3.DEP

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

AUG 1 1 1995

IN REPLY REFER TO:

Mr. C. H. Fancy
Chief, Bureau of Air Regulation
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399

Dear Mr. Fancy:

In our April 19, 1995, and June 16, 1995, letters to you, we commented on the Prevention of Significant Deterioration permit application and additional information for the new cement kiln (kiln #2) proposed by Florida Crushed Stone. The kiln would be located 20 km southeast of Chassahowitzka Wilderness Area, a Class I air quality area, administered by the Fish and Wildlife Service. The new kiln would emit significant amounts of PM-10, sulfur dioxide (SO_2), nitrogen oxides, and carbon monoxide. Our reviews determined that the application was incomplete, and we requested additional information. FCS's most recent submittal of July 11, 1995, responds to some, but not all, of our concerns. Our comments are presented in the attached technical review document. It is our understanding that FCS is still considering how to mitigate SO_2 impacts at Chassahowitzka WA.

We will continue to consult with your office on this project. If you have any questions, please contact Ms. Ellen Porter of our Air Quality Branch in Denver at telephone number 303/969-2617.

Sincerely yours,

Noreen K. Clough

Noreen K. Clough
Regional Director

Enclosure

cc: Teresa Heron, BAR
Hernando Co.
EPA
SWD

Technical Review of the
Class I Nitrogen Dioxide Increment Analysis and
Visibility Analysis for the
Prevention of Significant Deterioration
Permit Application for Florida Crushed Stone's
Proposed New Cement Kiln, Hernando County, Florida

by

Air Quality Branch, Fish and Wildlife Service - Denver

On July 11, 1995, Florida Crushed Stone (FCS) submitted additional information, as requested by our office, regarding impacts from emissions from its proposed new cement kiln on the Class I nitrogen dioxide (NO_2) increment and visibility at Chassahowitzka Wilderness Area (WA). Our comments on this additional information are presented below.

Class I NO_2 Increment Analysis

A previous analysis by FCS predicted that emissions from the proposed new kiln would contribute significantly to consumption of the Class I NO_2 annual increment at Chassahowitzka WA. Therefore, we requested that FCS perform a cumulative analysis of all area NO_2 increment-consuming sources to determine whether the Class I increment was exceeded. This analysis predicted that the maximum annual NO_2 impact from all modeled sources at Chassahowitzka WA would be 0.954 micrograms per cubic meter (ug/m^3), which is 38 percent of the Class I increment of 2.5 ug/m^3. This indicates that the NO_2 increment would not be exceeded as a result of emissions from this project and other area sources.

Visibility Analysis

The revised visibility modeling analysis predicted numerous occurrences of a visible coherent plume in Chassahowitzka WA resulting from emissions from the proposed new kiln. The VISCREEN model predicted a visible plume occurring 3.23 percent of the time in the Class I area with "delta E" values greater than 2.0, which is the Environmental Protection Agency's and Fish and Wildlife Service's accepted threshold value of a colored plume. This would correspond to approximately 282 hours of a visible coherent plume in the Class I area. Most of these impacts occur during "E" and "F" atmospheric stabilities, conditions that usually occur at night, early morning, or late afternoon. To better assess impacts of visible plumes from the proposed kiln, we request that the applicant perform a refined analysis, eliminating the period between 6 p.m. and midnight from the analysis. A visible plume formed during these hours would probably not impact Chassahowitzka WA during daylight, assuming a wind speed of 4 km per hour. To ensure that no adverse impacts to visibility occur at the Class I area from this project, we will review the results of this refined analysis to determine the need for emissions reductions or emissions offsets at FCS.

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

August 10, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Joseph J. Piermatteo
Senior Vice President
Florida Crushed Stone, Inc.
10311 Cement Plant Road
Brooksville, Florida 34601

Dear Mr. Piermatteo:

RE: Brooksville Cement Plant
Permit Nos. AC27-274892 and PSD-FL-227

The Department received your letter on July 12, 1995. After reviewing the information in the application and letter, we need the following additional information:

1. Submit emission calculations for vehicle traffic summary using AP-42 Emission Factors. Table 3-3 of the application does not include these calculations.

2. Submit a projected chemical analysis of the raw materials and additives likely to be used at this plant.

3. Submit a projected analysis of the cement kiln dust (CKD) based on the likely raw material sources and the process to be used at the planned facility. Indicate if and why this CKD composition may differ from CKD from other plants.

4. Storage tanks facilities meeting the applicability requirements under 40 CFR 60, NSPS Subpart Kb are subject to this regulation. Please evaluate the proposed storage tanks (capacity & emissions) at this facility to determine if they will comply with this regulation.

5. Has Florida Crushed Stone applied to the Department for any other required permits (stormwater, solid waste, industrial waste, etc)? What other environmental-related federal or local permits does this facility already have or need (e.g. NPDES, dredge and fill, etc.). Is the existing mining operation in compliance with its existing permits?

6. Please describe your program (such as enhanced or continuous monitoring, pollution control equipment maintenance) to insure that emissions limits will be met on a continuous basis.

7. Submit the design specification and the operating and maintenance manual for the equipment (kiln, baghouses) used at this facility.

8. Based on the information received, it appears the preheater/precalciner/kiln design will produce lower NOx emissions rates than the preheater/kiln design due to higher fuel efficiency and lower firing rates. Please explain the rationale for choosing the preheater/kiln design.

9. Would Cement Plant No. 2 be a major source for hazardous air pollutants? Please quantify these emissions in tons per year.

10. Submit a flow diagram of the new kiln that will show specifically all input feeds of gases and materials along with the sources of these feeds. Please refer to question No. 3 of the June 16, 1995 memo.

11. Has Florida Crushed Stone or its parent company had any violations of Department regulations at any of their facilities in Florida?

12. What will be the qualifications with respect to pollution control of personnel who will operate the Company's Brooksville facility? Are any training programs planned for plant personnel in the area of pollution prevention?

13. Is there a potential for post combustion formation of dioxins and furans? If so, how will this be minimized.

14. Identify and address the air quality impacts on any sensitive areas in the vicinity of the cement plant (i.e., sources of drinking water, farm crops, fish ponds, livestock, etc.) that may be more susceptible to atmospheric deposition caused by the project's proposed air emissions.

15. Perform the visibility analysis requested in the enclosed National Park Service correspondence.

We will continue to conduct our technical evaluation of this project and request the information described above within 30 days to maintain our present review schedule. If you have any questions on this matter, please call me or Teresa Heron, Review Engineer, at 904/488-1344.

Sincerely,

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

AL/th/t

Enclosure

cc: B. Thomas, SWD
D. Beason, OGC
J. Harper, EPA
J. Bunyak, NPS
L. Curtain, H&K
L. Jennings, HCPD
T. Mountain, FCS
D. Elias, RTP

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

Dear Mr. Fancy:

In our April 19, 1995, and June 16, 1995, letters to you, we commented on the Prevention of Significant Deterioration permit application and additional information for the new cement kiln (kiln #2) proposed by Florida Crushed Stone (FCS). The kiln would be located 20 km southeast of Chassahowitzka Wilderness Area (WA), a Class I air quality area administered by the U.S. Fish and Wildlife Service. The new kiln would emit significant amounts of PM-10, sulfur dioxide (SO_2), nitrogen oxides, and carbon monoxide. Our reviews determined that the application was incomplete, and we requested additional information. FCS's most recent submittal of July 11, 1995, responds to some, but not all, of our concerns. Our comments are presented in the attached technical review document. It is our understanding that FCS is still considering how to mitigate SO_2 impacts at Chassahowitzka WA.

We will continue to consult with your office on this project. If you have any questions, please contact Ellen Porter of our Air Quality Branch in Denver at (303) 969-2617.

Sincerely,

Noreen K. Clough
Regional Director

cc: Jewell Harper, Chief
Air Enforcement Branch
Air, Pesticides and Toxic Management Division
U.S. EPA, Region 4
345 Courtland Street, NE
Atlanta, Georgia 30365

bcc: FWS-REG. 4: AQC
CHAS: Refuge Manager
AQD-DEN: Ellen Porter
National Park Service - AIR
P.O. Box 25287
Denver, CO 80225

Technical Review of the
Class I Nitrogen Dioxide Increment Analysis and
Visibility Analysis for the
Prevention of Significant Deterioration
Permit Application for Florida Crushed Stone's
Proposed New Cement Kiln, Hernando County, Florida

by

Air Quality Branch, Fish and Wildlife Service - Denver

On July 11, 1995, Florida Crushed Stone (FCS) submitted additional information, as requested by our office, regarding impacts from emissions from its proposed new cement kiln on the Class I nitrogen dioxide (NO_2) increment and visibility at Chassahowitzka Wilderness Area (WA). Our comments on this additional information are presented below.

Class I NO_2 Increment Analysis

A previous analysis by FCS predicted that emissions from the proposed new kiln would contribute significantly to consumption of the Class I NO_2 annual increment at Chassahowitzka WA. Therefore, we requested that FCS perform a cumulative analysis of all area NO_2 increment-consuming sources to determine whether the Class I increment was exceeded. This analysis predicted that the maximum annual NO_2 impact from all modeled sources at Chassahowitzka WA would be 0.954 micrograms per cubic meter (ug/m^3), which is 38 percent of the Class I increment of 2.5 ug/m^3. This indicates that the NO_2 increment would not be exceeded as a result of emissions from this project and other area sources.

Visibility Analysis

The revised visibility modeling analysis predicted numerous occurrences of a visible coherent plume in Chassahowitzka WA resulting from emissions from the proposed new kiln. The VISCREEN model predicted a visible plume occurring 3.23 percent of the time in the Class I area with "delta E" values greater than 2.0, which is the Environmental Protection Agency's and Fish and Wildlife Service's accepted threshold value of a colored plume. This would correspond to approximately 282 hours of a visible coherent plume in the Class I area. Most of these impacts occur during "E" and "F" atmospheric stabilities, conditions that usually occur at night, early morning, or late afternoon. To better assess impacts of visible plumes from the proposed kiln, we request that the applicant perform a refined analysis, eliminating the period between 6 p.m. and midnight from the analysis. A visible plume formed during these hours would probably not impact Chassahowitzka WA during daylight, assuming a wind speed of 4 km per hour. To ensure that no adverse impacts to visibility occur at the Class I area from this project, we will review the results of this refined analysis to determine the need for emissions reductions or emissions offsets at FCS.

Fold at line over top of envelope to the right of the return address

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.

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

Consult postmaster for fee.

3. Article Addressed to:
Joseph Pernatteo
Fla. Crushed Stone
10311 Cement Plant Rd
Brooksville, FL 34601

4a. Article Number
Z 392 979 022

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

7. Date of Delivery

5. Signature (Addressee)

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

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

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PS Form 3800, March 1993

Sent to: Joseph Pernatteo	
Street and No.: FCS	
P.O., State and 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, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date AC 27-274892 PSD-FL-227	

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

August 3, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Lawrence Jennings, Department Director
Board of County Commissioners
Hernando County Planning Department
20 North Main Street, Room 262
Brooksville, Florida 34601-2807

Dear Mr. Jennings:

RE: Florida Crushed Stone (FCS) - New Cement Kiln No. 2
Construction Permit Nos: PSD-Fl-227 and PA 82-17

Thank you for your letter dated June 5, 1995, requesting clarification of Florida Crushed Stone's responses to your letter dated April 28 and our letter dated April 21, 1995. Specifically, your office requested to know if FCS responses are consistent with our rules and policies. Following are our responses which have been keyed to your specific questions:

1. HERNANDO COUNTY REQUEST:

Do the emissions from unconfined and fugitive sources contain any of these constituents (Pb, Be, Hg, or H2SO4)? If so, shouldn't emissions of these pollutants have been calculated?

DEPARTMENT RESPONSE:

In general, raw materials associated with the manufacture of portland cement do not contain appreciable amounts of these compounds. These raw materials are lime, silica, alumina, and iron. However, fuels like coal, fuel oil, and on-specification used oil may contain traces of these compounds (refer to page 3-15 of the May 10, 1995, FCS letter). Thus, any emissions can be attributed almost entirely to the content of these materials in the fuel being combusted. Emissions of lead (Pb), mercury (Hg), beryllium (Be), and sulfuric acid mist from this cement plant will be based on the maximum amount of each fuel burned at any given time.

2. HERNANDO COUNTY REQUEST:

Is this (allowing use of used oil during start up) consistent with the enclosed (DEP) guidance memo regarding the PCB content of used oil utilized for start-up fuels?

DEPARTMENT RESPONSE:

We believe that Florida Crushed Stone's use of used oil is consistent with the Guidance on Burning Used Oil memo, dated March 31, 1994. They provided specific test data demonstrating no detectable levels of PCBs. Please refer to attached the DEP letter of October 18, 1994 and the FCS letter of October 11, 1994. The new permit for kiln No. 2 will be clearer regarding the 2 ppm PCB limitation. The permit will be written in accordance with the Bureau's Guidance Memo and applicable provisions of Chapter 62-710 F.A.C. and 40 CFR 761.

3. HERNANDO COUNTY REQUEST:

The applicant does not believe that multisource modeling is appropriate for the proposed action. Does DEP concur? If so, then how does DEP determine when the cumulative impacts, from multiple source, have been exceeded the standard or caused damage to the Class I area?

DEPARTMENT RESPONSE:

The DEP and the National Park Service have requested that the applicant perform multisource SO_2 and NO_x modeling to determine the projected impacts of the project on the Chassahowitzka National Wilderness Area. The applicant submitted NOx multisource modeling to DEP on July 11, 1995. The applicant is waiting for EPA to formally propose Class I significant impact levels (SILs) this summer in the Federal Register. EPA's proposed levels will likely be higher or less stringent than the NPS levels which DEP is currently following. According to the applicant's July 11, 1995 response to DEP's June 16, 1995 incompleteness/insufficiency letter, the applicant will likely reduce the proposed SO_2 emission rate to a level that will show increases in facility impacts less than the applicable Class I SILs rather than perform multisource SO_2 modeling.

4. HERNANDO COUNTY QUESTION:

The applicant indicates that the current permit application includes natural gas as a fuel. Will FCS be required to amend the construction permit if they utilize natural gas?

DEPARTMENT RESPONSE:

That is correct. FCS is requesting to burn natural gas at kiln No. 2. This will be reflected in a new construction permit applicable only to kiln No. 2. If they plan to burn natural gas at any other source they will need to apply for an amendment of the construction permit. Natural gas is inherently less polluting fuel and its use is encouraged.

HERNANDO COUNTY QUESTION:

The applicant appears to be inconsistent when stating the effect of using natural gas as fuel. Is there published data available on this topic and what are DEP' conclusions regarding the emissions from natural gas?

DEPARTMENT RESPONSE:

Emissions from natural gas burning will be less than burning other fuels. The Department encourages use of natural gas whenever possible as an inherently less polluting fuel. Attached is a copy of Chapter 7, "Combustion Sources", from the Air Pollution Engineering Manual. Natural gas is described as a "clean fuel'. It is our understanding that when the applicant stated that no significant changes in SO_2 emissions will be expected due to cleaner fuels, the applicants intention was to be permitted at a higher emission level than the natural gas levels. As requested, kiln No. 2, will be permitted to burn coal, used oil and tires. The emissions resulting from combusting all these fuels will be the worst-case scenario. Therefore, the emission standards set as permit limits will consider the worst-case condition.

6. HERNANDO COUNTY QUESTION:

Does DEP concur that any five years of meteorological data from Tampa International Airport is acceptable?

DEPARTMENT RESPONSE:

The DEP concurs that any five consecutive years of meteorological data from Tampa International Airport and the Ruskin National Weather Service upper air station is acceptable. Normally, the applicant will submit modeling analyses based on the use of the most recently available consecutive five year set from a particular station or set of stations. However, any consecutive five year data set should, from a climatological point of view, provide a

representative set of meteorological conditions for evaluating maximum predicted impacts due to a proposed project. In addition, data from these stations were selected for use in the air quality modeling analyses since these are the closest primary weather stations to the project site and because data from these stations are most representative of the meteorology in the vicinity of the project site.

7. HERNANDO COUNTY QUESTION:

Does DEP concur with the statement "that ambient air quality standard would still be maintained by a wide margin regardless of the background AAQ values used?"

DEPARTMENT RESPONSE:

The DEP concurs with the above statement. As shown in Table 6-10 of the application report, maximum facility impacts are all less than ten percent of the applicable ambient air quality standards (AAQS). The NO_2, CO, Pb, and O_3 background concentrations were taken from Pinellas County, which is more urbanized than Hernando County; therefore, these background values are most likely higher and more conservative than those that would be measured in Hernando County near the proposed project. The higher TSP values from the Hernando County TSP monitor could conservatively be substituted for PM_{10} values taken from Pinellas County with the result being that maximum proposed PM_{10} impacts due to the project would still be below the applicable AAQS.

8. HERNANDO COUNTY QUESTION:

The DEP Guidance memo (enclosed) prohibits the use of used oil for start-up fuel if the used oil contains PCBs greater than or equal to 2 ppm. Is response 8 consistent with the guidance memo and DEP regulations?

DEPARTMENT RESPONSE:

Please refer to our response to Hernando County Question No. 2 above.

In summary, most of FCS responses are consistent with our rules and guidances. Any which are not, will be clarified before the application is deemed complete and resolved prior to public notice of our intent to issue or deny a construction permit.

We appreciate your comments and interest in this review. If you have any questions on this matter, please call me, Teresa Heron or Cleve Holladay at (904) 488-1344 or write to us at the above address.

Sincerely,

8/3

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

AL/th/t

Enclosures

cc: B. Thomas, SWD
J. Harper, EPA
J. Bunyak, EPA

Best Available Copy

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
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Consult postmaster for fee.

3. Article Addressed to:
Lawrence Jennings
Board of County Commissioners
Hernando Co. Planning Dept.
20 N. Main St. Rm 262
Brooksville, Fl 34601-2807

4a. Article Number
Z 392 979 016

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

5. Signature (Addressee)

6. Signature (Agent)
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1995
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PS Form 3800, March 1993

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P.O., State and ZIP Code Fka Crushed Stone	
Postage Brooksville, Fl	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date PSO-Fl-227 8-3-95	

Florida Department of
Environmental Protection

Memorandum

RECEIVED
JUL 28 1995
Bureau of
Air Regulation

TO: Tommy Lemacks

FROM: Buck Oven

DATE: July 25, 1995

SUBJECT: Florida Crushed Stone PA 82-17
Module 8027

On January 25, 1994, Florida Crushed Stone Company submitted a request for modification of PA 82-17, and the PSD-FL-90 permit. On March 21, 1994, the company submitted the $10,000 modification fee to pay for the review of the site certification modification and the Air Permit (PSD Permit) modification. In order to satisfy the requirements of section 62-296, F.A.C. an Air Permit Processing Fee must be deposited to the Department's Florida Permit Fee Trust Fund. Please transfer $7,500.00 from the Operating Trust Fund, subaccount PA 82-17/8027 to the Florida Permit Fee Trust Fund for PSD-FL-90.

Please furnish this office and the Bureau of Air Regulation with a copy of documentation effecting this transfer.

cc: Patty Adams
Landa Korokous

file

al
Teresa

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 Florida Dept. of Env. Protection
Bureau of AIr Regulation
111 South Magnolia, Suite #4
Tallahassee, FL 32301

Date: 7-17-95 Proj. ID: FCS

RECEIVED
JUL 18 1995
Bureau of
Air Regulation

WE ARE SENDING YOU: [XX] Attached [ ] Under separate cover
VIA: [ ] 1st Class Mail [XX] Federal Express [ ] Hand Delivery [ ] Other
THE FOLLOWING ITEMS: a.m.

Copies	Date	No.	Description
2	7-17-95		Letter w/ Proposed Permit Conditions for Clair Fancy
1	"		" " " " " " Al Linero
1	"		" " " " " " Teresa Heron
1	"		" " " " " " Cleve Holladay

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: William E. COrbin

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

July 17, 1995

Mr. Clair H. Fancy, P.E.
Florida Dept. of Env. Protection
Bureau of Air Regulations
111 S. Magnolia, Suite #4
Tallahassee, FL 32301

Dear Mr. Fancy:

In an attempt to expedite the permitting process, I've attached two copies of proposed draft permit conditions for the proposed cement kiln at the Florida Crushed Stone facility. Proposed permit conditions are attached for the cement kiln, clinker cooler, raw mill, and preheater as well as for the following seventeen minor particulate sources:

Minor PM Source	Baghouse Equipment No.
Iron Ore Bin	2D-63
Fly Ash Bin	2D-67
Filter Dust Bin	2D-75
Raw Meal Transport	2F-14
Lime Silo Storage	2F-30
Raw Meal Storage and Homogenizing Silos	2G-12
Kiln Feed System	2H-15
Gypsum Storage Bin	2L-08
Clinker Transport	2L-16
Belt Conveyor	2M-08
Finish Mill Discharge Vent	2N-13
Finish Mill Sepol Separator	2N-20
Cement Storage Silo A	2Q-15A
Cement Storage Silo B	2Q-15B
Cement Silo Discharge Hopper	2Q-17
Coal Transport Conveyor	2S-04
Coal Storage Bin	2S-07

The permit conditions were taken from the permits for the existing Unit I cement kiln sources, updated and revised as appropriate for the proposed Unit II cement kiln. Areas which will need your input (such as permit number, effective dates, number of general permit conditions, etc.) are redlined.

I hope this proves useful in preparing the draft permit. Based on our discussions, we are targeting a draft permit and public notice in August. If you have any questions or need any additional information, please feel free to contact me at 908-968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias/wec

Donald F. Elias
Principal

DFE/WEC/wec

Attachments

cc: H. Oven/A. Linero, P.E./T. Heron/C. Holladay, FDEP
T. Mountain, Florida Crushed Stone
L. Curtin, Holland & Knight
M. Hober/W. Corbin/M. Lewis/FCS Project File, RTP

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Cement Kiln, Clinker Cooler, Raw Mill, and Preheater

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the cement plant kiln with a maximum clinker production capacity of 83.0 tons per hour, the clinker cooler, raw mill and preheater located at the Florida Crushed Stone Company (FCSC) facility. The cement kiln is typically preheated with fuel oil, fired with coal as the main fuel, and utilizes tires as supplemental fuel. The kiln may operate with all grades of virgin fuel oil, coal, and natural gas with tires as a supplemental fuel. On-specification used oil may also be used by the kiln.

The sum total maximum heat input to the cement kiln is equivalent to 10.3 tons per hour of coal. The utilization of tires as supplemental fuel is limited to 1.33 tons per hour of tires, and shall not exceed 15% of the maximum total heat input to the cement kiln. Emissions from the cement kiln, clinker cooler, raw mill, and preheater are controlled by a dust collector.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certificate No.: [redacted]
Project: Cement Kiln, Clinker Cooler, Raw Mill, and Preheater

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions. [Rule 62-4.160, F.A.C.]

2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 62-200 through 62-299, Florida Administrative Code, or any other requirements under federal, state or local law. [Rule 62-210.300, F.A.C.]

OPERATING LIMITATIONS

3. The cement kiln and its associated equipment are subject to the applicable provisions of Rule 62-210.650, Circumvention; Rule 62-210.700, Excess Emissions; and Rule 62-4.130, Plant Operations-Problems.

4. The permitted maximum preheater feed rate is 138.0 tons per hour, which correlates to a calculated kiln feed rate of 127.0 tons per hour, and a calculated clinker production rate of 83.0 tons per hour.

5. The permitted maximum coal feed input rate to the cement kiln is 10.3 tons per hour.

6. The cement kiln, clinker cooler, raw mill and preheater operating hours are not restricted (8760 hours per year).

7. The utilization of tires as supplemental fuel shall not exceed 8300 hours per year.

8. The maximum utilization rate for tires as supplemental fuel shall not exceed 1.33 tons per hour (approximately 30 MMBtu per hour), or 15.0 percent of the total heat input to the cement kiln.

9. Tires used as supplemental fuel shall only be introduced into the cement kiln at the base of the preheater (kiln inlet).

SPECIFIC CONDITIONS (cont'd):

10. The cement kiln shall be preheated using new fuel oil and/or a blend of on-specification used oil and new fuel oil with a total sulfur content not to exceed 1.5 percent by weight, and a flash point of 140°F minimum. The constituents of the on-specification used oil shall not exceed the following associated allowable concentrations, 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	Allowable Concentration
Cadmium	2 ppm maximum
Arsenic	5 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Polychlorinated Byphenyls (PCBs)	Less than 50 ppm

11. The on-specification used oil, to be blended with the new fuel oil in the cement kiln's storage tank, shall be obtained only from the used oil storage tanks located at the FCSC's Greg Mine and CPL Plant.

12. The maximum on-specification used oil concentration, in the final blend of on-specification used oil and new fuel oil, shall not exceed 15 percent, by volume.

13. The on-specification used oil to be blended and subsequently used for preheating the cement kiln 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), and shall not include fuels or blended fuels consisting in whole or part of hazardous waste or which include mixtures of any solid waste. The on-specification used oil shall be burned in compliance with Section 403.769(3), Florida Statutes.

14. The used oil sample shall be taken directly from the used oil mobile collection tank after final collection and prior to the time of initial transfer to the blend tank. The sampling frequency shall be at least quarterly. [FCSC letter on Used Oil Sampling, 07/11/94]

NOTE: This sampling method was selected by the FCSC and has been approved by the Department of Environmental Protection, Southwest District and the Hernando County Planning Department for the Unit I cement kiln.

SPECIFIC CONDITIONS (cont'd):

15. The used oil sample from Specific Condition No. 14 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.

16. Tires used as supplemental fuel shall not be introduced into the cement kiln until both of the following conditions have been achieved:

(A) the operating temperature of the cement kiln has reached a minimum temperature of 1400 degrees F, for one hour. The operating temperature shall be measured at the cement kiln inlet.

(B) the oxygen level in the cement kiln is at least 3 percent (one hour average). The oxygen level shall be measured at the cement plant induced draft fan.

EMISSION LIMITATIONS

17. Visible emissions from the cement kiln, clinker cooler, raw mill and preheater shall not be equal to or greater than 10% opacity, and shall be determined at the Unit II kiln stack. [40 CFR 60.62(b)(2)]

SPECIFIC CONDITIONS (cont'd):

18. The emission limits and maximum allowable emissions for the cement kiln, clinker cooler, raw mill and preheater are:

(dry basis) POLLUTANT	EMISSION LIMITS LBS./TON KILN FEED	MAX. ALLOWABLE EMISSIONS LBS./HR.	TONS/YR.
Particulate (Cooler)	0.1	12.4	54.0
Particulate (Kiln)	0.3	37.1	162.0
SO_2	0.6	45.0	197.1
NO_x	2.9	359.0	1572.0

The measured emission rates will be the combined rates from the cement kiln and clinker cooler determined at the Unit II cement kiln stack [40 CFR 61, Subpart F and BACT determination].

TESTING FREQUENCY/SCHEDULE AND METHODS

19. Test the Unit II cement kiln stack emissions for the following pollutants, annually, within 60 days prior to the due date of [redacted]:

Particulate Matter	(PM)
Opacity	(VE)
Nitrogen Oxides	(NO_x)
Sulfur Dioxide	(SO_2)

All emission testing shall be performed at the Unit II kiln stack during a period when the Cement Plant Kiln, Clinker Cooler, Raw Mill and Preheater are operating simultaneously, under normal operating conditions, as defined in Specific Condition No. 23.

20. Submit a copy of the test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five (45) days of testing. [Rules 62-297.340, and 62-297.570(2) F.A.C.]

21. Compliance with the visible emission (VE) limitation of Specific Condition No. 17 shall be determined using EPA Method 9 and shall be conducted by a certified observer and be a minimum of sixty (60) minutes in duration. The minimum requirements for reporting shall be in accordance with Chapter 62-297, F.A.C., Stationary Sources Emission Monitoring and 40 CFR 60, Appendix A.

SPECIFIC CONDITIONS (cont'd):

22. Compliance with the Particulate Matter (PM), Nitrogen Oxides (NO_x), and Sulfur Dioxide (SO_2) emission limitations of Specific Condition No. 18 shall be determined using EPA Methods 1, 2, 3, 4, 5, 6 and 7E, contained in 40 CFR 60, Appendix A. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Chapter 62-297, F.A.C., Stationary Sources - Emission Monitoring and 40 CFR 60, Appendix A.

23. Testing of emissions per Specific Condition Nos. 17 and 18 should be conducted while operating at the following conditions:

(A) within 90 - 100% of the maximum preheater feed rate of 138.0 tons per hour.

(B) within 90 - 100% of the maximum permitted heat input rate to the cement kiln (equivalent to 10.3 tons per hour of coal).

A compliance test submitted at a rate(s) less than 90% of the maximum production rate(s) will automatically constitute an amended production rate(s) at that lesser rate(s). Within thirty (30) days of that lower amended production rate(s) being exceeded by more than 10%, a new compliance test shall be conducted at the higher rate(s). The test results shall be submitted to the Southwest District Office of the Department within forty-five (45) days of testing. Acceptance of the test by the Department will automatically constitute an amended permit at the higher tested production rate(s), plus 10%, but in no case shall the maximum permitted rates of 23(A) or 23(B) be exceeded. Failure to submit the production rates (tons per hour) and the type of fuel(s) and fuel usage rate(s) for the testing period may invalidate the test. [Rules 62-297.570 (2), 62-297.570(3), and 62-4.070(3), F.A.C.]

COMPLIANCE DOCUMENTATION REQUIREMENTS

24. In order to document compliance with Specific Condition No. 7, a log shall be established and maintained for the hours of operation using tires as supplemental fuel. 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 monthly running total (hours), to ensure that the annual limit is not exceeded. The log shall be maintained on file for at least two (2) years and shall be made available to the Department upon request. [Rule 62-4.070(3), F.A.C.]

SPECIFIC CONDITIONS (cont'd):

25. In order to document compliance with Specific Condition No. 8, a tire usage-control system shall be established to assure that the tire usage as supplemental fuel at the facility does not exceed the maximum 15.0 percent of the total Btu heat input to the cement kiln, or 1.33 tons per hour. The control system shall include a verification method that assures that the tire usage limits are not exceeded.

The tire usage control system shall also contain:

(A) A log that includes the date of all tire deliveries to the facility, and the total quantity (nearest 0.1 tons) of tires received. The log shall include a monthly running total of the tires delivered, and a cumulative monthly running total in order to determine yearly totals.

(B) 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.

(C) A log of the actual tire usage at a percentage of total heat input.

The logs shall be maintained on file for at least two (2) years and shall be made available to the Department upon request. [Rule 62-4.070(3), F.A.C.]

26. 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 tons per hour.

27. In order to document compliance with Specific Condition Nos. 11, 12 and 13, the following used oil usage control system shall be used, as a minimum:

(A) record the transfer of used oil and new oil to the blend tank (dates and gallons),

(B) record the final blend quantities of on-specification used oil and new fuel oil (gallons),

(C) calculate and record the final percentage of on-specification used oil in the tank blend of on-specification used oil and new fuel oil, and verify that the percentage does not exceed 15.0 percent, by volume.

These records shall be maintained on file for at least two (2) years and shall be made available to the Department upon request. [Rule 62-4.070(3), F.A.C. and FCSC letter on Used Oil Sampling, 07/11/94]

SPECIFIC CONDITIONS (cont'd):

COMPLIANCE TESTING NOTIFICATION REQUIREMENTS

28. The FCSC shall notify the Air Section of the Department of Environmental Protection, at least fifteen (15) days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each test, and the contact person who will be responsible for coordinating the test. [Rule 62-297.340(1)(i), F.A.C.]

CONTINUOUS MONITORING REQUIREMENTS

29. A continuous opacity monitoring system to measure the opacity of the emissions from the cement plant kiln, clinker cooler, raw mill and preheater, shall be maintained and operated in accordance with the provisions of Rule 62-296.800, Standards of Performance for New Stationary Sources (NSPS), Subpart F [Rule 62-296.800, Table 296-800-1, F.A.C.]. The monitors shall be maintained and calibrated periodically and the data shall be recorded and used to calculate the opacity of the stack emissions as required. The above records shall be retained for a period of two (2) years and made available to the Department upon request. [Rule 62-4.070(3), F.A.C.]

RECORDKEEPING AND REPORTING REQUIREMENTS

30. The FCSC shall record, as a minimum, the daily input kiln feed rate (tons per hour), the coal feed rate (tons per hour), and the clinker production rate (tons per hour). The above records shall be retained for a period of two (2) years and made available to the Department upon request. [40 CFR 60.63(a), and Rule 62-4.070(3), F.A.C.]

31. The FCSC shall submit to the Department an *Excess Emission and Monitoring Systems Performance Report* for the opacity limitation in Specific Condition No. 17, semiannually. The report shall contain the information and be in the format shown in Figure 1, 40 CFR 60.7(d). All reports shall be postmarked by the 30th day following the end of each calendar half. [Rule 62-296.800, F.A.C., 40 CFR 60.7(c), and 40 CFR 60.7(d)]

32. The FCSC shall submit to the Department and the Hernando County Planning Department the dates and quantities of both on-specification and new fuel oil transferred to the facility's storage tank. This report shall be submitted quarterly (i.e., January - March) to the Department of Environmental Protection, Southwest District and the Hernando County Planning Department. The report is due in the month following the ending quarter.

SPECIFIC CONDITIONS (cont'd):

33. The FCSC shall submit to the Department and the Hernando County Planning Department the oil analysis required by Specific Condition No. 15 within thirty (30) days after the sample is taken. The results of each oil sample shall be compared to the constituent and physical property requirements of Specific Condition No. 10.

34. Submit to the Southwest District Office of the Department of Environmental Protection, each calendar year, on or before March 1, an emission report (DEP Form 62-210.900(4) - *Annual Operating Report for Air Pollutant Emitting Facility*), for this source, for the preceding calendar year. [Rule 62-210.370(2), F.A.C.]

The *Annual Operating Report for Air Pollutant Emitting Facility* shall include the following information:

(A) the input process rate for the cement kiln and the clinker production,
(B) the total quantity (by weight) of tires used as supplemental fuel,
(C) total coal, natural gas, and oil usage, and
(D) particulate matter, SO_2, and NO_x emission rates.

OTHER REQUIREMENTS

35. The FCSC shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]

36. The FCSC shall report to the Department of Environmental Protection any proposed process changes, any proposed increase in the production rate, any physical change, any change in the method of operation, or any addition to this source or facility, which increases the actual emissions of any air pollutant. Any change which increases the actual emissions of any air pollutant may be considered a "Permit Modification". [Rule 62-210.200, F.A.C.]

37. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 62-296.310(3), F.A.C. 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. [Rule 62-296.310(3), F.A.C.]

38. If the Department has reason to believe that any emission standard applicable to this source is not being met, the Department may require the source to conduct compliance tests which identify the nature and quantity of pollutant emissions and provide a report of these tests to the Department. [Rule 62-297.340(2), F.A.C.]

SPECIFIC CONDITIONS (cont'd):

PERMIT RENEWAL

39. Four (4) applications to renew this operating permit shall be submitted to the Air Section, Southwest District Office of the Department of Environmental Protection by [redacted] (sixty (60) days prior to the expiration date of this permit). [Rule 62-4.090(1), F.A.C.]

NOTE: The permit requirements of Rule 62-213.420, F.A.C. may supersede the permit renewal requirements of Rule 62-4.090, F.A.C.

Issued this ____ day of _____ 19__.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Iron Ore Bin

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Iron Ore Bin with a maximum process rate of 2.0 tons per hour. Emissions are controlled by a baghouse designated as 2D-63 with a 6:1 air to cloth ratio and rated at 3000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Iron Ore Bin

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Iron Ore Bin baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 2.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Iron Ore Bin baghouse shall not exceed 0.26 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Iron Ore Bin

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Fly Ash Bin

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Fly Ash Bin with a maximum process rate of 7.0 tons per hour. Emissions are controlled by a baghouse designated as 2D-67 with a 6:1 air to cloth ratio and rated at 3400 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Fly Ash Bin

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Fly Ash Bin baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 7.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Fly Ash Bin baghouse shall not exceed 0.29 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Fly Ash Bin

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Filter Dust Bin

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Filter Dust Bin with a maximum process rate of 25.0 tons per hour. Emissions are controlled by a baghouse designated as 2D-75 with a 6:1 air to cloth ratio and rated at 4500 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Filter Dust Bin

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Filter Dust Bin baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 25.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Filter Dust Bin baghouse shall not exceed 0.39 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Filter Dust Bin

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Raw Meal Transport

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Raw Meal Transport with a maximum process rate of 160.0 tons per hour. Emissions are controlled by a baghouse designated as 2F-14 with a 6:1 air to cloth ratio and rated at 1000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Raw Meal Transport

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Raw Meal Transport baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 160.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Raw Meal Transport baghouse shall not exceed 0.09 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Raw Meal Transport

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Lime Silo Storage

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Lime Silo Storage with a maximum process rate of 300.0 tons per hour. Emissions are controlled by a baghouse designated as 2F-30 with a 6:1 air to cloth ratio and rated at 4000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Lime Silo Storage

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Lime Silo Storage baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 300.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Lime Silo Storage baghouse shall not exceed 0.34 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Lime Silo Storage

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Raw Meal Storage and Homogenizing Silos

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Raw Meal Storage and Homogenizing Silos with a maximum process rate of 160.0 tons per hour. Emissions are controlled by a baghouse designated as 2G-12 with a 6:1 air to cloth ratio and rated at 2833 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company
Homogenizing Silos

Permit/Certification No.: [redacted]
Project: Raw Meal Storage and

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Raw Meal Storage and Homogenizing Silos baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 160.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Raw Meal Storage and Homogenizing Silos baghouse shall not exceed 1.5 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Kiln Feed System

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Kiln Feed System with a maximum process rate of 130.0 tons per hour. Emissions are controlled by a baghouse designated as 2H-15 with a 6:1 air to cloth ratio and rated at 7200 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Kiln Feed System

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Kiln Feed System baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 130.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Kiln Feed System baghouse shall not exceed 0.62 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Gypsum Storage Bin

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Gypsum Storage Bin with a maximum process rate of 150.0 tons per hour. Emissions are controlled by a baghouse designated as 2L-08 with a 6:1 air to cloth ratio and rated at 2000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Gypsum Storage Bin

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Gypsum Storage Bin baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 150.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Gypsum Storage Bin baghouse shall not exceed 0.17 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Gypsum Storage Bin

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Clinker Transport

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Clinker Transport with a maximum process rate of 75.0 tons per hour. Emissions are controlled by a baghouse designated as 2L-16 with a 6:1 air to cloth ratio and rated at 2000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Clinker Transport

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Clinker Transport baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 75.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Clinker Transport baghouse shall not exceed 0.17 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Belt Conveyor

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Belt Conveyor with a maximum process rate of 120.0 tons per hour. Emissions are controlled by a baghouse designated as 2M-08 with a 6:1 air to cloth ratio and rated at 4500 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Belt Conveyor

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Belt Conveyor baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within ±10% of the process rate of 120.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Belt Conveyor baghouse shall not exceed 0.39 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Belt Conveyor

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Finish Mill Discharge Vent

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Finish Mill Discharge Vent with a maximum process rate of 15.0 tons per hour. Emissions are controlled by a baghouse designated as 2N-13 with a 4:1 air to cloth ratio and rated at 40,000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Finish Mill Discharge Vent

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Finish Mill Discharge Vent baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 15.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Finish Mill Discharge Vent baghouse shall not exceed 3.43 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Finish Mill Sepol Separator

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Finish Mill Sepol Separator with a maximum process rate of 120.0 tons per hour. Emissions are controlled by a baghouse designated as 2N-20 with a 4:1 air to cloth ratio and rated at 115,000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Finish Mill Sepol Separator

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Finish Mill Sepol Separator baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 120.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Finish Mill Sepol Separator baghouse shall not exceed 9.86 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Finish Mill Sepol Separator

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Cement Storage Silo A

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Cement Storage Silo A with a maximum process rate of 120.0 tons per hour. Emissions are controlled by a baghouse designated as 2Q-15A with a 6:1 air to cloth ratio and rated at 4620 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Cement Storage Silo A

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Cement Storage Silo A baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 120.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Cement Storage Silo A baghouse shall not exceed 0.40 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Cement Storage Silo B

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Cement Storage Silo B with a maximum process rate of 120.0 tons per hour. Emissions are controlled by a baghouse designated as 2Q-15B with a 6:1 air to cloth ratio and rated at 4620 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Cement Storage Silo B

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Cement Storage Silo B baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 120.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Cement Storage Silo B baghouse shall not exceed 0.40 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Cement Storage Silo B

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Cement Silo Discharge Hopper

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Cement Silo Discharge Hopper with a maximum process rate of 540.0 tons per hour. Emissions are controlled by a baghouse designated as 2Q-17 with a 6:1 air to cloth ratio and rated at 3000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Cement Silo Discharge Hopper

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Cement Silo Discharge Hopper baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 540.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Cement Silo Discharge Hopper baghouse shall not exceed 0.26 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Coal Transport Conveyor

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Coal Transport Conveyor with a maximum process rate of 100.0 tons per hour. Emissions are controlled by a baghouse designated as 2S-04 with a 4.5:1 air to cloth ratio and rated at 2000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Coal Transport Conveyor

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Coal Transport Conveyor baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 100.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Coal Transport Conveyor baghouse shall not exceed 0.17 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Coal Transport Conveyor

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

PERMITTEE:
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

PERMIT/PROJECT:
Permit:
County: Hernando
Originally Issued:
Expiration Date:
Project: Coal Storage Bin

This permit is issued under the provisions of Chapter 403, Florida Statutes, Chapter 62-4, and Chapters 62-200 through 62-297, Florida Administrative Code. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plan(s) and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the operation of the Coal Storage Bin with a maximum process rate of 100.0 tons per hour. Emissions are controlled by a baghouse designated as 2S-07 with a 4.5:1 air to cloth ratio and rated at 2000 ACFM.

Location: Cobb Road, two (2) miles Northwest of Brooksville
UTM: 17-360.0 E 3162.5 N
NEDS No:
Point ID No:
APIS ID:

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Coal Storage Bin

SPECIFIC CONDITIONS:

1. A part of this permit is the attached [redacted] General Conditions.

2. Test the Coal Storage Bin baghouse for visible emissions at intervals of 12 months from the date [redacted] and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Protection within forty-five days of such testing (Section 62-297.340), Florida Administrative Code (F.A.C.)).

3. Testing of emissions must be accomplished within $\pm 10\%$ of the process rate of 100.0 tons per hour. Failure to submit the input rates and actual operating conditions may invalidate the test (Subsection 403.161(1)(c), Florida Statutes).

4. The maximum permitted allowable particulate emission rate from this Coal Storage Bin baghouse shall not exceed 0.17 pounds per hour.

5. The maximum permitted allowable particulate emission rate from this source is set by Specific Condition No. 4. Because of the expense and complexity of conducting a stack test on minor sources of particulate matter, the Department pursuant to the authority granted under Subsection 62-297.620(4), F.A.C. hereby waives the requirement for a stack test. The alternative standard set forth by this provision establishes a visible emission limitation not to exceed an opacity of 5%.

6. Compliance with the alternative visible emission standard specified in Specific Condition No. 5 shall be determined using DEP Method No. 9 contained in Section 62-297.420, F.A.C. The minimum requirements for stack sampling facilities, source sampling, and reporting, shall be in accordance with Section 62-297, F.A.C.

7. Should the Department have reason to believe the particulate emission standard set forth in Specific Condition No. 4 is not being met, the Department may require that compliance with the particulate emission standards be demonstrated by testing in accordance with Section 62.297, F.A.C.

8. This source shall be allowed to operate continuously, 8,760 hours per year.

9. The Southwest District Office of the Department of Environmental Protection shall be notified in writing at least 15 days prior to compliance testing.

PERMITTEE:
Florida Crushed Stone Company

Permit/Certification No.: [redacted]
Project: Coal Storage Bin

SPECIFIC CONDITIONS (cont'd):

10. Submit for this facility, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following:

(A) Annual amount of materials and/or fuel utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Section 62-296.310, F.A.C. 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. Reasonable precautions shall include but are not limited to applying dust suppressants to the roads and plant site, landscaping and planting of vegetation on an as needed basis.

12. The visible emission compliance test shall be conducted by a certified observer and be a minimum of 30 minutes in duration.

13. Four applications to renew this operating permit shall be submitted to the Department sixty (60) days prior to the expiration date of this permit.

Issued this ____ day of _____
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
[redacted]
Director of District Management
Southwest District

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. Clair Fancy
Florida Department of Environmental Protection
111 S. Magnolia, Suite #4
Tallahassee, FL 32301

Date: 07-11-95 Proj. ID: FCS-100

RECEIVED
JUL 12 1995
Bureau of
Air Regulation

WE ARE SENDING YOU: [X] Attached [ ] Under separate cover
VIA: [ ] 1st Class Mail [X] Federal Express [ ] Hand Delivery [ ] Other
THE FOLLOWING ITEMS:

Copies	Date	No.	Description
2	07-11-95		Response to Comments - Florida Crushed Stone Air Permit Application

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: _____

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

July 11, 1995

Mr. Clair H. Fancy, P.E.
Florida Department of Environmental Protection
111 S. Magnolia, Suite #4
Tallahassee, FL 32301

RE: Florida Crushed Stone Incompleteness/Insufficiency Review
File Nos. PSD-FL-227 and PA 82-17

Dear Mr. Fancy:

RTP Environmental Associates, Inc. (RTP) and the applicant have prepared the following responses to the comments of FDEP's June 16, 1995 memorandum (Attachment 1) regarding the Florida Crushed Stone (FCS) air permit application for the additional cement kiln. These responses are given below in the numbered order in the FDEP memorandum. Responses to the National Park Service letter of June 16, 1995 are given as FDEP response Number 7.

1) Appendix A contains information on the basis for the emission calculations for each pollutant, along with associated reference material.

2) As discussed during our meeting on June 26, 1995 at your offices and in Response #1 of our May 10, 1995 letter, the comparison of existing actual emissions to future potentials is not required for this project. We have provided Attachment 2, which summarizes results of the stack emission tests performed on the Unit I kiln alone for the previous five years of operation, for your use.

3) Appendix B contains process flow diagrams for the cement plant and the power plant, along with a narrative describing how the feed material is processed in the kiln. In response to the specific question posed in the June 16, 1995 memorandum on combustion in the raw mill and dryer, there is no independent combustion source for the raw mill. The raw mill will utilize the hot gases from the preheater during material processing. In addition, there will be no dryer associated with the new kiln. Tire derived fuel is fed to the kiln at the base of the preheater (kiln inlet).

4) The FCS operation of the kiln and the Central Power and Lime operation of the power plant referred to in this question are unrelated and independent projects.

5) As requested, we have expanded the BACT analysis to include the issues raised by the Department. The following NO_x control alternative were considered and dismissed as not being applicable to FCS's operation for the reasons discussed below:

Cement kilns are unusual combustion systems in that simultaneous heat exchange and chemical transformations are required. Combustion gases interact directly with feed materials. Solid components of the fuels (nominally "ash") are incorporated into the product. The temperature required to form tricalcium silicate, the final reaction product, is about 2700°F. These very high material temperatures require that combustion gas temperature exceed 3000-3500°F to provide efficient heat transfer. In addition, product quality requires that tricalcium silicate be formed in an oxidizing atmosphere. It is the very high temperatures and oxidizing conditions which account for the preponderance of NO_x generated in cement kilns.

Fuel nitrogen can be converted to NO_x during combustion and this NO_x is commonly called fuel NO_x. In cement kilns, thermal NO_x produced in the Zeldovich reactions from free radicals, accounts for most of the NO_x formed. Thermal NO_x increases exponentially with temperature above approximately 2500°F. Fuel NO_x will participate in further reactions to achieve equilibrium with thermal NO_x. Where thermal NO_x is high due to high combustion temperatures, there is very little contribution to the total NO_x from the nitrogen in fuels. For electric utility and industrial boilers which operate at far lower temperatures, fuel nitrogen is a primary concern. For cement kilns, thermal NO_x dominates. This explains why cement kilns generate less NO_x with nitrogen containing coal than with natural gas. Thermal NO_x in cement kilns is lower with coal because coal produces a lower temperature flame. This is the opposite of what occurs in boilers. For the kiln design proposed by FCS, the use of lower nitrogen fuels is expected to have little or no effect on overall NO_x emissions.

For cement kilns, uniform operation with relatively small changes in operating conditions is very important in controlling NO_x. Transient conditions in feed or fuel preparation or burning can significantly affect the maximum combustion temperature. Small changes in temperature at the high temperatures required in cement kilns create much larger changes in NO_x emissions. The Polysius GEPOL design proposed for FCS Brooksville is expected to provide the most consistent operation possible for the raw materials and fuels available at this site.

Flue Gas Recirculation (FGR) - According to Energy and Environmental Research Corporation (EER), a combustion process design engineering firm with expertise in the field, FGR is a technologically infeasible control technology as applied to a cement kiln. It is contrary to the process of cement manufacturing. Cement manufacturing requires very high temperature reactions and

FGR results in a lowering of the peak flame temperatures, very likely below that required for cement production. EER is unaware of any cement kiln utilizing this technology (conversation with Mike Booth and Steve Lanier of EER - Attachment 3).

Fuel Reburning - The technology of fuel reburning, also known as stage combustion, as a NO_x control measure in a cement kiln involves the injection of fuel downstream from the primary combustion zone to serve as a NO_x reducing agent. While fuel reburning is conceptually a viable NO_x control measure, there is no evidence that is has been demonstrated as an effective control measure in any cement kiln in the United States or Europe.

A number of USEPA sources were reviewed for information on fuel reburning in cement kilns. A search of the USEPA BACT/LAER Information System failed to list fuel reburning as a control option for any cement kiln in the database (RTP's USEPA BACT/LAER database search). The USEPA ACT document on NO_x emission from cement manufacturing discusses secondary combustion of fuel as a control option for cement kilns. While the document indicates fuel reburning is a theoretically viable option for reducing NO_x levels, it fails to indicate that the technology has actually been demonstrated in an operating kiln with a preheater design (USEPA Alternative Control Techniques Document - "NO_x Emissions from Cement Manufacturing," March, 1994, pp. 5-8 and 5-13).

In addition, recognized experts in the field were queried. EER is unaware of any cement kiln utilizing fuel reburning technology in the United States or Europe. According to EER, it is possible that demonstration projects using this technology will occur in California within the next six to nine months (conversation with Mike Booth and Steve Lanier of EER - Attachment 3). Also, according to Construction Technologies Laboratory (CTL), an engineering consulting firm with expertise in the cement manufacturing industry, while there has been research and lab scale testing of fuel reburning, to their knowledge there is no kiln in operation which has successfully implemented the technology (conversation with Wally Klemm of CTL - Attachment 4).

RTP contacted the Kern County, California Air Pollution Control District for information on the Calaveras Cement Company's kiln in Tehachapi, California. This plant had been suggested as possibly employing fuel reburning technology for NO_x control. Mary Flynn provided information on the kiln at this facility (Attachment 5). This facility utilizes a NO_x control measure involving injection of excess air to a precalciner. This process is different from the FCS process utilizing a preheater and very limited information was available concerning the control system design.

Low Nitrogen Fuels - Although in general reducing fuel nitrogen content should result in lower NO_x emissions, this does not prove to be true when substituting natural gas for coal in cement kilns.

Although natural gas has a lower fuel nitrogen content than coal, it has been shown that natural gas combustion in kilns results in substantially increased NO_x emissions over coal combustion (USEPA Alternative Control Techniques Document - "NO_x Emissions from Cement Manufacturing," March, 1994, p. 5-4). Changing the primary kiln fuel from natural gas to coal reduces the flame temperatures resulting in lower thermal NO_x emissions. No data was found on the effect on NO_x emissions of using other fuels with reduced nitrogen content. It is believed that no effect on annual NO_x emissions would occur as thermal NO_x dominates NO_x emissions for cement kilns.

Contemporaneous Reductions - Contemporaneous reductions in NO_x emissions from the power plant is not possible. The power plant and the cement kiln are two separate, unrelated, and independent projects.

The proposed second kiln at FCS in Brooksville is a four stage preheater design which is very similar to the existing kiln system. This design has been selected from many other possible designs to accommodate the unique raw materials, fuels, and operating experience developed at the plant over the past ten years. Representative at Polysius have expressed concern that combustion of more than scrap tire fuel in the preheater tower may increase plugging with material build-up and induce kiln instabilities. At Brooksville, the Polysius GEPOL design does not currently require a bypass system to eliminate alkali chlorides or sulfates. Staged combustion of additional fuel in the preheater may be possible if a dust bypass system were installed, but there would be a significant energy penalty, generation of cement kiln dust (CKD) waste, and possibly increased overall NO_x generation due to reduced energy efficiency.

The use of lower nitrogen fuels and limitations on the application of staged combustion (gas reburning) and FGR do not appear to provide viable alternatives to NO_x reduction at the FCS Brooksville plant. Consequently, it is not possible to develop cost, energy, and environmental comparisons for these alternatives. Increased use of fuel in the preheater may actually increase NO_x emissions, if such a change requires installation of a bypass system with associated energy and environmental penalties.

The FCS Brooksville design is expected to produce approximately 4.5 pounds of NO_x per ton of clinker. Emissions of NO_x from preheater kilns described in AP-42 are about 4.8 pounds of NO_x per ton of clinker, based on a production rate of 100 tons of clinker per hour. Recent BACT determinations for cement kilns include facilities expected to emit over 4.5 pounds of NO_x per ton of clinker. Given the unique raw material, fuel and operating constraints at FCS Brooksville, it appears the proposed design is the best available technology for this facility.

6) Attachment 6 is a summary of permitting activity that has occurred at the facility since the beginning of its operation.

7) Responses to June 16, 1995 Fish and Wildlife Service (FWS) Comments - The FWS comments were discussed in a July 5, 1995 conference telephone call between representatives of RTP, FDEP, FWS, and the National Park Service (NPS). The following responses provide the information and materials agreed upon during the conference.

Air Quality Modeling Analyses - The FWS modeling analysis discussed in the comment considers only the emissions and stack characteristics of the proposed kiln flue. Since the flue for the proposed kiln emissions will be attached to the existing main facility stack similar to a multiflued arrangement, the air permit application modeling analyses consider the change in facility impacts due to the proposed kiln. The two facility scenarios that need to be considered in the permitting are two kilns operating together and two kilns operating simultaneously with the power plant. These impacts are calculated by modeling these scenarios minus existing conditions. In the permit application, it was shown that the increase in facility impacts due to the proposed kiln was less than the Class I USEPA proposed draft significant impact levels (SILs) for all pollutants. The increase in facility impacts for two operating kilns was greater than the NPS SILs for SO_2 and NO_2. However, in the March 21, 1995 comment responses, it was noted that the operating scenario of two operating kilns alone was unlikely to occur for any appreciable amount of time. The most likely operating scenario, two kilns operating simultaneously with the power plant, evinced no increases in facility impacts in the Class I area greater than the NPS SILs.

As discussed in the telephone conference, the applicant is waiting for the USEPA to formally propose Class I SILs this summer in the Federal Register. At that time, the applicant would likely reduce the proposed SO_2 emission rate in order to show increases in facility impacts less than the proposed Class I SILs. Based on existing test data, the applicant cannot significantly reduce the proposed NO_x emission rate for the proposed cement kiln. Therefore, a NO_x multisource modeling analysis was performed for the Class I area. The NO_x multisource inventory facsimilied to us by Mr. Cleve Holladay of FDEP on May 12, 1995, as shown on Attachment 7, was modeled. The Florida Rock Industries, Inc. Newberry Cement Plant was added to the list based on the Air Permit Forms recently submitted to the Department. The Florida Crushed Stone facility was modeled separately for both Case 1 - two operating cement kilns and Case 2 - two operating cement kilns and the power plant. The modeling was performed identical to the ISCST2 refined Class I analysis as described in the air permit application. Maximum annual NO_2 Class I increment consumption based on the multisource modeling results are:

Year Modeled	NO_x INVENTORY + CASE 1 Max Annual NO_2 Impact (ug/m³)	Location UTM Coors (km) East, North	NO_x INVENTORY + CASE 2 Max Annual NO_2 Impact (ug/m³)	Location UTM Coors (km) East, North
1984	0.84343	340.3, 3165.7	0.79055	340.3, 3165.7
1985	0.95121	340.3, 3165.7	0.91449	340.3, 3165.7
1986	0.95400	340.3, 3165.7	0.91921	340.3, 3165.7
1987	0.95121	340.3, 3165.7	0.89265	340.3, 3165.7
1988	0.81748	340.3, 3165.7	0.79712	340.3, 3165.7

As can be seen, the maximum annual NO_2 impact in Chassahowitzka NWR is 0.954 ug/m^3, which is 38% of the Class I increment of 2.5 ug/m^3. Therefore, compliance with the NO_2 Class I increment in Chassahowitzka NWR is predicted. Diskettes of the modeling input and output files are being provided to Mr. Cleve Holladay of FDEP and Mr. John Notar of NPS.

Class I Visibility - With the May 10, 1995 responses, a revised Table 7-2 was submitted which addressed earlier comments by NPS/FWS. Namely, changes in the VISCREEN analyses based on NPS/FWS comments were as follows: the winds as measured at Tampa International Airport at a sensor height of 22 feet were assumed to be representative of winds measured at the stack top height of 320 feet (wind speeds in Table 7-2 of the original air permit application were adjusted by the standard rural USEPA wind profile factors); a background visual range of 65 km was used representing the 90th percentile visual range (rather than the average visual range of 25 km in the visibility workbook); and H_2SO_4 emissions were modeled as sulfate emissions.

In the revised Table 7-2, visible plumes were identified by the VISCREEN model output (rather than using default values such as 2.0 for ΔE). The VISCREEN model therefore determines a predicted frequency of 5.9% rather than 6.3% according to the comment. As noted during the telephone conference, the predicted frequency of 5.9% for a visible plume is due to both existing and proposed emissions from the main facility stack. Since the predicted frequency for a visible plume due to existing emissions is 5.5%, the proposed cement kiln would only increase the predicted frequency of a visible plume by 0.4%. It is our belief, as well as the applicant's, that the VISCREEN model is grossly overpredicting the current potential for a visible, coherent plume in the Class I area. This belief is bolstered by the fact that there are no recorded complaints that either we or FDEP are aware of, of any coherent plume from the facility ever observed at Chassahowitzka.

Similar to the last response and as discussed during the telephone conference, modeling the proposed kiln by itself for visibility is not indicative of proposed impacts by the proposed kiln since a single kiln operating alone is already permitted. However, as

requested by Mr. John Notar, a single kiln was modeled with VISCREEN and the results are shown in Attachment 8. There are no predicted occurrences of a visible plume based on single kiln emissions due to contrast values. Based on VISCREEN ΔE values, the predicted frequency for a visible plume in Chassahowitzka due to emissions from a single kiln is 3.2% of the time. This value is less than the predicted frequency for a visible plume in Chassahowitzka due to existing facility emissions. Therefore, we believe that no significant adverse impact due to visibility will occur.

PSD Applicability/Source Definition - FDEP has confirmed that the two projects are independent. The proposed megawatt increase for the power plant would only be for periods when the cement kilns are not operating. When the proposed kiln is operating, existing permit conditions for the power plant would apply as considered in the air permit application.

Air Quality Related Values (AQRV) Analysis - As agreed to in the telephone conference, total SO_2 loadings at Chassahowitzka were addressed by adding the increase in SO_2 impacts due to the proposed kiln to SO_2 background concentrations measured at a representative monitoring site. The SO_2 monitoring site closest to Chassahowitzka is the monitoring site maintained by the applicant in Hernando County. The maximum SO_2 background values measured at this monitoring site, the maximum increases in facility SO_2 impacts in the Class I area, and the total of these two values are as follows:

Avg. Time	Background (ug/m^3)	Maximum Impacts (ug/m^3)	Total Concentration (ug/m^3)	Ambient Standard (ug/m^3)	% of Standard
3-hour	77	0.50	77.50	1300	6.0%
24-hour	21	0.12	21.12	260	8.1%
Annual	3	0.01	3.01	60	5.0%

The increases in Class I concentrations due to the proposed kiln are less than 0.65% of existing representative background concentrations. These increases are based on the currently proposed emission limit of 45 lbs/hour, which may change as described above. Also, it would be expected that SO_2 concentrations in Chassahowitzka would be even less than the background concentrations measured in Hernando County as the monitoring site is designed to detect emissions from Florida Crushed Stone.

Should you have any questions or need any additional information, please feel free to contact me at (908) 968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias

Donald F. Elias
Principal

DFE/trp

Enclosures

cc: T. Mountain - FCS
L. Curtin - Holland & Knight
H. Oven/T. Heron/C. Holladay - FDEP
S. Kukier - USEPA Region IV
J. Bunyak - NPS
M. Hober/W. Corbin/M. Lewis - RTP
Proj. File - FCS

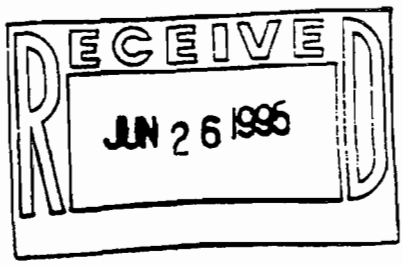
SW District
Hernando County

ATTACHMENT 1

MEMO FROM BUCK OVEN WITH ATTACHMENTS
JUNE 16, 1995

Florida Department of DSW
Environmental Protection

Memorandum



TO: Buck Oven

THROUGH: Al Linero
Clair Fancy

FROM: Teresa Heron

DATE: June 16, 1995

SUBJECT: Florida Crushed Stone
Incompleteness/Insufficiency Review
File No. PSD-FL-227 and PA 82-17

Following are additional requests pursuant to the May 10, 1995, Florida Crushed Stone response to the Department's letter of April 21, 1995.

1. Please supply the basis for the calculations of emissions (lb/hr, ton/yr and/or lb/MMBTU, lb/ton, if applicable) for each pollutant emitted (criteria and non-criteria) as a result of this project. Include all assumptions, reference materials, and engineering calculations.

2. Pursuant to Rule 62-212.200(2) and Rule 62-212.400(2)(e), F.A.C., please supply calculations for the last two (2) years of operation. Compare past actual emissions with the future potential emissions for each criteria and non-criteria pollutants emitted as a result of this project.

3. Please provide a process diagram of the new kiln which shows all input feeds of gases and materials along with the sources of these feeds. Provide a process diagram of the entire facility including the two kilns and power plant. Indicate whether the raw mill or the dryer for the new kiln will be fired by a combustion source. Provide a description of how the feed material is processed in the existing kiln and state whether any of this processed (heated or dried) material will be utilized in the new kiln.

4. Both Central Power and Lime (CPL) and Florida Crushed Stone (FCS) were authorized under the same Certification (PA 82-17). The recent modification of CPL's operation and the one proposed for FCS relate to the same Certification. Also, they are under common ownership, control, and contiguous (in fact integrated). In accordance with the attached August 1983 letter from EPA, please assure the Department that these two projects are unrelated and independent.

5. The April 21, 1995 letter from the Department asked the applicant to investigate any emerging technology for the control of NOx (Question 17). Question 18 asked the applicant to provide a BACT analysis for each PSD pollutant. The applicant's response stated that the most stringent available control technologies have been selected for all pollutants and that no technical, economic, or environmental analysis are required. A top-down approach or a review of alternatives would have revealed that gas reburning is an available technology which is more stringent (gives a lower emission rate) than the one chosen. Please compare costs, energy and environmental effects of reaching a lower emission rate using alternatives including gas reburning, flue gas recirculation, low nitrogen fuels and possibly contemporaneous reductions from the power plant.

6. Please provide in a chronological order the different permitting activities that have occurred at this facility since the beginning of its operation.

7. Please address the comments in the attached National Park Service correspondence.

If you have any questions on this matter, please write to A. A. Linero, P.E. Supervisor or call Marty Costello, P.E. (BACT Engineer), Cleve Holladay (Meteorologist), John Glunn (Air Toxic Specialist) or Teresa Heron (Review Engineer) at (904)488-1344.

AL/th/t

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

4AW-AM

AUG 15 1983

Mr. Harold E. Hodges, P.E., Director
Division of Air Pollution Control
Tennessee Department of Public Health
150 Nineth Avenue North
Nashville, Tennessee 37203

Dear Mr. Hodges:

This is in answer to a request made by Angie Pitcock to Roger Pfaff by telephone on July 21, regarding EPA's policy on accumulation of de minimis increases in emissions at major stationary sources.

As you know, EPA interprets the PSD and nonattainment new source review rules (40CFR 51.24, 40CFR 52.21, 40CFR 51 Appendix S, 40 CFR 51.18 (j), 40CFR 52.24) as allowing an unlimited number of de minimis increases at major stationary sources without subjecting the source to review. This policy is stated in a memorandum from Edward E. Reich to Charles Whitmore, January 22, 1981, and is further confirmed in EPA's June 2, 1983 summary of applicability determinations (PSD-138).

Although the policy outlined in these documents allows a series of de minimis modifications to escape review, it is important that the reviewing agency not allow a source owner to circumvent the regulations by splitting up what would normally be considered a single major modification into two or more de minimis increases. Two or more increases should be considered by the reviewing agency to be part of the same project if they are considered part of the same project in the corporate planning of the source owner or if the emission units being constructed or modified are interdependent. For example, if the company institutes a "debottlenecking" project or a plant-wide energy conservation project involving several independent facilities, the project should be considered to be a single modification. If a company constructs a new boiler to generate steam and also adds new steam-using equipment, such as an evaporator, these units should also be considered part of the same project.

In order to facilitate agency decisions regarding whether two or more increases constitute a single project, EPA Region IV is adopting a policy which allows an initial presumption based upon easily distinguishable criteria, with allowance for rebuttal of the presumption by the applicant. Region IV policy is to consider two or more increases as a single project if the permit application for the last increase is submitted before the first increase is operational. This is a reasonable dividing line because it is easily discernible and because it would prohibit two facilities from being considered separate projects if one could not operate without the other.

For example, suppose a company obtains a permit for a new boiler at a major source in an attainment area on June 1, 1983. The new boiler emits 30 tons per year of SO_2 and escapes PSD review as a de minimis increase. On October 1, 1983, while the first boiler is under construction, the company submits an application for a second, identical, boiler. The agency would initially presume that these two boilers were part of a single project causing a significant increase in SO_2. Both boilers would be subject to PSD, including retroactive BACT for the first boiler. However, if the company could show, through engineering analysis and internal documents, that the two boilers were planned during separate time frames and involve separate, independent facilities (such as separate product lines at a large chemical plant), the agency could allow the boilers to be treated as separate projects. Conversely, if you know that two actions are actually one project, but the source owner is able to build and operate the first one before applying for the second, solely to avoid review, you should use that knowledge to subject the project to review.

The initial presumption criteria are used for the purpose of simplifying your decision process for the more obvious cases. The final criteria should always be whether or not the source owner is circumventing the new source review rules by separating what would normally be considered one project into two or more projects.

Sincerely yours,

James T. Wilburn, Chief
Air Management Branch
Air and Waste Management Division

cc: Ed Reich
Mike Trutna
All state agencies

Don

Post-it® Fax Note 7671	Date	# of pages ▶
To Don Elias	From Steve Holladay	
Co./Dept. RTP	Co.	
Phone # 919-968-9600	Phone # 404-488-1344	
Fax # 919-968-9603	Fax #	

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

Dear Mr. Fancy:

In our April 19, 1995, letter to you we commented on the Prevention of Significant Deterioration permit application for the new cement kiln (kiln #2) proposed by Florida Crushed Stone (FCS). The kiln would be located 20 km southeast of Chassahowitzka Wilderness Area, a Class I air quality area administered by the U.S. Fish and Wildlife Service. The new kiln would emit significant amounts of PM-10, sulfur dioxide, nitrogen oxides, and carbon monoxide. Our initial review determined that the application was incomplete for reasons stated in our April 19 letter. We have received additional information from FCS, but still find the application incomplete for the reasons given in the enclosed technical review document.

We would like to consult with your office on this project. Please contact Ellen Porter of our Air Quality Branch in Denver at (303) 969-2617.

Sincerely,

Noreen K. Clough
Regional Director

Enclosure

cc: Jewell Harper, Chief
Air Enforcement Branch
Air, Pesticides and Toxic Management Division
U.S. EPA, Region 4
345 Courtland Street, NE
Atlanta, Georgia 30365

bcc: FWS-REG. 4: AQC
CHAS: Refuge Manager
AQD-DEN: Ellen Porter
National Park Service - AIR
P.O. Box 25287
Denver, CO 80225

Technical Review of Additional Information Regarding the Prevention of Significant Deterioration Permit Application for Florida Crushed Stone's Proposed New Cement Kiln, Hernando County, Florida

by

Air Quality Branch, Fish and Wildlife Service - Denver

We received additional information regarding the Prevention of Significant Deterioration (PSD) permit application for Florida Crushed Stone's (FCS) proposed new cement kiln on March 21 (from Florida Department of Environmental Protection - FDEP) and May 10 (from FCS). Our comments on this additional information are given below.

Air Quality Modeling Analysis

The additional information did not clarify whether the proposed new kiln's sulfur dioxide (SO_2) emissions would significantly impact Chassahowitzka Wilderness Area (WA). Upon consultation with FDEP, we performed additional modeling analyses to determine the Class I SO_2 impact of the proposed kiln's emissions. The modeling was performed with the Environmental Protection Agency's (EPA) ISCST2 model, using the stack parameters for the proposed kiln found in Table 6-1 of the original permit application. Emissions from the proposed kiln were modeled, using an emission rate of 5.67 grams per second (Table 6-1). All three load scenarios (nominal, maximum, and minimum) described in table 6-1 were modeled. We used the standard 1982-1986 Tampa meteorological data obtained from FDEP. The thirteen receptors used were the standard set agreed to by FDEP and our office.

The modeling results (see attachments) predict that the proposed kiln's impacts at Chassahowitzka WA exceed the Fish and Wildlife Service (FWS) Class I 24-hr SO_2 significant impact level of 0.07 micrograms per cubic meter (ug/m^3) for all five years (all load scenarios); the proposed kiln's impacts exceed the proposed EPA Class I 24-hr SO_2 significant impact level of 0.20 ug/m^3 for several years (e.g., four out of five years for the nominal load). In addition, the proposed kiln exceeds the FWS Class I 3-hr SO_2 significant impact level for all five years (all load scenarios). Please note that FDEP has recognized the FWS significant impact levels since these levels were proposed four years ago and has required all PSD applicants to apply them.

Because emissions impacts from the FCS project exceed the Class I short-term SO_2 significant impact levels, we request that FCS perform a cumulative Class I SO_2 increment analysis. We ask that FCS use the source inventory used by recent Florida PSD applicants, including sources beyond 100 kilometers.

Visibility

The revised visibility analysis, submitted May 10, predicts numerous occurrences of a visible coherent plume at Chassahowitzka WA due to emissions from the proposed kiln. The VISCREEN model predicts a visible plume occurring 6.28 percent of the time within the Class I area (Table 7-2, May 10), with "delta E" values greater than 2.0 (the EPA- and FWS-accepted threshold value of a colored plume). This would correspond to approximately 275 hours of a visible coherent plume within the Class I area. This would constitute an adverse impact to visibility and would be unacceptable to us. We request that additional emissions controls for nitrogen oxides and PM-10 be required to alleviate the plume impacts. If the applicant wishes to perform a more refined analysis, they may use the EPA PLUVUE 2 model. However, due to the known limitations of the PLUVUE 2 model, and the difficulty in its application, we request that a written modeling protocol be developed and agreed to by our office, FDEP, EPA Region IV, and the applicant.

PSD Applicability/Source Definition

In our April 19 letter to FDEP, we requested clarification regarding the relationship between the Central Power & Lime PSD application and the FCS PSD application, since the two projects are at the same facility. FCS responded (May 10, Item 25) that the two projects are independent; the proposed megawatt increase for the power plant would only be for periods when the cement kilns are not operating. However, in their March 21 submittal to FDEP, FCS states that "...two cement kilns operating with the power plant, is the facility configuration most likely to occur the majority of the time." (p.1, par.2) We again ask FDEP to clarify this.

Air Quality Related Values (AQRV) Analysis

We noted in our April 19 letter that the application lacked a Class I AQRV analysis (other than for visibility). FCS's May 10 response stated that they had addressed impacts to soils and vegetation in the vicinity of the proposed project in the "Additional Impacts" section of the original application. Please note that FCS considered only impacts from the proposed project's emissions. A Class I AQRV analysis should consider the total pollutant concentrations and loadings that resources at the Class I area will experience. It should consider emissions from all sources with the potential to affect these resources.

We recently established a list of lichen species found at Chassahowitzka WA. The lichen Ramalina americana, identified by Wetmore (1983) as SO_2-sensitive, occurs at the wilderness area. We are currently attempting to verify the presence of several other SO_2-sensitive lichen species at the wilderness area. We request that FCS perform a cumulative analysis so that we may adequately assess potential impacts of total pollutant concentrations and loadings to sensitive AQRVs at the Class I area.

REFERENCES:

1983. Wetmore, C.M. Lichens of the Air Quality Class 1 National Parks. (Final Report, National Park Service).

ATTACHMENT 2

STACK TEST RESULTS - UNIT I KILN

STACK TEST RESULTS SUMMARY - UNIT I KILN
FLORIDA CRUSHED STONE

TEST DATE		Part lbs/hr	SO2 lbs/hr	NOx lbs/hr	CO lbs/hr	THC lbs/hr	NOTES
	permit allowable	**49.5**	**50.0**	**359.0**	**127.0**	**6.35**	
08/20/90	test 1	23.03	7.16	378.1			coal only
	test 2	23.12	1.74	560.8			NOx failed stack test
	test 3	16.03	1.78	447.5			
	avg.	**20.73**	**3.56**	**462.1**			
03/02/91	test 1	18.69	7.81	66.9			coal only
	test 2	22.44	3.51	59.4			NOx measured on CEM
	test 3	31.47	4.37	152.6			Method 7E
	avg.	**24.2**	**5.23**	**92.9**			
11/13/91	test 1	25.14		434	63.5	3.5	coal only
	test 2	10.75		240	55	3.4	
	test 3	11.96		384	56.9	3.9	
	avg.	**11.36**		**353**	**58.6**	**3.6**	
	test 1	10		210.6	74.2	1.15	coal & TDF
	test 2	9.07		174.6	90.4	1.31	
	test 3	0.76		212.3	75.2	1.2	
	avg.	**9.61**		**199.1**	**79.9**	**1.22**	
02/11/92	test 1		2.26				coal only
	test 2		3.8				
	test 3		3.61				
	avg.		**3.22**				
03/16/93	test 1	1.36	4.6	222.9			coal & TDF burned
	test 2	2.51	3.3	212.3			NOx measured on CEM
	test 3	1.49	3.4	207.8			Method 7E
	avg.	**1.79**	**3.8**	**214.3**			
06/01/94	test 1	10.31	4.39	200.1			coal & TDF burned
	test 2	11.36	3.5	170.2			NOx measured on CEM
	test 3	8.76	3.47	306.7			Method 7E
	avg.	**10.14**	**3.79**	**225.7**			

ATTACHMENT 3

TELEPHONE CALL REPORT - EER

TELEPHONE CALL REPORT

Firm/Office: RTP-NJ

Date: 6/30/95

Proj. ID: FCS

Description: CALL TO INQUIRE ON NOx TECHNOLOGY APPLICABLE TO FCS

Distribution:

Made By/Received By: MIKE HOBER/MARC LEWIS

Talked With: MIKE BOOTH, DIRECTOR OF BUSINESS DEVELOPMENT AND STEVE LANIER, VICE PRESIDENT OF EER, DURHAM, NC

Phone #: 919-489-1726

Marty Costello, BACT engineer on the FCS project referred us to Mike Booth of Energy and Environmental Research Corporation (EER) in Durham, North Carolina, as a contact with information on applicability of fuel reburning and flue gas recirculation as NOx control measures to the FCS Cement Kiln installation. We spoke with Mike Booth and Steve Lanier of EER.

EER is an engineering design firm with expertise in the design of emission control systems and process modifications to combustion processes. This includes boilers and kilns.

Mr. Booth and Mr. Lanier are very familiar with cement kiln combustion technology and NOx control measures on cement kilns. Concerning the applicability of Flue Gas Recirculation as a possible NOx control measure, Mr. Lanier indicated that it would be absurd to consider flue gas recirculation as a potential control technique. He indicated that it absolutely would not work as a control technique because it is contrary to the process required to make cement. Cement manufacturing requires temperatures in the 3500 deg. F range, and flue gas recirculation would likely result in a lowering of the peak flame temperature below this level. He is unaware of any cement kiln utilizing this technology.

Regarding the technique of fuel reburning as a possible NOx control measure, again Mr. Lanier is unaware of any cement kiln that has demonstrated the use of this technology in the U.S or Europe. However he indicated that conceptually, fuel reburning, or the injection of additional fuel downstream of the primary zone as a NOx reducing agent, is a viable control option. He indicated that there may be some demonstration projects using the technology approved in California within the next six to nine months.

ATTACHMENT 4

TELEPHONE CALL REPORT - CTL

TELEPHONE CALL REPORT

Firm/Office: RTP-NJ

Date: 7/6/95

Proj. ID: FCS

Description: CALL TO CONSTRUCTION TECHNOLOGIES LABORATORY TO OBTAIN INFORMATION ON FUEL REBURNING IN CEMENT KILNS

Distribution:

Made By/Received By: MARC LEWIS

Talked With: WALLY KLEMM, SENIOR PRINCIPAL SCIENTIST, CTL, SKOKIE, IL.

Phone #: 708-965-7500

Tony Fiorado of the Portland Cement Association referred me to Wally Klemm for information on fuel reburning technology applicable to cement kilns. Wally is a senior principal scientist with Construction Technology Laboratories, Inc., in Skokie, IL. CTL is an engineering consulting firm providing process consulting and testing services to the cement manufacturing industry. Wally has over 30 years of experience in the U.S. cement industry.

To the best of Wally's knowledge, while there has been research and testing done on fuel reburning (i.e. injecting fuel downstream as a reducing agent) as a form of NOx control in kilns, there is no kiln in operation which has implemented the technology.

ATTACHMENT 5

TELEPHONE CALL REPORT - KERN COUNTY APCD

TELEPHONE CALL REPORT

Firm/Office: RTP-NJ

Date: 7/5/95

Proj. ID: FCS

Description: CALL TO INQUIRE ON NOx CONTROL MEASURES FOR CALAVERAS CEMENT CO. CEMENT KILN IN KERN COUNTY, CA.

Distribution:

Made By/Received By: MARC LEWIS

Talked With: MARY FLYNN, KERN CTY.,CA., AIR POLLUT. CONTROL DIST.,

Phone #: 805-861-2593

Mary Flynn works with the Kern County, CA air pollution control district. She was asked about the implementation of fuel reburning at the Tehachapi Cement plant in Kern County. The indicated that the correct name of the plant is the Calaveras Cement Company, located in Tehachapi, CA. The plant operates a kiln with permit allowable clinker production rate of 2300 tons/day. The kiln is a dry kiln design with a preheater and a precalciner. Kiln length is approximately 200 to 300 feet. According to Mary, Calaveras received an air permit for a cement kiln approximately 3 years ago. Emission limits in the permit are the following:

Part:	16 lbs/hr	387 lbs/day
SO2:	295 lbs/hr	7086 lbs/day
NOx:	281 lbs/hr (2.9lbs/ton clinker)	6752 lbs/day
VOC:	45 lbs/hr	1082 lbs/day
CO:	1282 lbs/hr	30768 lbs/day

Maximum raw material feed rate for the kiln is 3600 tons/day. Maximum clinker production rate is 2300 tons/day. Mary indicated that the kiln runs 24 hours per day, thus the hourly rates would be 150 tons/hr feed rate and 95.8 tons/hr clinker production.

When originally installed, the kiln was unable to meet permitted NOx emission limits. About 1.5 years ago, they modified the process and installed staged combustion in the preheater. The staged combustion involved the introduction of excess air through various ducts in the preheater. Mary didn't know much more about the modification. She indicated it was proprietary, the company was reluctant to share information about it, and her agency was primarily concerned with the results of the stack tests anyhow.

The kiln was stack tested in 1994, after the installation of the staged combustion. The results were as follows at maximum production rates:

Telephone Call Report
Mary Flynn
7/5/95

Part: 0.00034 grains/dscf
SO2: 1.2 ppm, 1.54 lbs/hr
NOx: 251 ppm, 241 lbs/hr
VOC: 7 ppm, 2.27 lbs/hr
CO: 153 ppm, 89 lbs/hr

Mary indicated the stack test resulted in the facility meeting its permitted emission limits.

Additional information about the process include:

average gas flow: 131,000 DSCFM
kiln utilizes coal exclusively as fuel. Coal feed rate is 14 tons/hour.

It is apparent that this control technology, while applicable to the Calaveras precalciner kiln design, is not applicable to Florida Crushed Stone's preheater design.

ATTACHMENT 6

PERMITTING ACTIVITY SUMMARY

CPL PLANT MAIN STACK PERMITTING SUMMARY
(6-26-95)

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	A027-183508	Original air operation permit
08-30-91	AC27-118674 PSD-FL-091A	Intent to Issue, use of shredded tires
08-30-91	AC27-118674 PSD-FL-091B	Intent to Issue, testing whole tires
10-09-91	AC27-118674 PSD-FL-091	Amendment, testing shredded tires for NOx 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 PSD-FL-091C	Intent to Issue, use of whole tires

12-21-92	AC27-118674 PSD-FL-091C	Modification, use of whole tires
12-17-93	AC27-222095 PSD-FL-091D	Modification, use of used oil
03-11-94	A027-231888	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	A027-231888A	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 plant at 1850 MMBtu/hr input

ATTACHMENT 7

CHASSAHOWITZKA NWR NO_x PSD INVENTORY

CHASSAHOWITZKA NWR NOx PSD INVENTORY

ISCST2 ID.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	56.25	76.20	2.87	369.3	14.15	103.8
	CASE 1 - TWO OPERATING KILNS								
1	FCS Baseline	360.0	3162.5	-45.23	97.54	4.88	385.4	6.67	20.0
2	FCS Baseline+Proposed	360.0	3162.5	90.47	97.54	5.75	385.4	9.59	20.0
	CASE 2 - TWO OPERATING KILNS AND POWER PLANT								
11	FCS Baseline	360.0	3162.5	-151.83	97.54	4.88	450.9	21.48	20.0
12	FCS Baseline+Proposed	360.0	3162.5	197.06	97.54	5.75	433.7	20.25	20.0

ATTACHMENT 8

LEVEL 2 VISIBILITY SCREENING ANALYSES
FOR SINGLE KILN EMISSIONS

LEVEL-2 VISIBILITY SCREENING ANALYSES FOR SINGLE CEMENT KILN EMISSIONS

Stab Class	WS Class (m/s)	Avg. WS (m/s)	$u\sigma_y\sigma_z$ (m^3/s)	Transport Time (hrs)	Freq.	Cumul Freq.	VISCREEN RESULTS for Single Cement Kiln ΔE	Contrast
F	1-2	1.5	4.51E+04	3.7	0.50%	0.50%	7.565*	-.049
F	2-3	2.5	7.52E+04	2.2	1.51%	2.01%	4.748*	-.030
F	3-4	3.5	1.05E+05	1.6	0.44%	2.45%	3.458*	-.022
E	1-2	1.5	1.23E+05	3.7	0.09%	2.54%	4.356*	-.028
F	4-5	4.5	1.35E+05	1.2	0.00%	2.54%	2.718*	-.017
E	2-3	2.5	2.05E+05	2.2	0.69%	3.23%	2.679*	-.017
E	3-4	3.5	2.87E+05	1.6	0.63%	3.86%	1.934	-.012
D	1-2	1.5	3.02E+05	3.7	0.05%	3.91%	2.355	-.015
E	4-5	4.5	3.69E+05	1.2	0.41%	4.32%	1.513	-.009
E	5-6	5.5	4.51E+05	1.0	0.13%	4.45%	1.242	-.008
D	2-3	2.5	5.03E+05	2.2	0.43%	4.88%	1.432	-.009
E	7-8	7.5	6.15E+05	0.7	0.00%	4.88%	N/C	N/C
D	3-4	3.5	7.04E+05	1.6	0.59%	5.47%	N/C	N/C
D	4-5	4.5	9.05E+05	1.2	0.46%	5.93%	N/C	N/C
D	5-6	5.5	1.11E+06	1.0	0.35%	6.28%	N/C	N/C
D	6-7	6.5	1.31E+06	0.9	0.26%	6.54%	N/C	N/C
D	7-8	7.5	1.51E+06	0.7	0.07%	6.61%	N/C	N/C
D	8-9	8.5	1.71E+06	0.7	0.01%	6.62%	N/C	N/C
D	9-10	9.5	1.91E+06	0.6	0.00%	6.62%	N/C	N/C
D	>10	10.5	2.11E+06	0.5	0.01%	6.63%	N/C	N/C
C	1-2	1.5	2.15E+06	3.7	0.03%	6.66%	N/C	N/C
C	2-3	2.5	3.59E+06	2.2	0.14%	6.80%	N/C	N/C
C	3-4	3.5	5.02E+06	1.6	0.28%	7.08%	N/C	N/C
C	4-5	4.5	6.46E+06	1.2	0.41%	7.49%	N/C	N/C
C	5-6	5.5	7.89E+06	1.0	0.20%	7.69%	N/C	N/C
C	6-7	6.5	9.33E+06	0.9	0.02%	7.71%	N/C	N/C
B	1-2	1.5	9.36E+06	3.7	0.02%	7.73%	N/C	N/C
C	7-8	7.5	1.08E+07	0.7	0.01%	7.74%	N/C	N/C
B	2-3	2.5	1.56E+07	2.2	0.13%	7.87%	N/C	N/C
A	1-2	1.5	2.08E+07	3.7	0.01%	7.88%	N/C	N/C
B	3-4	3.5	2.18E+07	1.6	0.38%	8.26%	N/C	N/C
B	4-5	4.5	2.81E+07	1.2	0.08%	8.34%	N/C	N/C
A	2-3	2.5	3.46E+07	2.2	0.06%	8.40%	N/C	N/C

σ_y and σ_z dispersion coefficients at 20.0 km based on Tables 1-1 and 1-2 of ISCST2 User's Manual Vol.II and are (A through F stabilities): σ_y = 2769, 2133, 1515, 1005, 752, and 501 meters and σ_z = 5000, 2924, 947, 200, 109, and 60 meters. Values identified by VISCREEN as exceeding the visibility screening criteria are starred "*". Due to limited probability for significant results, VISCREEN runs were not performed for those cases noted as "N/C".

APPENDIX A

EMISSION CALCULATIONS

EMISSION CALCULATIONS
FLORIDA CRUSHED STONE

I. UNIT II KILN

Table 3-4 in the document entitled "Application To Construct a Second 600,000 Ton Per Year Cement Kiln At The Florida Crushed Stone Company Facility In Brooksville, Florida" (Application) summarizes pollutant emissions from the cement kiln in pounds per hour (lb/hr) and tons per year (tpy) and is included as Attachment A1. The data provided below supplement the information provided in Chapter 3 of the initial application which contains data from the BLIS database and other sources. It should also be noted that the permit limits represent deterministic standards that must be continuously achieved for the entire life of the facility. As such, they represent the maximum, worst case level. Normal operations typically evince lower actual emissions. Emission calculations for these values are as follows:

Particulates - Subpart F - New Source Performance Standards (NSPS) for Portland Cement Plants (Attachment A2) limits particulate matter emissions from a cement kiln to 0.3 lb/ton of dry kiln feed. Clinker cooler emissions are limited to 0.1 lb/ton of dry kiln feed. The kiln feed rate of Unit II kiln in the Application is 127 tons per hour (tph)(page 3-6). Based on this feed rate, allowable particulate matter (TSP) emissions are:

Kiln:
0.3 lb/ton dry kiln feed x 127 tph dry kiln feed = 38.1 lb/hr

Clinker Cooler:
0.1 lb/ton dry kiln feed x 127 tph dry kiln feed = 12.7 lb/hr

Based on NSPS requirements, total allowable TSP emissions from the cement plant are 38.1 + 12.7, or 50.8 lb/hr. The current permit for Unit I kiln imposes a maximum particulate limit of 49.5 lb/hr for the kiln and clinker cooler. Florida Crushed Stone (FCS) requests this limit for TSP emissions for Unit II kiln as well.

Annual emissions calculations for the Unit II kiln are derived based on the operation of the kiln 24 hours per day (hrs/day) and seven days per week (days/wk).

(49.5 lb/hr x 365 days/yr x 24 hrs/day)/(2000 lb/ton) = 216 tpy

In order to calculate a PM_{10} emission level, it was conservatively assumed that all TSP emissions are PM_{10} and the PM_{10} emission level was assumed to be the same as the TSP emission level.

Based on available stack test data, as provided with this response, this limit provides a demonstrated BACT level for a kiln with a baghouse. The emissions have been set at the lowest level that can be consistently maintained under all operating conditions.

Sulfur Dioxide - The current permit allowable SO_2 emission rate for the Unit I cement kiln is 0.6 lb/ton of dry kiln feed with a not to exceed maximum hourly emission rate of 50 lb/hr. FCS is requesting that the Unit II kiln be given emission limits of 0.6 lb/ton of dry kiln feed, with a not-to-exceed limit of 45 lb/hr. The not-to-exceed limit on emissions from the Unit II kiln is calculated based on emission factors in AP-42 (Emission Factor Documentation for AP-42 Section 11.6, Portland Cement Manufacturing, May 18, 1994). Table 11.6-8 from this document is provided in Attachment A3.

The maximum sulfur dioxide hourly emission level is based on the maximum production of clinker in the preheater process kiln as follows:

0.55 lb SO_2/ton clinker x 83 tons clinker/hr = 45 lb SO_2/hr
(.27) = 22.41

FCS is requesting an emission level lower than the current emission level of 50 lb/hr primarily due to the efficiency of a newer design.

Annual emission calculations for the Unit II kiln are derived based on operation of the kiln 24 hrs/day and seven days/wk.

(45 lb/hr x 365 days/yr x 24 hrs/day)/(2000 lb/ton) = 197.1 tpy

It is normal to increase AP-42 calculated emissions with a "safety factor" for setting permit levels. However, based on test data provided with this response and in an attempt to be responsive to agency concerns, we have proposed an emission level equal to the AP-42 factor.

Nitrogen Oxides - An emission test performed on Unit I kiln dated November 13-21, 1991, (Attachment A4) determined an average NO_x emission value for three tests of the kiln alone while firing coal of 353 lb/hr. The existing conditions for Unit I kiln limit NO_x emissions to 359 lb/hr. As Unit II kiln is identical to Unit I kiln, the requested NO_x emission value for Unit II kiln is 359 lb/hr. This emission level is consistent with the results from the November 13-21, 1991 emission test. This corresponds to an emission rate of approximately 2.9 lb/ton of dry kiln feed, at a kiln feed rate of 127 tph.

Annual emissions calculations for the Unit II kiln are derived based on the operation of the kiln 24 hrs/day and seven days/wk.

(359.0 lb/hr x 365 days/yr x 24 hrs/day)/(2000 lb/ton) = 1572 tpy

Based on the stack test data, it is not possible to consistently achieve a lower NO_x level for this kiln.

Carbon Monoxide - An emission test performed on Unit I kiln dated November 13-21, 1991 (Attachment A4) indicated the maximum value for CO emissions was 90.4 lb/hr while firing a mixture of coal and tire derived fuel. An emission rate of 1.0 lb CO per ton of dry kiln feed is requested for the Unit II kiln based on the results from the November 13-21, 1991 emission test and engineering judgement to provide for a margin of safety over measured stack test results. This value equates to an hourly emission rate of 127.0 lb/hr.

1.0 lb CO/ton dry kiln feed x 127 tons dry kiln feed = 127 lb CO/hr

Annual emissions calculations for the Unit II kiln are derived based on the operation of the kiln 24 hrs/day and seven days/wk.

(127.0 lb/hr x 365 days/yr x 24 hrs/day)/(2000 lb/ton) = 556.3 tpy

Volatile Organic Compounds - An emission test performed on Unit I kiln dated November 13-21, 1991 (Attachment A4) indicated the maximum value for VOC emissions was 3.9 lb/hr while firing coal. An emission rate of 0.05 lb VOC per ton of dry kiln feed is requested for the Unit II kiln based on the results from the November 13-21, 1991 emission test and engineering judgement to provide for a margin of safety over measured stack test results. This value equates to an hourly emission rate of 6.35. lb/hr.

0.05 lb VOC/ton dry kiln feed x 127 tons dry kiln feed = 6.35 lb VOC/hr

Annual emissions calculations for the Unit II kiln are derived based on the operation of the kiln 24 hrs/day and seven days/wk.

(6.35 lb/hr x 365 days/yr x 24 hrs/day)/(2000 lb/ton) = 27.8 tpy

Lead, Mercury, Beryllium, and H_2SO_4 - Emissions of Pb, Hg, Be, and H_2SO_4 (as SO_3) are based on emission factors found in the USEPA publication "Emission Factor Documentation for AP-42 Section 11.6, Portland Cement Manufacturing," May 18, 1994. Table 4-15 in this publication (Attachment A5) summarizes noncriteria pollutant emission factors for portland cement plants. The following emission factors were provided in this table for cement plants utilizing a fabric filter for control:

Pb - 7.5 x 10E-5 pounds Pb per ton clinker
Hg - 2.4 x 10E-5 pounds Hg per ton clinker
Be - 6.6 x 10E-7 pounds Be per ton clinker
SO_3 - 0.014 pounds SO_3 per ton clinker

These emission factors were utilized to calculate emission rates for contaminants from Unit II kiln. A clinker production rate of 83 tons clinker per hour, as indicated on page 19 of the Division of Air Resource Management Application for Air Permit for Florida Crushed Stone was used in the calculations. The calculations are as follows:

Pb: 7.5 x 10E-5 lb/ton clinker x 83 tons clinker/hr x 8760 hrs/hr x 1 ton/2000 lb = 0.027 tpy Pb

NOTE: FCS requests an emission rate for Pb of 0.043 lb/hr to provide for a factor of safety above AP-42 averages due to potential variability in emissions.

Hg: 2.4 x 10E-5 lb/ton clinker x 83 tons clinker/hr x 8760 hrs/hr x 1 ton/2000 lb = 0.009 tpy 0.10

Be: 6.6 x 10E-7 lb/ton clinker x 83 tons clinker/hr x 8760 hrs/hr x 1 ton/2000 lb = 0.00024 tpy 0.0004

NOTE: FCS requests an emission rate of 0.0003 lb/hr to provide for a factor of safety above AP-42 averages) = .0019

SO_3: 0.014 lb/ton clinker x 83 tons clinker/hr x 8760 hrs/hr x 1 ton/2000 lb = 5.1 tpy SO_3

II. MINOR PARTICULATE SOURCES

Table 3-2 in the Application (Attachment A6) shows emissions from minor particulate sources necessary to support the operations of the cement kiln. All sources listed in the table are controlled by dust collectors. Particulate emissions from these sources are calculated based on a maximum emission rate of 0.01 grains/acf from the dust collectors. A sample calculation for emissions from Source No. 1 in the table, the Iron Ore Bin, is shown below. Emission calculations for the other sources in the table are derived in the same way, based on the exhaust gas flow rate in the table.

Iron Ore Bin - 3000 ACFM Exhaust Flow x 0.01 grains/acf x 60 min/hr x 1 lb/7000 gr = 0.257 lb/hr particulate emissions

0.257 lb/hr x 8760 hrs/yr x 1 ton/2000 lb = 1.125 tpy particulates

III. SITE TRAFFIC

The proposed addition of the Unit II cement kiln will increase vehicular traffic to and from the FCS facility. Attachment A7 shows emission estimates for emissions from auto, truck and rail traffic at the site prior to the addition of the Unit II Kiln. Table 3-3 in the Application presents current estimated annual truck and rail shipments of materials from the operation of the cement plant (Attachment A8). The addition of the Unit II kiln will approximately double traffic, resulting in the following annual emissions:

Contaminant	tpy
Particulate Matter	2.4
Carbon Monoxide	13.4
Volatile Organic Compounds	3.4
Nitrogen Oxides	9.2
Sulfur Dioxide	1.4

ATTACHMENT A1

SUMMARY OF POLLUTANT EMISSIONS

TABLE 3-4
SUMMARY OF POLLUTANT EMISSIONS

POLLUTANT	EMISSIONS											
	UNIT I KILN SEPARATELY		UNIT II KILN SEPARATELY		BOTH UNIT I AND UNIT II KILNS		POWER PLANT SEPARATELY		EITHER UNIT I OR UNIT II KILN & POWER PLANT		2 KILNS & POWER PLANT	
	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)
TSP	49.5	216.0	49.5	216.0	99.0	434.0	37.02	162.0	86.52	379.0	136.02	596.0
PM_{10}	49.5	216.0	49.5	216.0	99.0	434.0	37.02	162.0	86.52	379.0	136.02	596.0
SO_2	50.0	219.0	45.0	197.1	95.0	416.1	770.0	3372.6	781.0	3420.8	826.0	3617.9
NO_x	359.0	1572.0	359.0	1572.0	718.0	3144.8	846.0	3705.5	1205.0	5277.9	1564.0	6850.32
CO	127.0	556.3	127.0	556.3	254.0	1112.5	1125.0	4927.5	1252.0	5483.8	1379.0	6040.0
VOC	6.35	27.8	6.35	27.8	12.7	55.63	3.5	15.33	9.9	43.36	16.2	70.96
Pb	N/A	0.04	N/A	0.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hg	N/A	0.009	N/A	0.009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Be	N/A	0.0003	N/A	0.0003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SO_3	N/A	5.1	N/A	5.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Not PSD Applicable
lbs/hr = pounds per hour
tpy = tons per year

ATTACHMENT A2

NSPS SUBPART F

unless it is assumed that the total heat input to the combustor is from MSW with a design heating value of 10,500 kilojoules per kilogram (4,500 British thermal units per pound).

(c) Following the initial compliance test as required under §§60.8 and 60.58a, the owner or operator of an affected facility located within a large MWC plant shall submit the initial compliance test data, the performance evaluation of the CEMS using the applicable performance specifications in appendix B, and the maximum demonstrated MWC unit load and maximum demonstrated particulate matter control device temperature established during the dioxin/furan compliance test.

(d) [Reserved]

(e) The owner or operator of an affected facility located within a large MWC plant shall submit quarterly compliance reports for sulfur dioxide, nitrogen oxide (if applicable), carbon monoxide, load level, and particulate matter control device temperature to the Administrator containing the information recorded under paragraphs (b)(1), (2)(ii), (3), (4), (5), and (6) of this section for each pollutant or parameter. The hourly average values recorded under paragraph (b)(2)(i) of this section are not required to be included in the quarterly reports. Combustors firing a mixture of medical waste and other MSW shall also provide the information under paragraph (b)(15) of this section, as applicable, in each quarterly report. Such reports shall be postmarked no later than the 30th day following the end of each calendar quarter.

(f) The owner or operator of an affected facility located within a large MWC plant shall submit quarterly excess emission reports, as applicable, for opacity. The quarterly excess emission reports shall include all information recorded under paragraph (b)(3) of this section which pertains to opacity and a listing of the 6-minute average opacity levels recorded under paragraph (b)(2)(i)(A) of this section for all periods when such 6-minute average levels exceeded the opacity limit under §60.52a. The quarterly report shall also list the percent of the affected facility operating time for the calendar quarter that the opacity CEMS was operating and collecting valid data. Such excess emission reports shall be postmarked no later than the 30th day following the end of each calendar quarter.

(g) The owner or operator of an affected facility located within a large MWC plant shall submit reports to the Administrator of all annual performance tests for particulate matter, dioxin/furan, and hydrogen chloride as recorded under paragraph (b)(7) of this section, as applicable, from the affected facility. For each annual dioxin/furan compliance test, the maximum demonstrated MWC unit load and maximum demonstrated particulate matter control device temperature shall be reported. Such reports shall be submitted when available and in no case later than the date of required submittal of the quarterly report specified under paragraph (e) of this section covering the calendar quarter following the quarter during which the test was conducted.

(h) [Reserved]

(i) Records of CEMS data for opacity, sulfur dioxide, nitrogen oxides, and carbon monoxide, load level data, and particulate matter control device temperature data shall be maintained for at least 2 years after date of recordation and be made available for inspection upon request.

(j) Records showing the names of persons who have completed review of the operating manual, including the date of the initial review and all subsequent annual reviews, shall be maintained for at least 2 years after date of review and be made available for inspection upon request.

(k)-(l) [Reserved]

(m) The owner or operator of a cofired combustor located within a plant having an MWC plant capacity, as determined under §§60.51a and 60.58a(j)(3), greater than 225 megagrams per day (250 tons per day) shall submit quarterly reports of the daily weights of MSW and each other fuel fired as recorded under paragraph (b)(14) of this section. Such reports shall be postmarked no later than the 30th day following the end of each calendar quarter.

Subpart F—Standards of Performance for Portland Cement Plants

§60.60 Applicability and designation of affected facility.

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

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

§60.61 Definitions.

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

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

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

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

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

§60.62 Standard for particulate matter.

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

(1) Contain particulate matter in excess of 0.15 kg per metric ton of feed (dry basis) to the kiln (0.30 lb per ton).

(2) Exhibit greater than 20 percent opacity.

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

[Sec. 60.62(b)]

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the atmosphere from any clinker cooler any gases which:

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

(2) Exhibit 10 percent opacity, or greater.

(c) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility other than the kiln and clinker cooler any gases which exhibit 10 percent opacity, or greater.

§60.63 Monitoring of operations.

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

(b) Except as provided in paragraph (c) of this section, each owner or operator of a kiln or clinker cooler that is subject to the provisions of this subpart shall install, calibrate, maintain, and operate in accordance with §60.13 a continuous opacity monitoring system to measure the opacity of emissions discharged into the atmosphere from any kiln or clinker cooler. Except as provided in paragraph (c) of this section, a continuous opacity monitoring system shall be installed on each stack of any multiple stack device controlling emissions from any kiln or clinker cooler. If there is a separate bypass installed, each owner or operator of a kiln or clinker cooler shall also install, calibrate, maintain, and operate a continuous opacity monitoring system on each bypass stack in addition to the main control device stack. Each owner or operator of an affected kiln or clinker cooler for which the performance test required under §60.8 has been completed on or prior to December 14, 1988, shall install the continuous opacity monitoring system within 180 days after December 14, 1988.

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

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

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

§60.64 Test methods and procedures.

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

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

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

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

where:

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

c_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).

(2) Method 5 shall be used to determine the particulate matter concentration (c_s) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 0.35 dscm (30.0 dscf) for the kiln and at least 60 minutes and 1.15 dscm (40.6 dscf) for the clinker cooler.

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

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

§60.65 Recordkeeping and reporting requirements.

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

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

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

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

§60.66 Delegation of authority.

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

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

[Sec. 60.56(b)]

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ATTACHMENT A3

AP-42 EMISSION FACTORS FOR
PORTLAND CEMENT MANUFACTURING

Table 11.6-8 (English Units).
EMISSION FACTORS FOR PORTLAND CEMENT MANUFACTURING[a]

Process	SO_2[b]	EMISSION FACTOR RATING	NO_x	EMISSION FACTOR RATING	CO	EMISSION FACTOR RATING	CO_2[c]	EMISSION FACTOR RATING	TOC	EMISSION FACTOR RATING
Wet process kiln (SCC 3-05-007-06)	8.2[d]	C	7.4[e]	D	0.12[f]	D	2,100[g]	D	0.028[f]	D
Long dry process kiln (SCC 3-05-006-06)	10[h]	D	6.0[i]	D	0.21[k]	E	1,800[m]	D	0.028[n]	E
Preheater process kiln (SCC 3-05-006-22)	0.55[p]	D	4.8[q]	D	0.98[r]	D	1,800[s]	C	0.18[t]	D
Preheater/precalciner kiln (SCC 3-05-006-23)	1.1[u]	D	4.2[v]	D	3.7[w]	D	1,800[x]	E	0.12[y]	
Preheater/precalciner kiln with spray tower (SCC 3-05-006-23)	1.0[z]	E	ND		ND		ND		ND	D

[a]Factors represent uncontrolled emissions unless otherwise noted. All emission factors in lb/ton of clinker produced unless noted. SCC = Source Classification Code. ND = no data available.
[b]Mass balance on sulfur may yield a more representative emission factor for a specific facility than the SO_2 emission factors presented in this table.
[c]Mass balance on carbon may yield a more representative emission factor for a specific facility than the CO_2 emission factors presented in this table.
[d]References 20, 25-26, 32, 34-36, 41-44, 60, 64.
[e]References 26, 34-36, 43, 64.
[f]Reference 64.
[g]References 25-26, 32, 34-36, 44, 60, 64.
[h]References 11, 19, 39-40.
[i]References 11, 38-40, 65.
[k]References 39, 65.
[m]References 11, 21, 23, 65.
[n]References 40, 65; total organic compounds as measured by Method 25A or equivalent.
[p]References 47-50.
[q]References 48-50.
[r]Reference 49.
[s]References 24, 31, 47-50, 61.
[t]Reference 49; total organic compounds as measured by Method 25A or equivalent.
[u]References 28, 30, 33, 37, 53, 56-59.
[v]References 28, 30, 33, 37, 45, and 56 to 59.
[w]References 28, 30, 37, 56-58, 63.
[x]References 24, 31, 47-50, 61. Based on test data for preheater kilns; should be considered an upper limit.
[y]References 30, 33, 56, 63; total organic compounds as measured using Method 25A or equivalent.
[z]Reference 54.

ATTACHMENT A4

NOVEMBER 13-21, 1991 EMISSION
TEST REPORT SUMMARY

SUMMARY OF PARTICULATE MATTER, BENZENE, TOTAL HYDROCARBONS, CARBON MONOXIDE AND NITROGEN OXIDES EMISSION RATES UNDER BASELINE AND WHOLE-TIRE TDF FIRING CONDITIONS

FLORIDA CRUSHED STONE COMPANY
CEMENT/LIME PLANT

BROOKSVILLE, FLORIDA

NOVEMBER 13 - 21, 1991

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 N.W. 13TH STREET
GAINESVILLE, FL 32609
(904) 377-5822

1.0 INTRODUCTION

The Florida Crushed Stone Company (FCS) operates a cement/power/lime (CPL) plant in Hernando County, northwest of Brooksville. The cement plant was permitted under Florida Department of Environmental Regulation (FDER) Air Construction Permit AC27-118674 and the facility was permitted under Permit PSD-FL-091. The CPL plant includes a Portland cement plant having a kiln feed rate of 123.5 tons per hour and a clinker production rate of 75 tons per hour. The plant is normally fired with low-sulfur coal.

In March 1990, FCS applied to FDER requesting approval to burn tire derived fuel (TDF) as a supplemental heat source in the cement kiln of the CPL plant. On June 6, 1990, FDER issued an amendment to the referenced permits authorizing performance tests on the cement plant while using TDF to supply up to 15 percent of the heat input to the kiln. In September 1990, the tests were conducted to measure air pollutant emissions from the CPL plant while the plant was operating under baseline conditions and with shredded TDF supplying up to 15 percent of the heat input to the plant. In September 1991, FCS requested approval from FDER to conduct additional tests with TDF. On October 9, 1991, FDER authorized FCS to conduct tests under baseline conditions and while using whole-tire TDF to provide up to 15 percent of the heat input to the plant. These tests were conducted during the period November 13 - 21, 1991, and the results are reported herein.

The approval granted by FDER on October 9, 1991, authorized two test

baseline - kiln only

periods; one representing baseline or normal plant operating conditions and the second representing whole-tire TDF firing conditions. The baseline test was conducted during the period 0942-1412 on November 13, 1991. The whole-tire TDF firing test was conducted during the period 1130-1633 on November 21, 1991. Prior to the test on November 21, 1991, the plant had operated for seven days with whole-tire TDF providing 15 percent of the heat input to the kiln in order to assure equilibrium operating/emissions conditions had been achieved.

During the whole-tire TDF test period, TDF provided 14.6 percent of the heat input to the cement plant; or approximately 39.8 MMBTU per hour heat input. The TDF firing rate corresponding to this heat input averaged 1.2 tons per hour over the three one hour TDF test periods.

During the baseline period, the particulate matter emission rate averaged 11.36 pounds per hour and during the TDF test period, the particulate matter emission rate averaged 9.61 pounds per hour. The allowable particulate matter emission rate is 49.4 pounds per hour.

During the baseline period, the total hydrocarbons emission rate averaged 3.6 pounds per hour and during the TDF test period averaged 1.22 pounds per hour as measured by EPA Method 25A. Emission rates of individual organic compounds generally ranged from 0.001 - 0.0001 pounds per hour under both baseline and TDF test conditions.

The nitrogen oxides emission rate averaged 353 pounds per hour during the

baseline period and 199 pounds per hour during the TDF test period. The allowable nitrogen oxides emission rate is 359 pounds per hour.

During the baseline period, the carbon monoxide emission rate averaged 58.5 pounds per hour and during the TDF test period averaged 79.9 pounds per hour.

During the baseline period, benzene emissions averaged 0.0013 pounds per hour, and during the TDF test period, averaged 0.0006 pounds per hour.

The results of the testing demonstrate that the use of TDF has no effect on the emissions from the plant. The small change in carbon monoxide emissions while firing TDF is not significant; i.e., the change would be less than that defined by Rule 17-2.500(2)(e)2, FAC even with the plant operating 8760 hours per year. The change that did occur was, in all probability, the result of normal fluctuations in plant operations. The fact that neither total hydrocarbon emissions nor the emissions of individual hydrocarbons changed during the firing of TDF confirm that the change in carbon monoxide emissions resulted from plant operating fluctuations and not from a reduced combustion efficiency.

2.0 PROCESS DESCRIPTION

The Florida Crushed Stone CPL plant consists of a Portland cement plant, a power and a lime calciner. The Portland cement plant has a permitted kiln feed rate of 123.5 tons per hour and a permitted clinker production rate of 75 tons per hour. The plant is normally fired with coal at a maximum rate of 10.0 tons per hour, resulting in a heat input rate of approximately 240 MMBTU per hour. During the baseline test period, the coal feed rate to the plant averaged 9.1 tons per hour (at 12550 BTU per pound) for an average heat input rate of 228.4 MMBTU per hour. During the TDF test period, the coal feed rate averaged 8.2 tons per hour and the TDF feed averaged 1.2 tons per hour for a total heat input rate of 245.5 MMBTU per hour. During the baseline test period, the kiln feed rate averaged approximately 120 tons per hour and the clinker production rate averaged approximately 78 tons per hour. During the TDF test periods, the kiln feed rate averaged approximately 119 tons per hour and the clinker production rate averaged approximately 77 tons per hour. The cement plant operating data for both test periods are summarized in Tables 1 and 2.

5. SUMMARY OF RESULTS

The results of the particulate matter emission measurements conducted during the period November 13 - 21, 1991 are summarized in Tables 1 and 2. During the baseline test period, the particulate matter emission rate averaged 11.36 pounds per hour, compared with an allowable particulate matter emission rate from the CPL plant of 0.4 pounds per ton of feed or 49.5 pounds per hour. During the TDF test period, the particulate matter emission rate averaged 9.61 pounds per hour.

During the baseline test, the cement kiln was fired with coal at a rate of 9.1 tons per hour and during the TDF test period, the cement kiln was fired with a combination of coal and TDF. The coal feed rate during the TDF test was 8.2 tons per hour (205.8 MMBTU/hr) and the TDF feed rate averaged 1.2 tons per hour (39.7 MMBTU/hr). The heat input supplied by TDF averaged 14.6 percent of the total kiln heat input.

During the baseline test, the nitrogen oxides emission rate averaged 353 pounds per hour compared with an allowable nitrogen oxides emission rate from the CPL cement and lime plant of 2.9 pounds per ton of feed or 359 pounds per hour. During the TDF test period, the nitrogen oxides emission rate averaged 199.1 pounds per hour.

During the baseline test period, the carbon monoxide emission rate averaged 58.5 pounds per hour and during the TDF test period, the carbon monoxide emission rate averaged 79.9 pounds per hour. The change in

emissions is, in all probability, due to fluctuations in plant operating conditions rather than a reduction in combustion efficiency during the TDF tests as the test data show a decrease in total and volatile hydrocarbon emissions during the TDF tests.

During the baseline test period, the total hydrocarbon emission rate averaged 3.6 pounds per hour and during the TDF test period, the total hydrocarbon emission rate averaged 1.2 pounds per hour. Benzene emissions, a specific volatile organic compound, averaged 0.0013 pounds per hour during the baseline test and 0.0006 pounds per hour during the TDF test. A summary of these data is presented in Table 4.

Field data sheets, field notes, plant operating data and the results of fuel analyses are included in the Appendix of the report. All of the CEM emissions data are summarized in Table 3.

TABLE 3

BASELINE
NOVEMBER 13, 1991

Run	Flow (dscfm)	NOx (ppm)	NOx (lb/hr)(1)	CO (ppm)	CO (lb/hr)	VOC (ppm)	VOC (lb/hr)(2)	PM (lb/hr)
1	491,906	123	434	29.6	63.5	1.04	3.5	25.14
2	441,021	76	240	28.6	55.0	1.14	3.4	10.75
3	462,192	116	384	28.2	56.9	1.22	3.9	11.96
Avg	465,039	105	353	28.8	58.6	1.13	3.6	11.36(3)

TDF
NOVEMBER 21, 1991

Run	Flow (dscfm)	NOx (ppm)	NOx (lb/hr)(1)	CO (ppm)	CO (lb/hr)	VOC (ppm)	VOC (lb/hr)(2)	PM (lb/hr)
1	330,016	89	210.6	51.5	74.2	0.51	1.15	10.00
2	324,764	75	174.6	63.8	90.4	0.59	1.31	9.07
3	328,980	90	212.3	52.4	75.2	0.53	1.20	0.76
Avg	327,920	85	199.1	55.9	79.9	0.54	1.22	9.61

(1) As NO_2
(2) As propane
(3) Runs 2 and 3

Emissions: $NOx = (ft^3/min)(60\ min/hr)(10^{-6})(Conc\text{-}ppm)(46/385)$

$CO = (ft^3/min)(60\ min/hr)(10^{-6})(Conc\text{-}ppm)(28/385)$

$VOC = (ft^3/min)(60\ min/hr)(10^{-6})(Conc\text{-}ppm)(44/385)$

TABLE 4

SUMMARY OF BENZENE
BASELINE AND TDF EMISSION RATES

CPL, BROOKSVILLE, FLORIDA
NOVEMBER 13 - 21, 1991

Run	Benzene Emission Rate	
	Baseline (lbs/hr)	TDF (lbs/hr)
Run 1	(1)	0.675×10^{-3}
Run 2	(1)	0.614×10^{-3}
Run 3	1.31×10^{-3}	0.497×10^{-3}
Average	1.31×10^{-3}(1)	0.595×10^{-3}

(1) Runs 1 and 2 could not be analyzed due to high CO_2 concentrations; CO_2 released during calcining of raw feed.

Calculations:

$$\text{Emissions (lb/hr)} = \frac{ng}{20\ l} \times 28.32\ \frac{l}{ft^3} \times Q\ \frac{ft^3}{min} \times 60\ \frac{min}{hr} \times \frac{1}{453.6 \times 10^9}\ \frac{lb}{ng}$$

$$= (ng)(Q\ ft^3/min) \times 1.873 \times 10^{-6}$$

Baseline Q = 465,039 dscfm

TDF Q = 327,920 dscfm

ATTACHMENT A5

TABLE 4-15
"EMISSION FACTOR DOCUMENTATION FOR AP-42
SECTION 11.6, PORTLAND CEMENT MANUFACTURING"

TABLE 4-15. SUMMARY OF NONCRITERIA POLLUTANT EMISSION FACTORS FOR PORTLAND CEMENT KILNS

Pollutant	Type of control	No. of tests	No. of kilns	Average emission factor kg/Mg	Average emission factor lb/ton	Factor rating	References
Ag	FF	1	1	3.1E-07	6.1E-07	D	76
Al	ESP	1	1	0.0065	0.013	E	78
As	ESP	1	1	6.5E-06	0.000013	E	78
As	FF	1	1	6.0E-06	1.2E-05	D	76
Ba	ESP	1	1	0.00018	0.00035	D	77
Ba	FF	1	1	0.00023	0.00046	D	76
Be	FF	1	1	3.3E-07	6.6E-07	D	76
Ca	ESP	1	1	0.12	0.24	E	78
Cd	ESP	1	1	4.2E-06	8.3000E-06	D	77
Cd	FF	1	1	1.1E-06	2.2000E-06	D	76
Cl	ESP	6	2	0.34	0.68	E	18,42,43,44
Cl	FF	1	1	0.0011	0.0021	D	76
Cr	ESP	1	1	3.9E-06	7.7000E-06	E	77
Cr	FF	1	1	7.0E-05	0.00014	D	76
Cu	FF	1	1	0.0026	0.0053	E	74
F	ESP	1	1	0.00045	0.00090	E	43
Fe	ESP	1	1	0.0085	0.017	E	78
HCl	ESP	2	2	0.025	0.049	E	40,78
HCl	FF	2	2	0.073	0.14	D	64,76
Hg	ESP	1	1	0.00011	0.00022	D	77
Hg	FF	2	2	1.2E-05	2.4E-05	D	4,76
K	ESP	5	2	0.0090	0.018	D	18,42,43
Mn	ESP	1	1	0.00043	0.00086	E	78
NH3	FF	1	1	0.0051	0.010	E	64
NH4	ESP	6	2	0.054	0.11	D	18,42,43,44
NO3	ESP	1	1	0.0023	0.0046	E	43
Na	ESP	6	2	0.020	0.038	D	18,42,43,44
Pb	ESP	1	1	0.00036	0.00071	D	77
Pb	FF	1	1	3.8E-05	0.000075	D	76

TABLE 4–15. (Continued)

Pollutant	Type of control	No. of tests	No. of kilns	Average emission factor kg/Mg	Average emission factor lb/ton	Factor rating	References
SO3	ESP	2	2	0.042	0.086	E	18
SO3	FF	5	2	0.0073	0.014	D	17,24,55
SO4	ESP	6	2	0.10	0.20	D	18,42,43,44
SO4	FF	8	2	0.0036	0.0072	D	24,27,57
Se	ESP	1	1	7.5E–05	0.00015	E	78
Se	FF	1	1	0.00010	0.00020	E	74
Th	FF	1	1	2.7E–06	5.4000E–06	D	76
Ti	ESP	1	1	0.00019	0.00037	E	78
Zn	ESP	1	1	0.00027	0.00054	D	77
Zn	FF	1	1	0.00017	0.00034	D	76
1,2,3,4,6,7,8 HpCDD	FF	1	1	1.1E–10	2.2E–10	E	74
C3 benzenes	ESP	1	1	1.3E–06	2.6000E–06	E	78
C4 benzenes	ESP	1	1	3.0E–06	6.0E–06	E	78
C6 benzenes	ESP	1	1	4.6E–07	9.2000E–07	E	78
acenaphthalene	FF	1	1	5.9E–05	0.00012	E	74
acetone	ESP	1	1	0.00019	0.00037	D	77
benzaldehyde	ESP	1	1	1.2E–05	0.000024	E	78
benzene	ESP	1	1	0.0016	0.0031	D	77
benzene	FF	1	1	0.0080	0.016	E	74
benzo(a)anthracene	FF	1	1	2.1E–08	4.3E–08	E	74
benzo(a)pyrene	FF	1	1	6.5E–08	1.3E–07	E	74
benzo(b)fluoranthene	FF	1	1	2.8E–07	5.6E–07	E	74
benzo(g,h,i)perylene	FF	1	1	3.9E–08	7.8E–08	E	74
benzo(k)fluoranthene	FF	1	1	7.7E–08	1.5E–07	E	74
benzoic acid	ESP	1	1	0.0018	0.0035	D	77
biphenyl	ESP	1	1	3.1E–06	6.1000E–06	E	78
bis(2–ethylhexyl)phthalate	ESP	1	1	4.8E–05	0.000095	D	77
bromomethane	ESP	1	1	2.2E–05	0.000043	E	77
carbon disulfide	ESP	1	1	5.5E–05	0.00011	D	77

TABLE 4-15. (Continued)

Pollutant	Type of control	No. of tests	No. of kilns	Average emission factor kg/Mg	Average emission factor lb/ton	Factor rating	References
chlorobenzene	ESP	1	1	8.0E-06	0.000016	D	77
chloromethane	ESP	1	1	0.00019	0.00038	E	77
chrysene	FF	1	1	8.1E-08	1.6E-07	E	74
di-n-butylphthalate	ESP	1	1	2.1E-05	0.000041	D	77
dibenz(a,h)anthracene	FF	1	1	3.1E-07	6.3E-07	E	74
ethylbenzene	ESP	1	1	9.5E-06	0.000019	D	77
fluoranthene	FF	1	1	4.4E-06	8.8E-06	E	74
fluorene	FF	1	1	9.4E-06	1.9E-05	E	74
formaldehyde	FF	1	1	0.00023	0.00046	E	74
freon 113	ESP	1	1	2.5E-05	5.0E-05	E	78
indeno(1,2,3-cd)pyrene	FF	1	1	4.3E-08	8.7E-08	E	74
methyl ethyl ketone	ESP	1	1	1.5E-05	3.0E-05	E	77,78
methylene chloride	ESP	1	1	0.00025	0.00049	E	78
methylnaphthalene	ESP	1	1	2.1E-06	4.2000E-06	E	78
naphthalene	FF	1	1	0.00085	0.0017	E	74
naphthalene	ESP	1	1	0.00011	0.00022	D	77
phenanthrene	FF	1	1	0.00020	0.00039	E	74
phenol	ESP	1	1	5.5E-05	0.00011	D	77
pyrene	FF	1	1	2.2E-06	4.4E-06	E	74
styrene	ESP	1	1	7.5E-07	1.5000E-06	E	78
toluene	ESP	1	1	0.00010	0.00019	D	77
total HpCDD	FF	1	1	2.0E-10	3.9E-10	E	74
total OCDD	FF	1	1	1.0E-09	2.0E-09	E	74
total PCDD	FF	1	1	1.4E-09	2.7E-09	E	74
total PCDF	FF	1	1	1.4E-10	2.9E-10	E	74
total TCDF	FF	1	1	1.4E-10	2.9E-10	E	74
xylenes	ESP	1	1	6.5E-05	0.00013	D	77

ESP = electrostatic precipitator.
FF = fabric filter.

ATTACHMENT A6

TABLE 3-2
MINOR SOURCE EMISSIONS

TABLE 3-2

MINOR SOURCES AND EMISSIONS

NO.	EMISSION UNIT DESCRIPTION	PLOT PLAN E7-150.000.10-327618 EMISSION UNIT LEGEND NUMBER	EMISSION UNIT EQUIPMENT NUMBER	DUST COLLECTOR EQUIPMENT NUMBER	PROCESS RATE	GRAIN LOADING	FLOWRATE	EMISSIONS	
					(tons/hr)	(grains/acf)	(ACFM)	lbs/hr	tons/yr
1	Iron Ore Bin	53	2D-61[a]	2D-63[a]	2.0	0.01	3000	0.26	1.13
2	Fly Ash Bin	56	2D-64[c]	2D-67[c]	7.0	0.01	3400	0.29	1.28
3	Filter Dust Bin	55	2D-72[c]	2D-75[c]	25.0	0.01	4500	0.39	1.69
4	Raw Meal Transport	62	2F-03[c]	2F-14[c]	160.0	0.01	1000	0.09	0.38
5	Lime Silo Storage	75	2F-21[c]	2F-30[c]	300.0	0.01	4000	0.34	1.50
6	Raw Meal Storage & Homogenizing Silos	63	2G-01[c]	2G-12[c]	160.0	0.01	17,000	1.5	6.40
7	Kiln Feed System	64	2H-05, 2E-66[c]	2H-15[c]	130.0	0.01	7200	0.62	2.70
8	Gypsum Storage Bin	72	2L-14[d]	2L-08[d]	150.0	0.01	2000	0.17	0.75
9	Clinker Transport	71	2L-03[d]	2L-16[d]	75.0	0.01	2000	0.17	0.75
10	Belt Conveyor	34	2M-08[d]	2M-08[d]	120.0	0.01	4500	0.39	1.69
11	Finish Mill Discharge Vent	73	2N-02[e]	2N-13[e]	15.0	0.01	40,000	3.43	15.0
12	Finish Mill Sepol Separator	73	2N-08[e]	2N-20[e]	120.0	0.01	115,000	9.86	43.20
13	Cement Storage Silo A	74	2Q-01, 2Q-20[e]	2Q-15A[e]	120.0	0.01	4620	0.40	1.70
14	Cement Storage Silo B	74	2Q-01, 2Q-20[e]	2Q-15B[e]	120.0	0.01	4620	0.40	1.70
15	Cement Silo Discharge Hopper	74	2Q-01, 2Q-20[e]	2Q-17[e]	540.0	0.01	3000	0.26	1.13
16	Coal Transport Conveyor	68	2S-03[d]	2S-04[d]	100.0	0.01	2000	0.17	0.75
17	Coal Storage Bin	69	2S-10[d]	2S-07[d]	100.0	0.01	2000	0.17	0.75
TOTAL									82.50

[a]Plate #1 titled "*Raw Material Storage and Handling*", permit application Attachment B.
[b]Plate #2 titled "*Raw Mill System*", permit application Attachment B.
[c]Plate #3 titled "*Raw Material, Storage, Homogenizing Silo, and Kiln Feed*", permit application Attachment B.
[d]Plate #4 titled "*Preheater, Kiln, Cooler, and Coal System*", permit application Attachment B.
[e]Plate #5 titled "*Finish Grinding System*", permit application Attachment B.

ATTACHMENT A7

VEHICULAR TRAFFIC EMISSION CALCULATIONS

Auto Traffic

90 persons x (1/1.25) cars/employee x 350 trips/yr x 2 miles/trip

= 50,000 miles/yr

Emissions:

Part. Matter
Roads = 0.012 lb/mile x 50,000 miles x 1/2000 = 0.3 tpy
Auto = 0.6 g/mi x 1/453.6 x 50,000 x 1/2000 = <0.1

CO	= 76.5 g/mi x ( )	= 4.2
HC	= 10.8 g/mi x ( )	= 0.6
NO_x	= 4.9 g/mi x ( )	= 0.3
SO_2	= 0.2 g/mi x ( )	= <0.1

Truck Traffic

20,800 trucks/yr x 2 mi/trip = 41,600 miles/yr

Emissions:

Part. Matter
Roads = 0.024 lb/mi x 41,600 x 1/2000 = 0.5 tpy
Auto = 1.3 g/mi x 1/453.6 x 41,600 x 1/2000 = 0.1

CO	= 28.7 g/mi x ( )	= 1.3
HC	= 4.6 g/mi x ( )	= 0.2
NO_x	= 20.9 g/mi x ( )	= 1.0
SO_2	= 2.8 g/mi x ( )	= 0.1

RAIL TRAFFIC

Assume one locomotive will operate on-site 6 hours per day for 30 days/year at a fuel consumption rate of 100 gal/hour.

$$6\ hr/day \times 30\ day/yr \times 100\ gal/hr = 18 \times 10^3\ gal\ \#2\ fuel/yr$$

EMISSIONS:

Part. Matter @ 25 lb/1000 gal	=	0.2 tpy
CO @ 130 lb/1000 gal	=	1.2
HC @ 94 lb/1000 gal	=	0.9
NO_x @ 370 lb/1000 gal	=	3.3
SO_2 @ 57 lb/1000 gal	=	0.5

TOTAL SECONDARY EMISSIONS

PART MATTER	–	1.2 tpy
CO	–	6.7 tpy
HC	–	1.7 tpy
NO_x	–	4.6 tpy
SO_2	–	0.7 tpy

ATTACHMENT A8

TRUCK TRAFFIC SUMMARY

TABLE 3-3

TRUCK TRAFFIC SUMMARY

	TRUCK ROUTE	DISTANCE (Miles) (Road Conditions)	TRUCK FREQUENCY (Loads)		UNIT II KILN INCREASE (Factor)
		FCS CEMENT PLANT			
1.	Cement Shipments	1.6 - Paved	Year: Month: Week: Day:	24,300 2,070 480 93	x2
2.	Baghouse Dust	1.9 - Paved	Year: Month: Week: Day:	255 21 5 1	x2
3.	Cement Rail	2.0 - Track	Year: Month: Week: Day:	130 11 3 2	x2
4.	Screenings/Cement	0.8 - limerock	Year: Month: Week: Day:	2,700 230 52 9	x2
5.	Limerock/Cement	2.8 - Paved 0.8 - limerock	Year: Month: Week: Day:	7,000 580 135 23	x2
6.	Grinding Aid	1.6 - Paved	Year: Month: Week: Day:	12 1 – –	x2
7.	Black Beauty	1.9 - Paved	Year: Month: Week: Day:	12 1 – –	x2
8.	Mill Scale	1.9 - Paved	Year: Month: Week: Day:	720 60 14 3	x2
9.	TDF	1.8 - Paved	Year: Month: Week: Day:	728 60 14 2	x2

TABLE 3-3
(concluded)

TRUCK TRAFFIC SUMMARY

	TRUCK ROUTE	DISTANCE (Miles) (Road Conditions)	TRUCK FREQUENCY (Loads)	UNIT II KILN INCREASE (Factor)
10.	Fly ash/E-Cat	1.9 - Paved	Year: 3,120 Month: 260 Week: 60 Day: 12	x2
11.	Gypsum	2.2 - Paved	Year: 1,820 Month: 152 Week: 35 Day: 7	x2
	GENERAL PLANT			
1.	Coal Receiving	2 - Truck	Year: 51 Month: 5 Week: 1 Day: --	x1.08
2.	General Warehouse	1.4 - Paved	Year: 1,560 Month: 130 Week: 30 Day: 6	x1.10
3.	Fuel Delivery	1.8 - Paved	Year: 72 Month: 6 Week: -- Day: --	x1.8
4.	Waste Pick-up * Construction Debris * General Waste * Scrap Metal	1.4 - Paved	Year: 156 Month: 13 Week: 3 Day: --	N/A

APPENDIX B

PROCESS DESCRIPTION
PROCESS FLOW SHEETS

PROCESS LAYOUT AND DESCRIPTION
FLORIDA CRUSHED STONE

Site Description

The Florida Crushed Stone Company (FCS) currently operates a dry-process cement kiln (Unit I) with a nominal capacity of 600,000 tons per year (tpy) of cement. FCS is proposing to construct an identically sized cement kiln (Unit II) at the facility. The facility site also contains a coal-fired power plant. Presently, exhaust air from the power plant and the cement plant pass through a single dust collector and exit out a single exhaust stack. FCS is proposing to install a second dust collector and a second exhaust stack adjacent to the existing stack, to serve the proposed cement plant exclusively.

The power plant is not shown on the attached drawings due to the limited interaction with the cement kiln. There is some material flow between the power plant and the existing Unit I cement plant. Approximately twenty thousand CFM of exhaust gasses from the power plant flows to the Unit I plant to serve as primary combustion air. In addition, flyash collected from the power plant, which serves as an additive to the kiln feed, provides 25% - 30% of the needs of the Unit I plant. Additional raw materials are purchased to supply the balance of the Unit I kiln requirements, and all of the Unit II kiln requirements. With respect to electricity generated in the power plant, 100% is sold to the local utility and none is utilized in either cement plant. Hence, there is no connection between the proposed kiln and the power plant.

Attachment B1 presents a two page description of the basic processes involved in cement manufacturing, as well as some background information on cement chemistry and kiln technology. The background information was copied from a guide-book published by La Nouvelle Librairie in collaboration with the Polysius Company.

Material Flow Diagram

Attachment B2 presents a material and gas flow diagram for a single cement plant. Operating parameters are for typical actual operating conditions of the facility and are not meant to represent maximum operating conditions of the facility or permit limiting criteria. Two modes of operation are presented in the diagram, compound operation and direct operation. Compound operation describes the operation of the facility when exhaust air from the raw mill is merging with the exhaust air from the kiln and clinker cooler prior to entering the kiln dust collector and exiting the exhaust stack. Direct operation describes the gas flow when the raw mill is not in operation and the only flow out of the exhaust stack is coming from the kiln and clinker cooler exhaust.

The material and gas flow from two cement kilns operating simultaneously would result in the exhaust gas conditions represented in the diagram for each kiln's respective exhaust stack.

Mechanical Process Flow Sheets

Attachment B3 is a set of five process flow diagrams for a single cement plant, as well as a legend for abbreviations used in the diagrams. Shown on the diagram are process throughput parameters at various points in the system, as well as rated air flow rates from the minor source dust collectors referred to in Table 3-2 in the application (Attachment B4). Table 3-2 also indicates the equipment numbers for the process equipment and dust collectors shown on the process flow diagrams.

ATTACHMENT B1

PROCESS DESCRIPTION

Introduction:

The manufacture of cement entails five basic process stages. They are as follows:

- Quarrying and Crushing
- Prehomogenizing
- Drying, Grinding, and Separating
- Pyroprocessing : Preheater, Kiln, and Cooler
- Finish Grinding

Each stage in the process influences a corresponding factor which governs the behavior of the cement. Therefore the quality of the cement is determined by the following factors:

- Proportion of constituents in the raw mix
- Homogeneity of the mix
- Fineness of grinding of the raw mix
- Degree of burning and rate of cooling
- Finish grinding of the clinker

Crushing:

The existing crushing plant is used for the new kiln line.

Prehomogenization:

The raw material stockpile serves as a buffer store between the working time of the quarry and the continuous working schedule of the grinding and burning plants. Moreover, stockpiling and reclaiming provide a suitable average (prehomoginized) composition for feeding to the mill. The existing stockpile is used for the new kiln line.

Drying, Grinding, and Separating:

Pyroprocessing stipulates that the raw material fed to the kiln system must have both a low moisture content and a fine particle size. Grinding and drying usually occur simultaneously within the grinding mill. The heat generated by the grinding process provides some of the energy required for drying of the raw material. In addition, the introduction of hot exit gases from the kiln into the grinding mill expedite the drying of the material. Particle size classification systems such as cyclones and separators ensure that the coarse particles return for further milling, and the fine particles accumulate in silos. The silos serve to further homogenize the material with the use of aeration systems located at the bottom of the silo.

Pyroprocessing:

In the preheater heat is exchanged between the gas and solid material according to the counter-flow principle. The preheater stands vertically, and the material is fed from the top, while the hot gas enters from the bottom. The preheater's incorporated cyclones serve to separate the gas from the powdered material. The kiln receives the exiting preheated material.

Calcining of the material takes place in the kiln. As the material inside the kiln traverses along the kiln's length, it becomes the intermediate product in cement manufacture known as clinker. The resultant product, finally, exits the kiln and enters a cooler.

The cooler's primary purpose is to recover the heat contained in the hot clinker. As the clinker exits the cooler, it travels to the finish grinding process.

Finish Grinding:

The clinker, along with about 5% Gypsum, is ground to fine powder in grinding mills. After grinding, the powder is stored in cement silos.

Modern technology

Almost simultaneous discoveries

In the flood of new discoveries during the 18th century, essential inventions for the manufacturing of binders were made at about the same time in Europe and America.

The first artificial cements

In 1750, John Smeaton, an English engineer, was commissioned to build the Eddystone lighthouse in Cornwall. He made many experiments based on various limestones, tuffs and gypsums, in fresh water and salt water. He discovered that for his purpose the best hydraulic binder was obtained from a limestone containing a large amount of argillaceous material.

Towards 1812, the Frenchman Louis Vicat perfected Smeaton's discovery, proving the importance of clays in hydraulic binders.

He became the inventor of artificial hydraulic limes and his work was another step towards the present-day formula for cement.

Portland cement

In 1824 the Englishman Joseph Aspdin took out a patent for the manufacture of cement (from the Latin word *caementum:* binder, mortar), produced by firing an artificial mixture of two ingredients: limestone and clay, in the ratio of 3 to 1.

A colour which evoked the cliffs of the Portland peninsula

This material was called Portland because of its colour, very similar to that of the cliffs of the Portland peninsula on the south coast of England.

In comparison with the manufacture of lime, which allowed great latitude in the selection of the raw materials, the preparation of the raw cement mixture necessitated a very precise chemical composition.

Over the decades the development of Portland cement very quickly pushed the manufacture of hydraulic lime into the background. Twenty years after Aspdin, Isaac Charles Johnson improved the manufacture of Portland cement by increasing the burning temperature up to the plastic phase.

Modernization of kilns

First, static, shaft kilns...

The first cement kilns of modern times were static shaft kilns, identical with those used for the making of lime. The first horizontal rotary kiln (about Ø1,50 × 7,60 m long) was built and operated by the Englishman Frederick Ransome.

From 1898 the Polysius Company launched into the manufacture of this new type of kiln. A burning process which remains, even today, the basis for worldwide cement production had just been introduced.

This process, which was then a wet process, was improved and towards the end of the twenties the same company perfected a semi-dry process of drying and decarbonation with the Lepol ® grate.

... then rotary, horizontal kilns

It brought about a fundamental improvement in the process of cement burning in a rotary kiln, while reducing the consumption of fuel by a third.

Contrary to most other cement plant constructors, Polysius showed interest as far back as 1930 in the dry process which was to develop mainly after the Second World War.

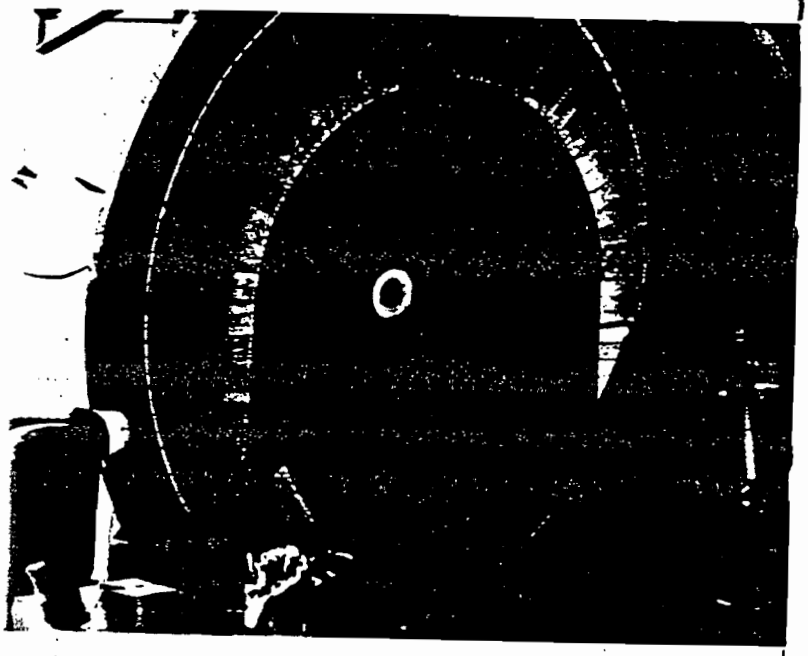
Around 1960, following the improvement of the kiln with Dopol ® cyclone preheaters, the calcining line took on its present-day form with three heat exchangers:

- The cyclone preheater (the most common), with or without a precalciner, in which the gases and the product circulate in the same direction (parallel streams).
- The rotary kiln, in which the product moves in counterflow to the gases.
- The counterflow cooler, or perpendicular flow cooler in the case of grates traversed by cooling air.

There are other types of preheaters: counterflow (Gepol ® type) or perpendicular (Lepol ® type). The perfection of fluidized beds should also be noted, both for preheating and for cooling.

Present-day binders

Since the 19th century, the rise in the importance of concrete has been accompanied by more and more severe requirements



Kiln hood, with burner and brickwork.

for the properties and qualities of the finished product. R.H. Bogue noted in 1952 that engineers have recognized the existence of very strict rules for making concrete, and have applied themselves to making known the right methods for manufacturing and treatment.

Progress towards diversification

Binders, and more particularly cements, have evolved in the same way, and while diversifying, cement has gained in quality, stability and precision. Many methods have been perfected, each satisfying rigorous selection standards.

WHAT IS CEMENT?

When a new cement plant is to be built, the first job for the engineer is to decide which manufacturing process is most suitable in regard to the raw materials available.

A hydraulic binder

Cement is a mineral powder of greyish appearance and practically impalpable. It is obtained by grinding and burning (at about 1450°C) a mixture of limestone and clay. The product of the burning, called clinker, is mainly a combination of lime, silica, alumina and ferric oxide.

Cement hardens while hydrating

Cement is obtained by grinding clinker and calcium sulphate, usually added in the form of gypsum (see frame). Cement is a hydraulic binder, that is, one which forms with water a plastic paste "setting and hardening progressively, even when covered and even under water" (definition of French Standard NF P 15-301).

The anhydrous constituents, present in the form of polygonal crystals which are quite regular and homogeneous, combine with water and decompose. When hydrated they crystallize again, taking many different forms: needles, sticks, prisms, various polyhedrons, etc.

These crystals develop during mixing and adhere to the granular additives of concrete: sand, gravel, pebbles, etc. The phenomenon of hydration takes place with a rise in temperature. It is hydration which constitutes the setting of the cement. Contrary to popular belief, cement does not "dry" but sets while hydrating.

RAW MATERIALS IN CEMENT MANUFACTURE

- Calcium carbonate: $CaCO_3$
- Alumina: Al_2O_3(aluminium oxide)
- Silica: SiO_2(silicon dioxide)
- Iron oxide: Fe_2O_3(ferric oxide)

These substances are usually found naturally in the form of limestone, marl and clays.

These rocks contain other substances, such as; titanium oxide (TiO_2), manganese oxide (Mn_2O_3), magnesium carbonate (CO_3Mg), sulphuric anhydride (SO_3), phosphate (P_2O_5), sodium oxide (Na_2O), potassium oxide (K_2O), chlorine (Cl). Standards and technical requirements limit some of these in the finished product.

Cement and lime, not to be confused

There are three criteria which differentiate the two materials:

Three criteria for differentiation

- **The chemical composition:** the relationship between the four main constituents of cement is defined quantitively within very narrow limits. For lime there is much greater latitude in the proportions.

- **The burning temperature:** clinker is burnt at a temperature of about 1450 to 1550°C (sintering). Lime is not sintered, but only decarbonated and burnt at a temperature of 1050° to 1150°C. Sintering is achieved when there is a commencement of softening, without complete melting of the material. Decarbonation is the decomposition of carbonates by the elimination of CO_2.

- **The setting behaviour:** although lime sets without any additional matter other than water, it is necessary to add 4% of gypsum (hydrated calcium sulphate) to the clinker to obtain cement. The addition of gypsum has the effect of regulating the setting time, the crushed and ground clinker having a very variable setting time which makes it unusable on its own.

The composition of the cement raw mix

The main component of the mix is limestone, which is rich in calcium carbonate ($CaCO_3$). Clay is used as an additive and serves as a vector of the hydraulic components. These rocks supply the main constituents of the raw material for cement (see frame). These raw materials are prepared and measured to form the raw mix.

Clay, an extra component

Calculation of the raw mix

Le Chatelier was one of the first to insist on rigorous controls being imposed on the percentage of lime, and particularly of free lime (not chemically combined), in the clinker. Since then many formulae have been suggested for the proportioning of the raw mix.

For many years the formulae were based on very long chemical analyses which were impossible to carry out during manufacture. This is why cement makers only checked titration in carbonates. This should be 76 to 78% for the manufacture of ordinary cement. The perfection of X-ray analysis machines has enabled complete and rapid analyses to be effected nowadays, directly by the plant laboratory, and in parallel with production. Among the various methods of calculation, the following mathematical moduli are particularly note-worthy.

Cements rich in lime

The lime standard

As cements rich in lime develop more strength than those poor in lime, the percentage of lime is kept as high as possible.

Kuehl defined the lime standard as index of the percentage of lime in a cement (simplified formula):

$$LS = \frac{100\,CaO}{2.8\,SiO_2 + 1.1\,Al_2O_3 + 0.7\,Fe_2O_3}$$

This formula expresses the ratio between the lime present in the mix and the quantity of lime that can be bound by the hydraulic factors during the normal process of burning and cooling of the clinker.

By fast cooling of the clinker after burning, it is possible to keep the same conditions of balance at ambient temperature as existed at 1450°C and which are expressed by the lime standard.

The lime standard enables the operator to evaluate the behaviour of the mix and forecast the quality of the cement.

The higher the lime standard, the stronger the cement

The higher the lime standard, the stronger the cement, but the more difficult the calcining will be.

The general rule is :
- from 90 to 93 for normal strength cement;
- from 93 to 96 resistant cement;
- from 96 to 98 for a maximum-strength cement.

If the lime standard is higher than 100, the ingredients are not in balance. The hydraulic factors no longer suffice to saturate all the lime present. The free lime has a negative effect on the volume stability and on the strength. Also a high lime standard causes an increase in the specific heat consumption necessary for the burning.

Lime deficiency
Contrary to the lime standard, lime deficiency shows the quantity of lime which is missing from the mix thus preventing complete saturation of the hydraulic factors. It is given by the formula:

$$\frac{2.8011\,SiO_2 + 1.65\,Al_2O_3 + 0.3512\,Fe_2O_3}{SiO_2 + Al_2O_3 + Fe_2O_3 + CaO}$$

It is the difference between, on the one hand, the total lime needed to combine with all the silica, alumina and ferric oxide in the minerals of the clinker, and on the other hand, the lime actually combined with these three oxides.

The silica modulus
This shows the ratio between the silica and the agents of the fusion phase, alumina and ferric oxide (sesquioxides) and is given by the formula:

$$SM = \frac{SiO_2}{Al_2O_3 + Fe_2O_3}$$

For the optimal conditions of use of the kiln, the silica modulus should be adjusted to between 2.2 and 2.8. A higher value signifies an increased percentage of silica, to the detriment of the fusion agents Al_2O_3 and Fe_2O_3. A lower value facilitates burning but the relative increase in fusion agents can cause excessive coating in the sintering zone, prejudice the good working of the kiln and reduce the quality of the finished cement.

The iron modulus
It gives the ratio between the alumina and the ferric oxide:

$$IM = \frac{Al_2O_3}{Fe_2O_3}$$

It is normally from 1.6 to 2.4.

Clinker minerals

On firing, the components of the raw mix decompose and combine to form new chemical combinations: these are the clinker minerals (see frame: "The four main constituents of clinker").

Cement manufacturers have adopted the habit of simplifying the written expression of these combinations, using the letters C for CaO (lime), S for SiO_2 (silica), A for Al_2O_3 (alumina), and F for Fe_2O_3 (ferric oxide).

Lime: much less strong

Tricalcium silicate (or C_3S)
It is essential for the quality of the cement. For a high-strength cement, a high C_3S content is needed. The lime standard of the raw mix should therefore be between 90 and 98 and the firing temperature above 1250°C, which is the threshold of formation of C_3S. The latter usually appears in the form of

THE FOUR MAIN CONSTITUENTS OF CLINKER

Lime, silica and ferric oxide are brought into the clinker by the following natural raw materials: chalk, limestone, clay and marl. When clinker is formed in the kiln they are raised to a high temperature and combine to form other minerals, which react in the presence of water. These are:

- **C_3S: Tricalcium silicate or Alite**

High strength and medium heat release on setting: helps hardening.

- **C_2S: Dicalcium silicate or Belite**

Slow setting and hardening, small heat release on setting.

- **C_3A: Tricalcium aluminate or Celite**

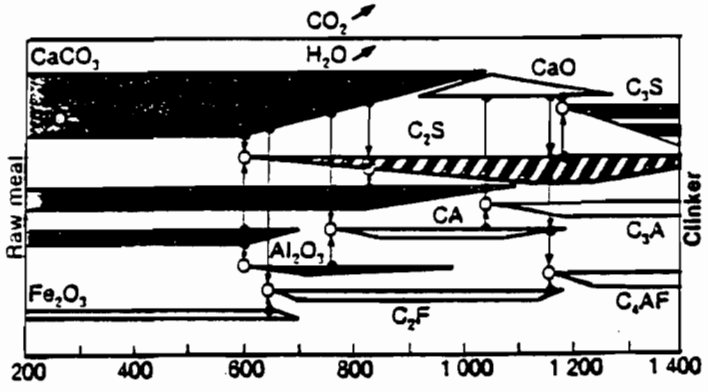
Rapid hydrolysis. Development of large quantities of heat, rapid hardening, large shrinkage.

- **C_4AF: Tetracalcium aluminoferrite or Brownmillerite**

Small reaction with water, small shrinkage (almost inert).

The mineralogical composition is established by optical microscopy, diffraction or X-rays.

Transformation of the mineral phases



Burning temperature in °C

From 650 to 1 050 °C

I Al_2O_3 2 SiO_2 2 H_2O + 5 $CaCO_3$ → CA + 2 C_2S + 2 H_2O + 5 CO_2
II Fe_2O_3 + 2 $CaCO_3$ → C_2F + 2 CO_2
III C + O_2 → CO_2
IV SiO_2 + 2 $CaCO_3$ → C_2S + 2 CO_2
V $CaCO_3$ → C + CO_2

From 1 250 to 1 450 °C

VI C_2F + CA + C → C_4AF
VII CA + 2 C → C_3A
VIII 2 C + S → C_2S
IX C_2S + C → C_3S

large, well defined hexagonal crystals. Lime burnt at lower temperatures contains little or no C_3S and does not have the same qualities of initial strength.

Dicalcium silicate (or C_2S)
It has rounded, and often grooved grains. Its presence improves the behaviour on burning, but it can cause deposits to form in the burning area and so be detrimental to the operation of the kiln.

Tricalcium aluminate (or C_3A)
It is the interstitial vitreous material in which the crystals of alite or belite appear. This material crystallizes rapidly on cooling and gives the cement high initial strength. Because C_3A is sensitive to sulphates, the amount has to be reduced in certain special cements, for example, those destined for hydraulic works.

Tetracalcium aluminoferrite (or C_4AF).
It is also an interstitial material made up of prismatic crystals. Having but a slight reaction with water, it only causes a small temperature rise on setting and little tendency to shrinkage.

Additional components
With a carefully prepared raw mix and a mature clinker temperature, the amount of free lime, that lime not chemically combined, is about 0.2% to 2%. Larger amounts indicate poor operation of the kiln and a relative drop in the quality of the clinker (excessive formation of C_3S to the detriment of C_2S and a lime standard below 100).

In the same way, excessive amounts of magnesia cause problems of expansion. This is why cement standards limit the amounts of free CaO, MgO and of other components of which some only appear as trace elements in cement.

Strict controls on the composition for the safety of the mason and the user

In small quantities the various additional components have hardly any effect on the quality of the clinker or, if they evaporate, on the natural environment. However, research into the pollution and noxiousness of certain products justifies the care given by researchers and scientists to the limitation of these products, which in solid form and bound up in the granules of clinker are

ATTACHMENT B2

MATERIAL AND GAS FLOW DIAGRAM

KRUPP POLYSIUS

MATERIAL AND GAS FLOW DIAGRAM FOR RAW MATERIAL GRINDING AND PYROPROCESSING

NAME:	DEPARTMENT:	DATE:	PAGE:
OLEG G.	110	7/10/95	E1
CALL SIGN:	FLORIDA CRUSHED STONE	SHORTHAND SYMBOL:	FCS

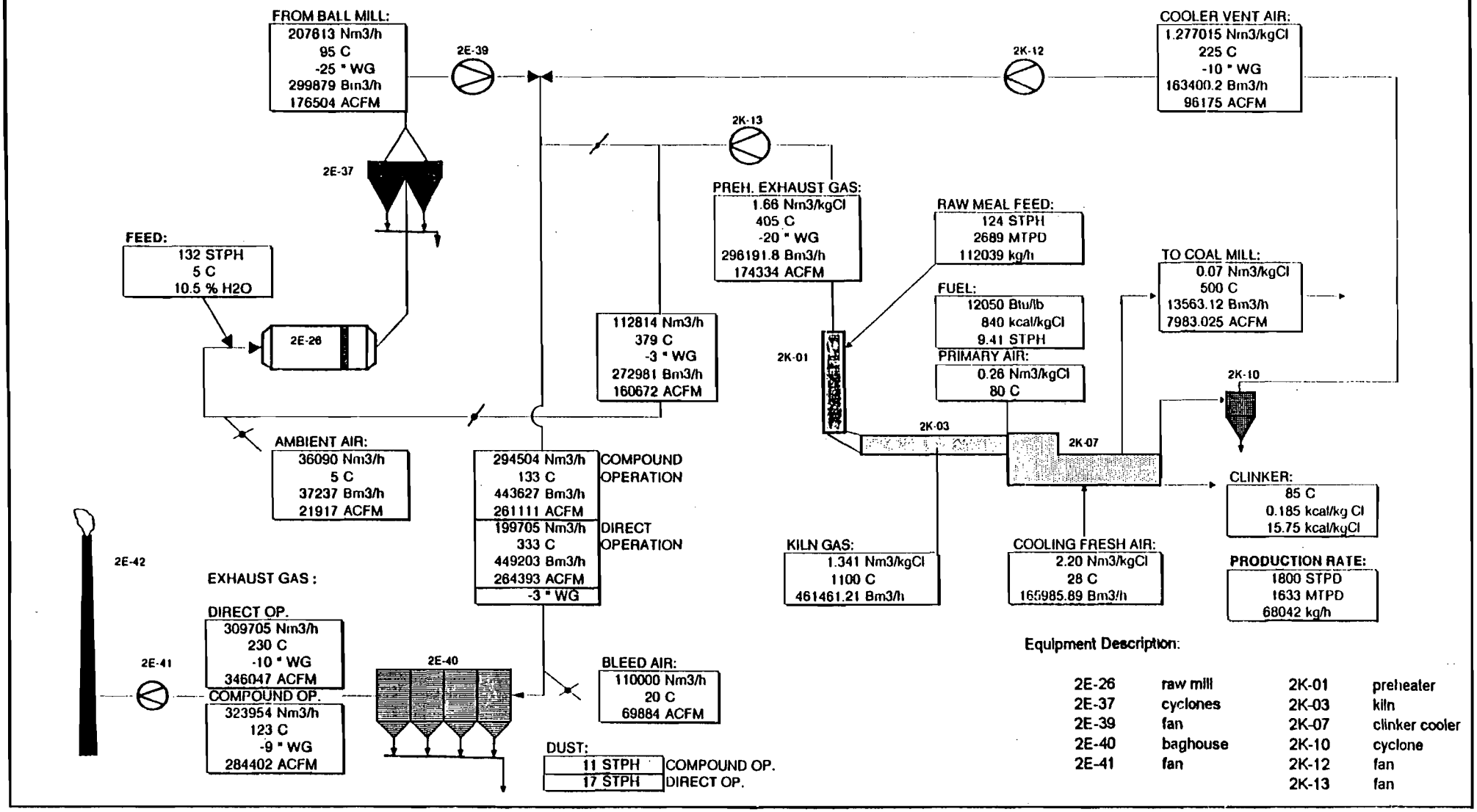


Figure 1

ATTACHMENT B3

MECHANICAL PROCESS FLOW SHEETS

LEGEND

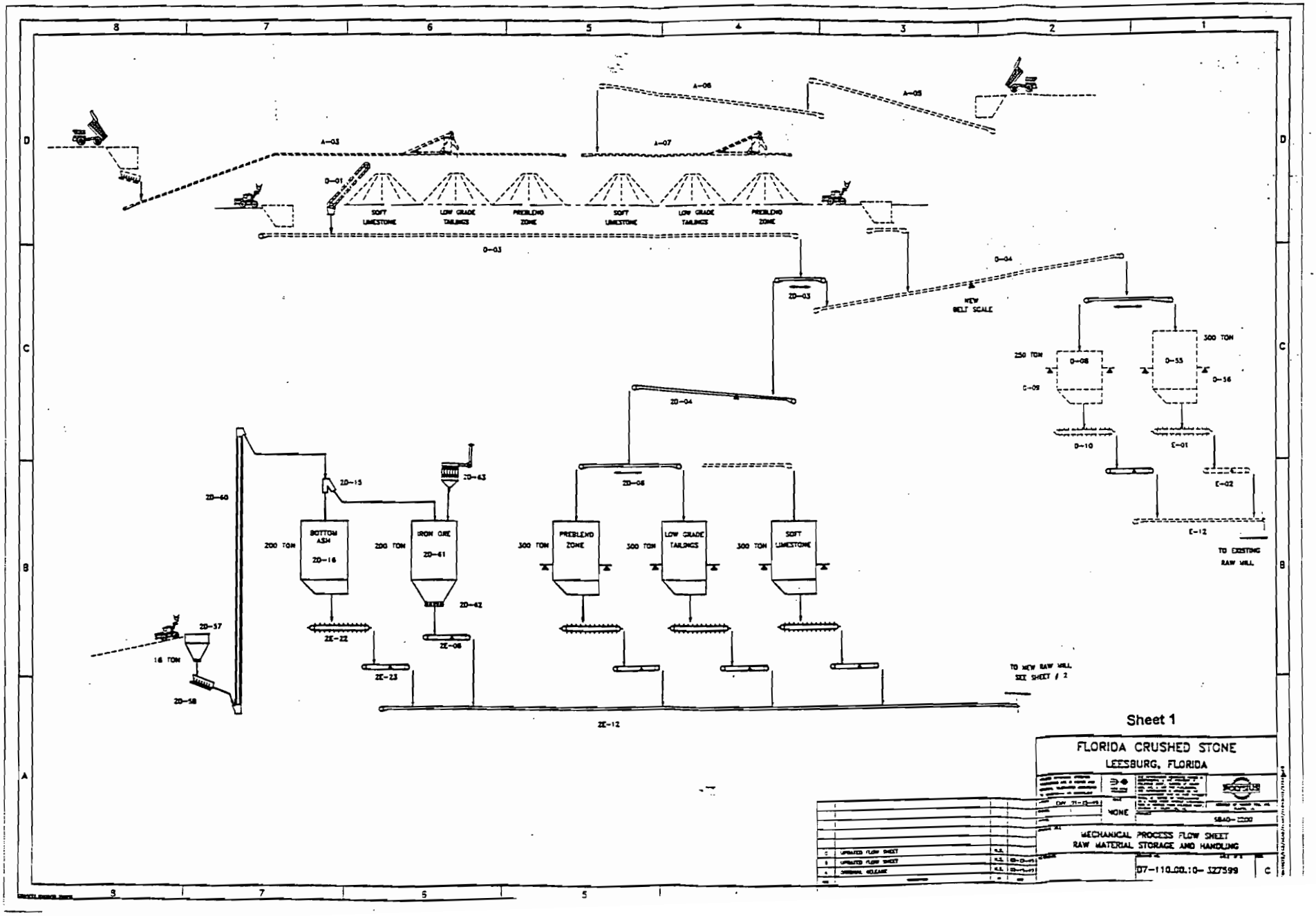
B	LB/HR	COMBUSTIBLE FLOW
D	FT	DIAMETER
G	STPH	MATERIAL FLOW
H	%	MATERIAL MOISTURE
HU	BTU/LB	NET CALORIC VALUE
K	IN	GRAIN SIZE
KB	CM^2/G	BLAINE
KR	%	RESIDUAL
M	HP	MOTOR POWER
N	RPM	SPEED
P	IN. WG	STATIC PRESSURE
Q	MM BTU/HR	HEAT QUANTITY
QS	BTU/LB	HEAT QUANTITY
S	GR/SCF	DUST CONTENT
SG	LB/FT^3	BULK DENSITY
T	DEG F	TEMPERATURE
TP	DEG F	DEW POINT
UT	DEG F	AMB. TEMPERATURE
VB	ACFM	GAS FLOW
VN	SCFM	GAS FLOW
VS	SCF/LB	GAS FLOW
VV	FT^3/S	GAS FLOW

PROJECT NO.
CHAPTER
SHEET
ENGINEER
DATE

LEGEND

DRAWN BY:
APPROVED BY:

Best Available Copy



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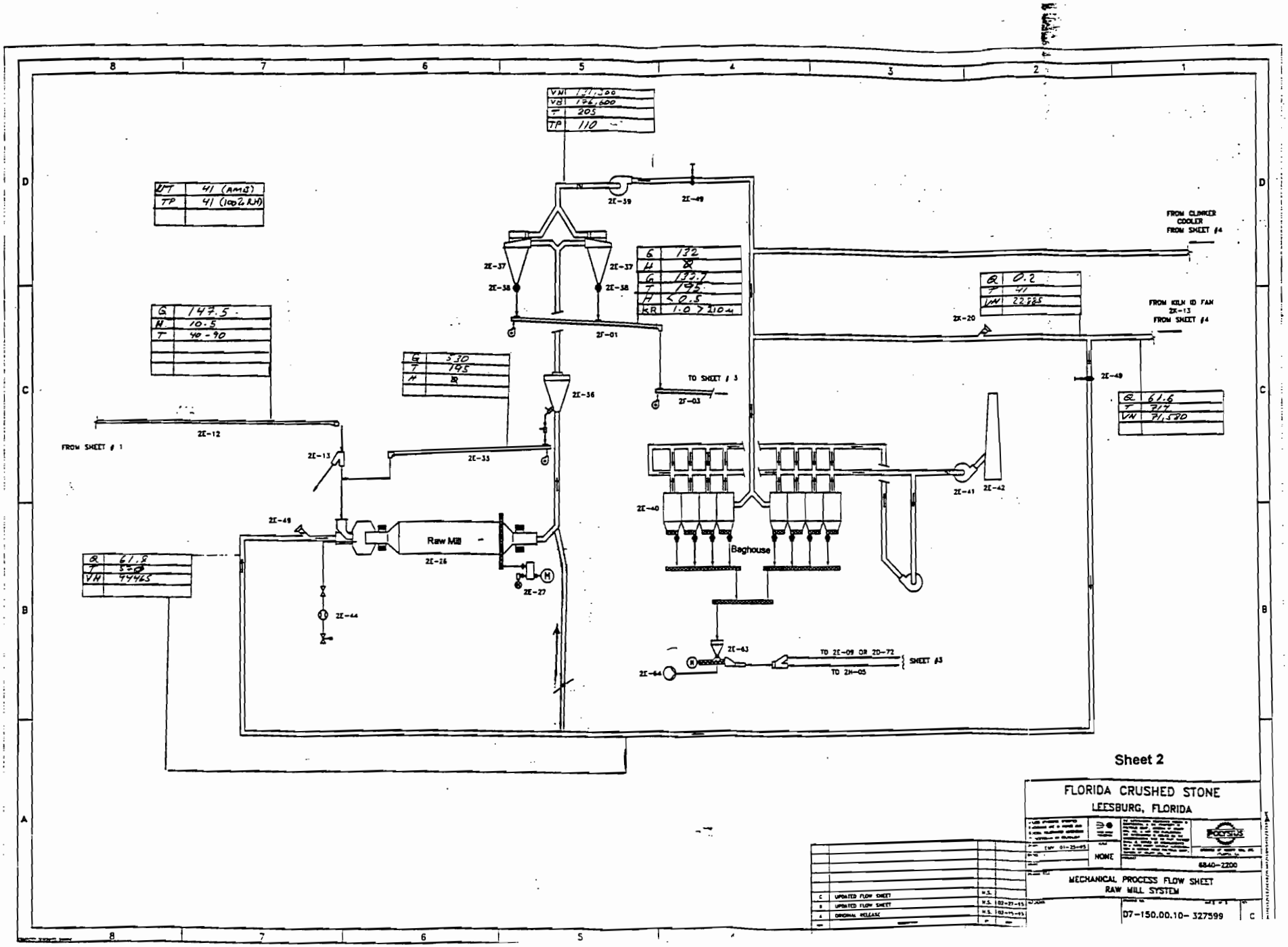


Sheet 2

FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

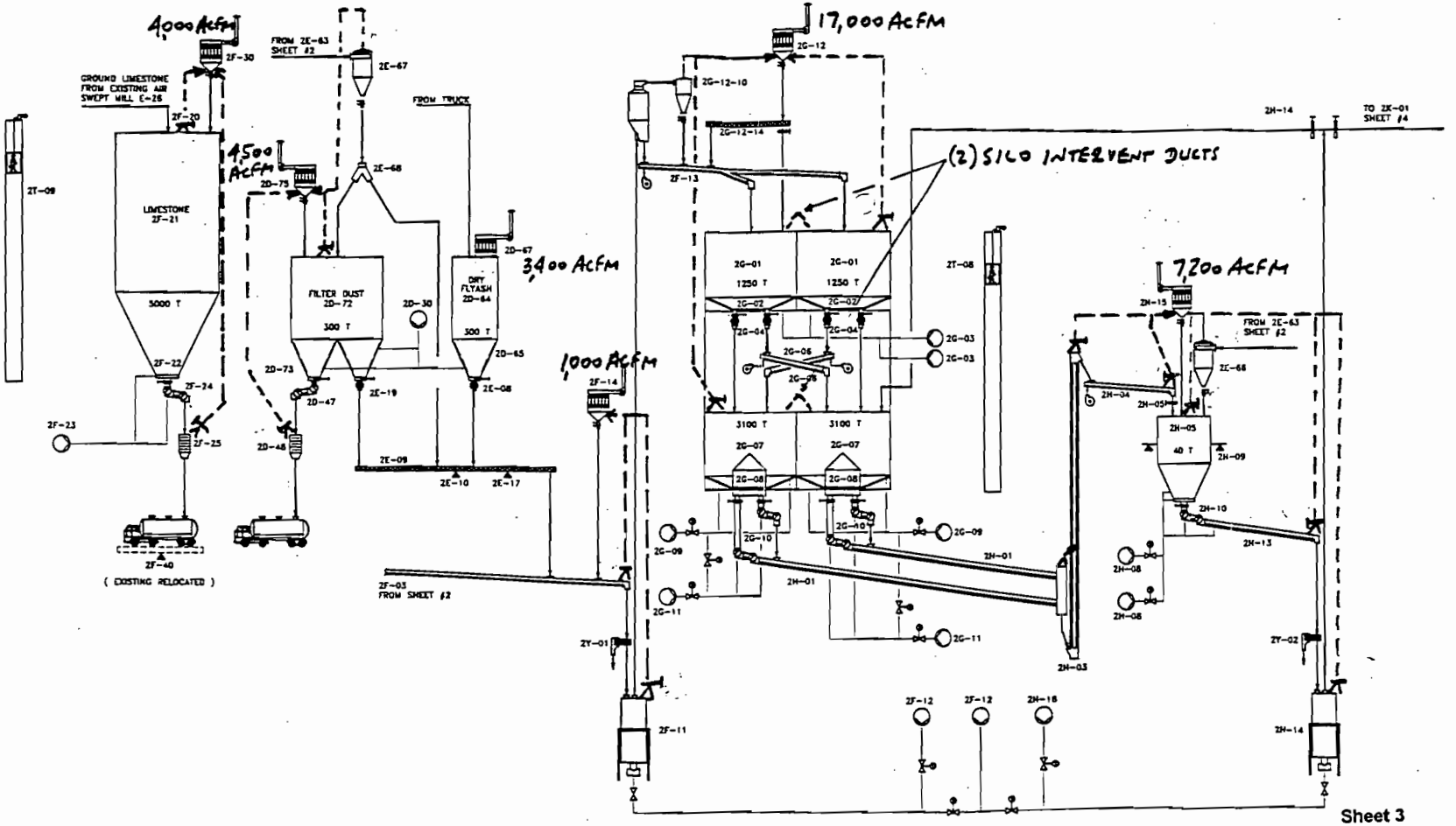
C	UPDATED FLOW SHEET	N.S.	
B	UPDATED FLOW SHEET	N.S.	02-27-15
A	ORIGINAL RELEASE	N.S.	02-15-15

NONE

6840-2200

MECHANICAL PROCESS FLOW SHEET
RAW MILL SYSTEM

07-150.00.10- 327599 C



Sheet 3

FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

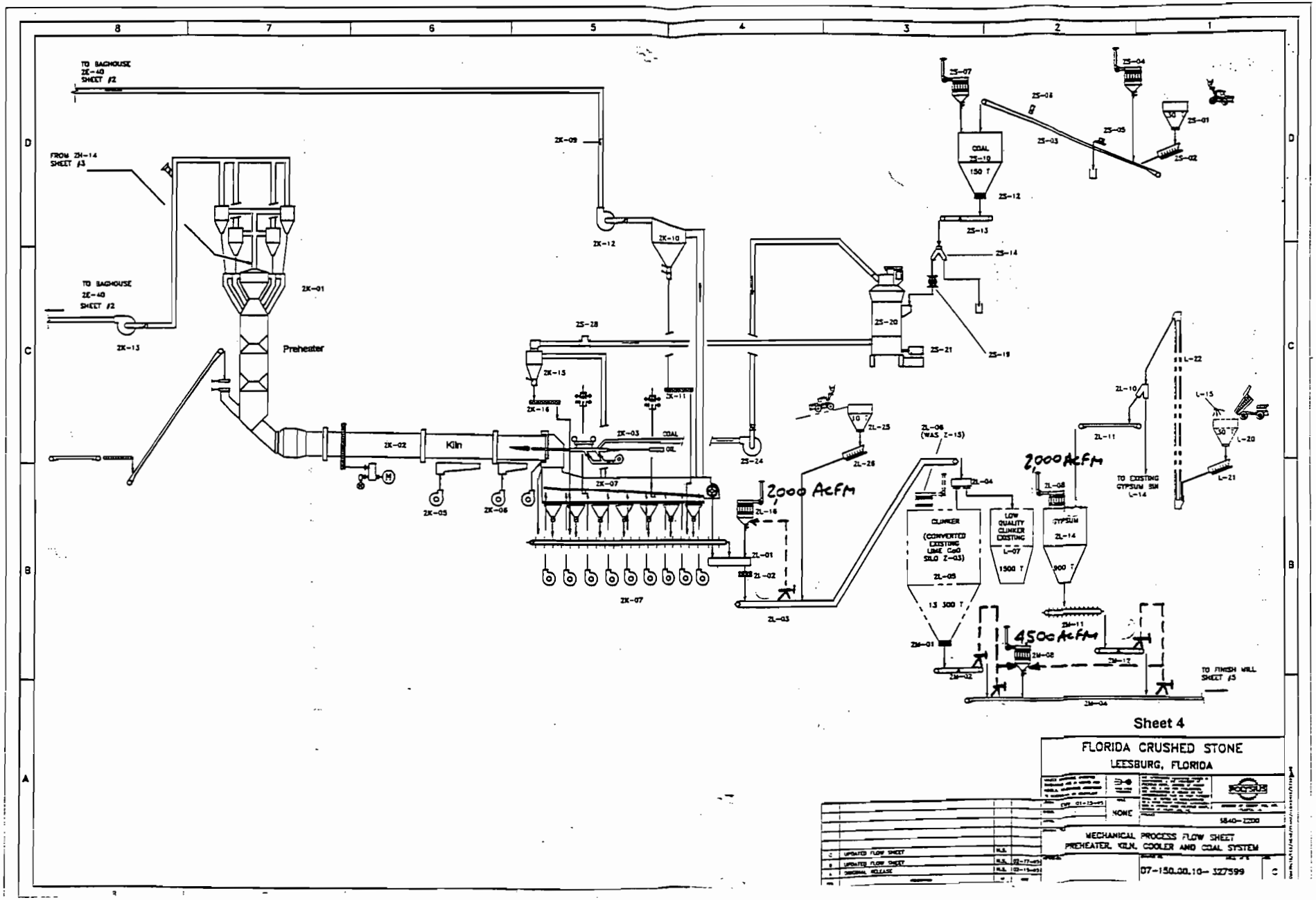
C	UPDATED FLOW SHEET	N.S.	02-27-95
B	UPDATED FLOW SHEET	N.S.	02-15-95
A	ORIGINAL RELEASE	N.S.	02-15-95

CHK'D 01-12-95 | NONE | 5840-2200

MECHANICAL PROCESS FLOW SHEET
RAW MATL. STORAGE, HOMOGENIZING SILO & KILN FEED

D7-150.00.10-327599 | C

Best Available Copy



Sheet 4

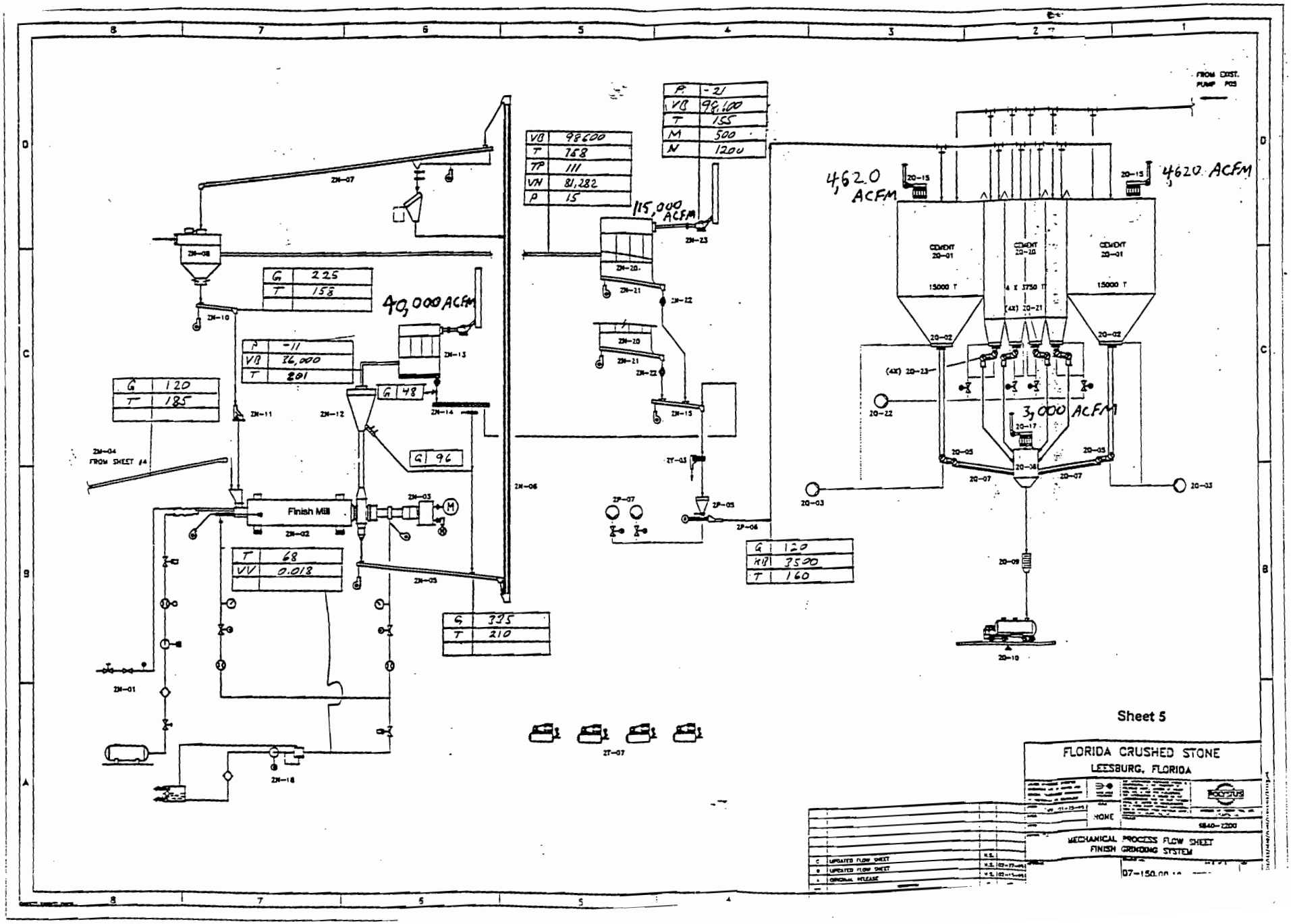
FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

NONE

MECHANICAL PROCESS FLOW SHEET
PREHEATER, KILN, COOLER AND COAL SYSTEM

07-150.00.10- 327599 C

BEST AVAILABLE COPY



Mechanical Process Flow Sheets Available Upon Request (5)

ATTACHMENT B4

TABLE 3-2
MINOR SOURCES AND EMISSIONS

TABLE 3-2

MINOR SOURCES AND EMISSIONS

NO.	EMISSION UNIT DESCRIPTION	PLOT PLAN E7-150.000.10-327618 EMISSION UNIT LEGEND NUMBER	EMISSION UNIT EQUIPMENT NUMBER	DUST COLLECTOR EQUIPMENT NUMBER	PROCESS RATE	GRAIN LOADING	FLOWRATE	EMISSIONS	
					(tons/hr)	(grains/acf)	(ACFM)	lbs/hr	tons/yr
1	Iron Ore Bin	53	2D-61[a]	2D-63[a]	2.0	0.01	3000	0.26	1.13
2	Fly Ash Bin	56	2D-64[c]	2D-67[c]	7.0	0.01	3400	0.29	1.28
3	Filter Dust Bin	55	2D-72[c]	2D-75[c]	25.0	0.01	4500	0.39	1.69
4	Raw Meal Transport	62	2F-03[c]	2F-14[c]	160.0	0.01	1000	0.09	0.38
5	Lime Silo Storage	75	2F-21[c]	2F-30[c]	300.0	0.01	4000	0.34	1.50
6	Raw Meal Storage & Homogenizing Silos	63	2G-01[c]	2G-12[c]	160.0	0.01	17,000	1.5	6.40
7	Kiln Feed System	64	2H-05, 2E-66[c]	2H-15[c]	130.0	0.01	7200	0.62	2.70
8	Gypsum Storage Bin	72	2L-14[d]	2L-08[d]	150.0	0.01	2000	0.17	0.75
9	Clinker Transport	71	2L-03[d]	2L-16[d]	75.0	0.01	2000	0.17	0.75
10	Belt Conveyor	34	2M-08[d]	2M-08[d]	120.0	0.01	4500	0.39	1.69
11	Finish Mill Discharge Vent	73	2N-02[e]	2N-13[e]	15.0	0.01	40,000	3.43	15.0
12	Finish Mill Sepol Separator	73	2N-08[e]	2N-20[e]	120.0	0.01	115,000	9.86	43.20
13	Cement Storage Silo A	74	2Q-01, 2Q-20[e]	2Q-15A[e]	120.0	0.01	4620	0.40	1.70
14	Cement Storage Silo B	74	2Q-01, 2Q-20[e]	2Q-15B[e]	120.0	0.01	4620	0.40	1.70
15	Cement Silo Discharge Hopper	74	2Q-01, 2Q-20[e]	2Q-17[e]	540.0	0.01	3000	0.26	1.13
16	Coal Transport Conveyor	68	2S-03[d]	2S-04[d]	100.0	0.01	2000	0.17	0.75
17	Coal Storage Bin	69	2S-10[d]	2S-07[d]	100.0	0.01	2000	0.17	0.75
TOTAL									82.50

[a]Plate #1 titled "*Raw Material Storage and Handling*", permit application Attachment B.
[b]Plate #2 titled "*Raw Mill System*", permit application Attachment B.
[c]Plate #3 titled "*Raw Material, Storage, Homogenizing Silo, and Kiln Feed*", permit application Attachment B.
[d]Plate #4 titled "*Preheater, Kiln, Cooler, and Coal System*", permit application Attachment B.
[e]Plate #5 titled "*Finish Grinding System*", permit application Attachment B.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

IN REPLY REFER TO:

JUN 16 1995

Mr. C. H. Fancy
Chief, Bureau of Air Regulation
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399

Dear Mr. Fancy:

In April we submitted comments on the Prevention of Significant Deterioration permit application for a new cement kiln (kiln #2) proposed by Florida Crushed Stone. The kiln would be located 20 km southeast of Chassahowitzka Wilderness Area, a Class I air quality area, administered by the Fish and Wildlife Service. Our initial review determined that the application was incomplete. We subsequently received additional information from the applicant, but still find significant omissions in the application. The enclosed technical review comments detail our concerns.

To clarify our concerns, we believe that it would be helpful for us to speak with a representative of your office by telephone. Therefore, we ask you to please contact Ms. Ellen Porter of our Air Quality Branch in Denver, Colorado, at 303/969-2617 at your earliest convenience.

Sincerely yours,

for Noreen K. Clough
Regional Director

Enclosure

Department of
Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

June 16, 1995

Mr. Tom Mountain
Environmental Manager
Florida Crushed Stone Company
Post Office Box 1508
Brooksville, Florida 34605-1508

Re: Modification Request PA 82-17, Cement Kiln

Dear Mr. Mountain:

The Bureau of Air Regulation's has the following comments on the material supporting the site certification/PSD modification received from RTP Environmental Associates, Inc. on April 21, 1995, :

1. Please supply the basis for the calculations of emissions (lb/hr, ton/yr and/or lb/MMBTU, lb/ton, if applicable) for each pollutant emitted (criteria and non-criteria) as a result of this project. Include all asumptions, reference materials, and engineering calculations.

2. Pursuant to Rule 62-212.200(2) and Rule 62-212.400(2)(e), F.A.C., please supply calculations for the last two (2) years of operation. Compare past actual emissions with the future potential emissions for each criteria and non-criteria pollutants emitted as a result of this project.

3. Provide a process flow diagram that will show this project as proposed. Include all scenarios proposed (page 3-16 of the application submitted in March 13,1995).

4. Both Central Power and Lime (CPL) and Florida Crushed Stone (FCS) were authorized under the same Certification (PA 82-17). The recent modification of CPL's operation and the one proposed for FCS also relate to the same Certification. It appears to us, therefore, that they are under common ownership , control, and contiguous (in fact integrated). Therefore emissions from both operations need to be considered together for PSD review (especially the modeling). The expansion should be considered as a project beyond the baseline applicable to the existing power plant and cement plant. This could have some ramifications on the BACT determination. Please re-evaluate the BACT analysis to see what level of control is indicated when the two operations are considered together.

5. Please provide in a chronological order the different permitting activities that has ocurred at this facility since the beginning of its operation.

6. Please address the comments in the attached National Park Service correspondence.

If you have any questions on this matter, please write to Al Linero, P.E. Supervisor or call Marty Costello, P.E. (BACT engineer), Cleve Holladay (metereologist), John Glunn (air toxic specialist) or Teresa Heron (review engineer) at (904) 488-1344.

Sincerely,

Hamilton S. Oven

Hamilton S. Oven, P.E.
Administrator, Siting
Coordination Office

cc: Teresa Heron
Chip Collette
Tony Cleveland

Florida Department of
Environmental Protection

Memorandum

TO: Buck Oven

THROUGH: Al Linero
Clair Fancy

FROM: Teresa Heron

DATE: June 16, 1995

SUBJECT: Florida Crushed Stone
Incompleteness/Insufficiency Review
File No. PSD-FL-227 and PA 82-17

Following are additional requests pursuant to the May 10, 1995, Florida Crushed Stone response to the Department's letter of April 21, 1995.

1. Please supply the basis for the calculations of emissions (lb/hr, ton/yr and/or lb/MMBTU, lb/ton, if applicable) for each pollutant emitted (criteria and non-criteria) as a result of this project. Include all assumptions, reference materials, and engineering calculations.

2. Pursuant to Rule 62-212.200(2) and Rule 62-212.400(2)(e), F.A.C., please supply calculations for the last two (2) years of operation. Compare past actual emissions with the future potential emissions for each criteria and non-criteria pollutants emitted as a result of this project.

3. Please provide a process diagram of the new kiln which shows all input feeds of gases and materials along with the sources of these feeds. Provide a process diagram of the entire facility including the two kilns and power plant. Indicate whether the raw mill or the dryer for the new kiln will be fired by a combustion source. Provide a description of how the feed material is processed in the existing kiln and state whether any of this processed (heated or dried) material will be utilized in the new kiln.

4. Both Central Power and Lime (CPL) and Florida Crushed Stone (FCS) were authorized under the same Certification (PA 82-17). The recent modification of CPL's operation and the one proposed for FCS relate to the same Certification. Also, they are under common ownership, control, and contiguous (in fact integrated). In accordance with the attached August 1983 letter from EPA, please assure the Department that these two projects are unrelated and independent.

5. The April 21, 1995 letter from the Department asked the applicant to investigate any emerging technology for the control of NOx (Question 17). Question 18 asked the applicant to provide a BACT analysis for each PSD pollutant. The applicant's response stated that the most stringent available control technologies have been selected for all pollutants and that no technical, economic, or environmental analysis are required. A top-down approach or a review of alternatives would have revealed that gas reburning is an available technology which is more stringent (gives a lower emission rate) than the one chosen. Please compare costs, energy and environmental effects of reaching a lower emission rate using alternatives including gas reburning, flue gas recirculation, low nitrogen fuels and possibly contemporaneous reductions from the power plant.

6. Please provide in a chronological order the different permitting activities that have occurred at this facility since the beginning of its operation.

7. Please address the comments in the attached National Park Service correspondence.

If you have any questions on this matter, please write to A. A. Linero, P.E. Supervisor or call Marty Costello, P.E. (BACT Engineer), Cleve Holladay (Meteorologist), John Glunn (Air Toxic Specialist) or Teresa Heron (Review Engineer) at (904)488-1344.

AL/th/t

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

4AW-AM

AUG 15 1983

Mr. Harold E. Hodges, P.E., Director
Division of Air Pollution Control
Tennessee Department of Public Health
150 Nineth Avenue North
Nashville, Tennessee 37203

Dear Mr. Hodges:

This is in answer to a request made by Angie Pitcock to Roger Pfaff by telephone on July 21, regarding EPA's policy on accumulation of de minimis increases in emissions at major stationary sources.

As you know, EPA interprets the PSD and nonattainment new source review rules (40CFR 51.24, 40CFR 52.21, 40CFR 51 Appendix S, 40 CFR 51.18 (j), 40CFR 52.24) as allowing an unlimited number of de minimis increases at major stationary sources without subjecting the source to review. This policy is stated in a memorandum from Edward E. Reich to Charles Whitmore, January 22, 1981, and is further confirmed in EPA's June 2, 1983 summary of applicability determinations (PSD-138).

Although the policy outlined in these documents allows a series of de minimis modifications to escape review, it is important that the reviewing agency not allow a source owner to circumvent the regulations by splitting up what would normally be considered a single major modification into two or more de minimis increases. Two or more increases should be considered by the reviewing agency to be part of the same project if they are considered part of the same project in the corporate planning of the source owner or if the emission units being constructed or modified are interdependent. For example, if the company institutes a "debottlenecking" project or a plant-wide energy conservation project involving several independent facilities, the project should be considered to be a single modification. If a company constructs a new boiler to generate steam and also adds new steam-using equipment, such as an evaporator, these units should also be considered part of the same project.

In order to facilitate agency decisions regarding whether two or more increases constitute a single project, EPA Region IV is adopting a policy which allows an initial presumption based upon easily distinguishable criteria, with allowance for rebuttal of the presumption by the applicant. Region IV policy is to consider two or more increases as a single project if the permit application for the last increase is submitted before the first increase is operational. This is a reasonable dividing line because it is easily discernible and because it would prohibit two facilities from being considered separate projects if one could not operate without the other.

For example, suppose a company obtains a permit for a new boiler at a major source in an attainment area on June 1, 1983. The new boiler emits 30 tons per year of SO_2 and escapes PSD review as a de minimis increase. On October 1, 1983, while the first boiler is under construction, the company submits an application for a second, identical, boiler. The agency would initially presume that these two boilers were part of a single project causing a significant increase in SO_2. Both boilers would be subject to PSD, including retroactive BACT for the first boiler. However, if the company could show, through engineering analysis and internal documents, that the two boilers were planned during separate time frames and involve separate, independent facilities (such as separate product lines at a large chemical plant), the agency could allow the boilers to be treated as separate projects. Conversely, if you know that two actions are actually one project, but the source owner is able to build and operate the first one before applying for the second, solely to avoid review, you should use that knowledge to subject the project to review.

The initial presumption criteria are used for the purpose of simplifying your decision process for the more obvious cases. The final criteria should always be whether or not the source owner is circumventing the new source review rules by separating what would normally be considered one project into two or more projects.

Sincerely yours,

James T. Wilburn, Chief
Air Management Branch
Air and Waste Management Division

cc: Ed Reich
Mike Trutna
All state agencies

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

Dear Mr. Fancy:

In our April 19, 1995, letter to you we commented on the Prevention of Significant Deterioration permit application for the new cement kiln (kiln #2) proposed by Florida Crushed Stone (FCS). The kiln would be located 20 km southeast of Chassahowitzka Wilderness Area, a Class I air quality area administered by the U.S. Fish and Wildlife Service. The new kiln would emit significant amounts of PM-10, sulfur dioxide, nitrogen oxides, and carbon monoxide. Our initial review determined that the application was incomplete for reasons stated in our April 19 letter. We have received additional information from FCS, but still find the application incomplete for the reasons given in the enclosed technical review document.

We would like to consult with your office on this project. Please contact Ellen Porter of our Air Quality Branch in Denver at (303) 969-2617.

Sincerely,

Noreen K. Clough
Regional Director

Enclosure

cc: Jewell Harper, Chief
Air Enforcement Branch
Air, Pesticides and Toxic Management Division
U.S. EPA, Region 4
345 Courtland Street, NE
Atlanta, Georgia 30365

bcc: FWS-REG. 4: AQC
CHAS: Refuge Manager
AQD-DEN: Ellen Porter
National Park Service - AIR
P.O. Box 25287
Denver, CO 80225

Technical Review of Additional Information Regarding the Prevention of Significant Deterioration Permit Application for Florida Crushed Stone's Proposed New Cement Kiln, Hernando County, Florida

by

Air Quality Branch, Fish and Wildlife Service - Denver

We received additional information regarding the Prevention of Significant Deterioration (PSD) permit application for Florida Crushed Stone's (FCS) proposed new cement kiln on March 21 (from Florida Department of Environmental Protection - FDEP) and May 10 (from FCS). Our comments on this additional information are given below.

Air Quality Modeling Analysis

The additional information did not clarify whether the proposed new kiln's sulfur dioxide (SO_2) emissions would significantly impact Chassahowitzka Wilderness Area (WA). Upon consultation with FDEP, we performed additional modeling analyses to determine the Class I SO_2 impact of the proposed kiln's emissions. The modeling was performed with the Environmental Protection Agency's (EPA) ISCST2 model, using the stack parameters for the proposed kiln found in Table 6-1 of the original permit application. Emissions from the proposed kiln were modeled, using an emission rate of 5.67 grams per second (Table 6-1). All three load scenarios (nominal, maximum, and minimum) described in table 6-1 were modeled. We used the standard 1982-1986 Tampa meteorological data obtained from FDEP. The thirteen receptors used were the standard set agreed to by FDEP and our office.

The modeling results (see attachments) predict that the proposed kiln's impacts at Chassahowitzka WA exceed the Fish and Wildlife Service (FWS) Class I 24-hr SO_2 significant impact level of 0.07 micrograms per cubic meter (ug/m^3) for all five years (all load scenarios); the proposed kiln's impacts exceed the proposed EPA Class I 24-hr SO_2 significant impact level of 0.20 ug/m^3 for several years (e.g., four out of five years for the nominal load). In addition, the proposed kiln exceeds the FWS Class I 3-hr SO_2 significant impact level for all five years (all load scenarios). Please note that FDEP has recognized the FWS significant impact levels since these levels were proposed four years ago and has required all PSD applicants to apply them.

Because emissions impacts from the FCS project exceed the Class I short-term SO_2 significant impact levels, we request that FCS perform a cumulative Class I SO_2 increment analysis. We ask that FCS use the source inventory used by recent Florida PSD applicants, including sources beyond 100 kilometers.

Visibility

The revised visibility analysis, submitted May 10, predicts numerous occurrences of a visible coherent plume at Chassahowitzka WA due to emissions from the proposed kiln. The VISCREEN model predicts a visible plume occurring 6.28 percent of the time within the Class I area (Table 7-2, May 10), with "delta E" values greater than 2.0 (the EPA- and FWS-accepted threshold value of a colored plume). This would correspond to approximately 275 hours of a visible coherent plume within the Class I area. This would constitute an adverse impact to visibility and would be unacceptable to us. We request that additional emissions controls for nitrogen oxides and PM-10 be required to alleviate the plume impacts. If the applicant wishes to perform a more refined analysis, they may use the EPA PLUVUE 2 model. However, due to the known limitations of the PLUVUE 2 model, and the difficulty in its application, we request that a written modeling protocol be developed and agreed to by our office, FDEP, EPA Region IV, and the applicant.

PSD Applicability/Source Definition

In our April 19 letter to FDEP, we requested clarification regarding the relationship between the Central Power & Lime PSD application and the FCS PSD application, since the two projects are at the same facility. FCS responded (May 10, Item 25) that the two projects are independent; the proposed megawatt increase for the power plant would only be for periods when the cement kilns are not operating. However, in their March 21 submittal to FDEP, FCS states that "...two cement kilns operating with the power plant, is the facility configuration most likely to occur the majority of the time." (p.1, par.2) We again ask FDEP to clarify this.

Air Quality Related Values (AQRV) Analysis

We noted in our April 19 letter that the application lacked a Class I AQRV analysis (other than for visibility). FCS's May 10 response stated that they had addressed impacts to soils and vegetation in the vicinity of the proposed project in the "Additional Impacts" section of the original application. Please note that FCS considered only impacts from the proposed project's emissions. A Class I AQRV analysis should consider the total pollutant concentrations and loadings that resources at the Class I area will experience. It should consider emissions from all sources with the potential to affect these resources.

We recently established a list of lichen species found at Chassahowitzka WA. The lichen Ramalina americana, identified by Wetmore (1983) as SO_2-sensitive, occurs at the wilderness area. We are currently attempting to verify the presence of several other SO_2-sensitive lichen species at the wilderness area. We request that FCS perform a cumulative analysis so that we may adequately assess potential impacts of total pollutant concentrations and loadings to sensitive AQRVs at the Class I area.

REFERENCES:

1983. Wetmore, C.M. Lichens of the Air Quality Class 1 National Parks. (Final Report, National Park Service).

```
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CO AVERTIME  PERIOD  3 24
CO POLLUTID SO2
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO ERRORFIL ERRORS.OUT
CO FINISHED


SO STARTING

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**          SRCID SRCTYP        XS             YS             ZS

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** Source Parameter Cards:
** POINT:   SRCID       QS             HS         TS          VS         DS
** VOLUME:  SRCID       QS             HS        SYINIT      SZINIT
** AREA:    SRCID       QS             HS         XINIT

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SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP ALL
SO FINISHED


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RE DISCCART   340300.00 3169800.00
RE DISCCART   342000.00 3174000.00
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RE DISCCART   342400.00 3180600.00
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RE DISCCART   331500.00 3183400.00
RE FINISHED


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RE DISCCART   340300.00 3169800.00
RE DISCCART   342000.00 3174000.00
RE DISCCART   343700.00 3178300.00
RE DISCCART   341100.00 3183400.00
RE DISCCART   340300.00 3167700.00
RE DISCCART   340700.00 3171900.00
RE DISCCART   343000.00 3176200.00
RE DISCCART   342400.00 3180600.00
RE DISCCART   339000.00 3183400.00
RE DISCCART   336500.00 3183400.00
RE DISCCART   334000.00 3183400.00
RE DISCCART   331500.00 3183400.00
RE FINISHED


ME STARTING
ME INPUTFIL TAMPA82X.BIN                              UNFORM
ME ANEMHGHT   10.000 METERS
ME SURFDATA  12842  1982             SURFNAME
ME UAIRDATA  12842  1982             UAIRNAME
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED


OU STARTING
OU RECTABLE ALLAVE FIRST  SECOND THIRD
OU MAXTABLE ALLAVE  50
OU FINISHED



Command     *** End-of-file ***          Keys:  PgUp PgDn  F10=exit F1=Help
```

LIST 457 601 06/08/95 10:56 C:\F-CRUSH\CRU-82A.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.22910c	(82122224)	AT (	340300.00, 3165700.00)	DC	26.	0.
2.	0.21916	(82120324)	AT (	342000.00, 3174000.00)	DC	27.	0.
3.	0.17580	(82120224)	AT (	340300.00, 3169800.00)	DC	28.	0.
4.	0.17147	(82122524)	AT (	340300.00, 3165700.00)	DC	29.	0.
5.	0.16208	(82122424)	AT (	343700.00, 3178300.00)	DC	30.	0.
6.	0.15817	(82060424)	AT (	343700.00, 3178300.00)	DC	31.	0.
7.	0.15678	(82122624)	AT (	340300.00, 3167700.00)	DC	32.	0.
8.	0.15267	(82071324)	AT (	340300.00, 3165700.00)	DC	33.	0.
9.	0.15211c	(82051524)	AT (	340300.00, 3169800.00)	DC	34.	0.
10.	0.14662	(82060424)	AT (	342400.00, 3180600.00)	DC	35.	0.
11.	0.14475	(82112724)	AT (	340300.00, 3167700.00)	DC	36.	0.
12.	0.14417	(82120224)	AT (	340700.00, 3171900.00)	DC	37.	0.
13.	0.14375c	(82051724)	AT (	340300.00, 3165700.00)	DC	38.	0.
14.	0.14176	(82090124)	AT (	340300.00, 3165700.00)	DC	39.	0.
15.	0.14154	(82122724)	AT (	342000.00, 3174000.00)	DC	40.	0.
16.	0.14107	(82120424)	AT (	343000.00, 3176200.00)	DC	41.	0.
17.	0.13980	(82122424)	AT (	343000.00, 3176200.00)	DC	42.	0.
18.	0.13889	(82120324)	AT (	340700.00, 3171900.00)	DC	43.	0.
19.	0.13838	(82060424)	AT (	343000.00, 3176200.00)	DC	44.	0.
20.	0.13806	(82101224)	AT (	340300.00, 3167700.00)	DC	45.	0.
21.	0.13393	(82052624)	AT (	343000.00, 3176200.00)	DC	46.	0.
22.	0.13376c	(82072024)	AT (	343700.00, 3178300.00)	DC	47.	0.
23.	0.13332	(82060424)	AT (	340700.00, 3171900.00)	DC	48.	0.
24.	0.13237	(82120224)	AT (	340300.00, 3167700.00)	DC	49.	0.
25.	0.13221	(82021524)	AT (	340300.00, 3169800.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:57 C:\F-CRUSH\CRU-83A.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.24114	(83030524)	AT (	343000.00, 3176200.00)	DC	26.	0.
2.	0.22984c	(83051024)	AT (	340700.00, 3171900.00)	DC	27.	0.
3.	0.21554	(83102324)	AT (	343700.00, 3178300.00)	DC	28.	0.
4.	0.18231c	(83041424)	AT (	343700.00, 3178300.00)	DC	29.	0.
5.	0.17915c	(83073024)	AT (	340300.00, 3165700.00)	DC	30.	0.
6.	0.17820	(83102324)	AT (	342400.00, 3180600.00)	DC	31.	0.
7.	0.17629	(83102324)	AT (	339000.00, 3183400.00)	DC	32.	0.
8.	0.16926	(83022724)	AT (	340300.00, 3167700.00)	DC	33.	0.
9.	0.16924	(83031524)	AT (	340300.00, 3167700.00)	DC	34.	0.
10.	0.16485	(83012024)	AT (	340700.00, 3171900.00)	DC	35.	0.
11.	0.16200	(83062824)	AT (	340300.00, 3165700.00)	DC	36.	0.
12.	0.15706	(83030524)	AT (	334000.00, 3183400.00)	DC	37.	0.
13.	0.15622c	(83062024)	AT (	340300.00, 3169800.00)	DC	38.	0.
14.	0.15383c	(83041424)	AT (	342400.00, 3180600.00)	DC	39.	0.
15.	0.14817c	(83041424)	AT (	339000.00, 3183400.00)	DC	40.	0.
16.	0.14193	(83050724)	AT (	342000.00, 3174000.00)	DC	41.	0.
17.	0.13821	(83012024)	AT (	340300.00, 3169800.00)	DC	42.	0.
18.	0.13283	(83050724)	AT (	340700.00, 3171900.00)	DC	43.	0.
19.	0.13281	(83050724)	AT (	343000.00, 3176200.00)	DC	44.	0.
20.	0.13197	(83020124)	AT (	342400.00, 3180600.00)	DC	45.	0.
21.	0.12991	(83031524)	AT (	340300.00, 3169800.00)	DC	46.	0.
22.	0.12905	(83030524)	AT (	336500.00, 3183400.00)	DC	47.	0.
23.	0.12842	(83022724)	AT (	340300.00, 3165700.00)	DC	48.	0.
24.	0.12507	(83020124)	AT (	343700.00, 3178300.00)	DC	49.	0.
25.	0.12482	(83022024)	AT (	340300.00, 3167700.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:57 C:\F-CRUSH\CRU-84A.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.22059	(84021224)	AT	(340300.00, 3167700.00)	DC	26.	0.
2.	0.19318c	(84071524)	AT	(340300.00, 3167700.00)	DC	27.	0.
3.	0.18706c	(84072124)	AT	(340300.00, 3165700.00)	DC	28.	0.
4.	0.18220	(84021224)	AT	(340300.00, 3165700.00)	DC	29.	0.
5.	0.16055	(84031224)	AT	(340300.00, 3165700.00)	DC	30.	0.
6.	0.16025c	(84071524)	AT	(340300.00, 3165700.00)	DC	31.	0.
7.	0.15564	(84022624)	AT	(343700.00, 3178300.00)	DC	32.	0.
8.	0.15230c	(84102824)	AT	(342000.00, 3174000.00)	DC	33.	0.
9.	0.15161c	(84072024)	AT	(343700.00, 3178300.00)	DC	34.	0.
10.	0.14930c	(84061724)	AT	(340300.00, 3165700.00)	DC	35.	0.
11.	0.14854	(84060924)	AT	(340300.00, 3165700.00)	DC	36.	0.
12.	0.14612	(84061624)	AT	(340300.00, 3165700.00)	DC	37.	0.
13.	0.14306c	(84022124)	AT	(340300.00, 3167700.00)	DC	38.	0.
14.	0.14216c	(84072224)	AT	(342000.00, 3174000.00)	DC	39.	0.
15.	0.13817	(84052424)	AT	(342000.00, 3174000.00)	DC	40.	0.
16.	0.13746c	(84080224)	AT	(340300.00, 3169800.00)	DC	41.	0.
17.	0.13666c	(84123124)	AT	(343700.00, 3178300.00)	DC	42.	0.
18.	0.13604	(84112724)	AT	(343000.00, 3176200.00)	DC	43.	0.
19.	0.13597c	(84032224)	AT	(342000.00, 3174000.00)	DC	44.	0.
20.	0.13547	(84021124)	AT	(340300.00, 3165700.00)	DC	45.	0.
21.	0.13506	(84021024)	AT	(340300.00, 3167700.00)	DC	46.	0.
22.	0.13487c	(84052224)	AT	(342000.00, 3174000.00)	DC	47.	0.
23.	0.13101	(84011024)	AT	(342000.00, 3174000.00)	DC	48.	0.
24.	0.12958	(84072324)	AT	(340300.00, 3167700.00)	DC	49.	0.
25.	0.12826c	(84120124)	AT	(340300.00, 3165700.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:57 C:\F-CRUSH\CRU-85A.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.29438	(85083024)	AT (	343000.00, 3176200.00)	DC	26.	0.
2.	0.18507	(85083024)	AT (	334000.00, 3183400.00)	DC	27.	0.
3.	0.17318	(85072024)	AT (	342000.00, 3174000.00)	DC	28.	0.
4.	0.15830	(85061524)	AT (	343700.00, 3178300.00)	DC	29.	0.
5.	0.15229	(85083024)	AT (	331500.00, 3183400.00)	DC	30.	0.
6.	0.14856	(85041324)	AT (	340300.00, 3167700.00)	DC	31.	0.
7.	0.14705	(85010124)	AT (	342000.00, 3174000.00)	DC	32.	0.
8.	0.14111	(85102824)	AT (	343000.00, 3176200.00)	DC	33.	0.
9.	0.13937	(85041824)	AT (	340300.00, 3165700.00)	DC	34.	0.
10.	0.13806	(85041124)	AT (	340300.00, 3165700.00)	DC	35.	0.
11.	0.13792	(85090224)	AT (	340700.00, 3171900.00)	DC	36.	0.
12.	0.13467	(85061524)	AT (	342400.00, 3180600.00)	DC	37.	0.
13.	0.13194	(85072224)	AT (	340300.00, 3167700.00)	DC	38.	0.
14.	0.13111	(85061524)	AT (	343000.00, 3176200.00)	DC	39.	0.
15.	0.13105	(85072724)	AT (	340700.00, 3171900.00)	DC	40.	0.
16.	0.13020	(85083024)	AT (	343700.00, 3178300.00)	DC	41.	0.
17.	0.12983	(85090324)	AT (	340300.00, 3165700.00)	DC	42.	0.
18.	0.12870	(85090124)	AT (	343000.00, 3176200.00)	DC	43.	0.
19.	0.12867	(85072224)	AT (	340300.00, 3165700.00)	DC	44.	0.
20.	0.12822	(85112824)	AT (	343700.00, 3178300.00)	DC	45.	0.
21.	0.12725	(85082924)	AT (	340300.00, 3169800.00)	DC	46.	0.
22.	0.12677	(85083024)	AT (	336500.00, 3183400.00)	DC	47.	0.
23.	0.12450	(85112524)	AT (	340300.00, 3165700.00)	DC	48.	0.
24.	0.12306c	(85111624)	AT (	340300.00, 3167700.00)	DC	49.	0.
25.	0.12257	(85021124)	AT (	342000.00, 3174000.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:57 C:\F-CRUSH\CRU-86A.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.16520	(86031024)	AT	(343000.00, 3176200.00)	DC	26.	0.
2.	0.16389	(86031324)	AT	(343000.00, 3176200.00)	DC	27.	0.
3.	0.15996c	(86120124)	AT	(343700.00, 3178300.00)	DC	28.	0.
4.	0.15849c	(86071224)	AT	(342000.00, 3174000.00)	DC	29.	0.
5.	0.15580	(86081224)	AT	(340700.00, 3171900.00)	DC	30.	0.
6.	0.14997	(86052624)	AT	(343000.00, 3176200.00)	DC	31.	0.
7.	0.14895	(86031824)	AT	(343000.00, 3176200.00)	DC	32.	0.
8.	0.14451c	(86121924)	AT	(340700.00, 3171900.00)	DC	33.	0.
9.	0.14153c	(86052524)	AT	(342000.00, 3174000.00)	DC	34.	0.
10.	0.13977	(86112424)	AT	(343000.00, 3176200.00)	DC	35.	0.
11.	0.13782c	(86061424)	AT	(340300.00, 3165700.00)	DC	36.	0.
12.	0.13637	(86052724)	AT	(340300.00, 3167700.00)	DC	37.	0.
13.	0.13634c	(86120924)	AT	(340300.00, 3169800.00)	DC	38.	0.
14.	0.13573c	(86120124)	AT	(339000.00, 3183400.00)	DC	39.	0.
15.	0.13563c	(86120924)	AT	(340700.00, 3171900.00)	DC	40.	0.
16.	0.13319	(86052924)	AT	(340700.00, 3171900.00)	DC	41.	0.
17.	0.13193c	(86112924)	AT	(340300.00, 3169800.00)	DC	42.	0.
18.	0.13133	(86070524)	AT	(340700.00, 3171900.00)	DC	43.	0.
19.	0.13028c	(86080824)	AT	(343000.00, 3176200.00)	DC	44.	0.
20.	0.12909	(86030924)	AT	(340300.00, 3169800.00)	DC	45.	0.
21.	0.12757	(86031324)	AT	(343700.00, 3178300.00)	DC	46.	0.
22.	0.12584	(86110724)	AT	(340300.00, 3165700.00)	DC	47.	0.
23.	0.12561c	(86121924)	AT	(342000.00, 3174000.00)	DC	48.	0.
24.	0.12521c	(86062724)	AT	(340700.00, 3171900.00)	DC	49.	0.
25.	0.12398c	(86060324)	AT	(340300.00, 3167700.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:58 C:\F-CRUSH\CRU-82B.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	0.23492c	(82122224)	AT (	340300.00, 3165700.00)	DC
2.	0.22441	(82120324)	AT (	342000.00, 3174000.00)	DC
3.	0.18077	(82120224)	AT (	340300.00, 3169800.00)	DC
4.	0.17690	(82122524)	AT (	340300.00, 3165700.00)	DC
5.	0.16585	(82122424)	AT (	343700.00, 3178300.00)	DC
6.	0.16306	(82122624)	AT (	340300.00, 3167700.00)	DC
7.	0.16272	(82060424)	AT (	343700.00, 3178300.00)	DC
8.	0.16157	(82071324)	AT (	340300.00, 3165700.00)	DC
9.	0.15469c	(82051524)	AT (	340300.00, 3169800.00)	DC
10.	0.15077	(82060424)	AT (	342400.00, 3180600.00)	DC
11.	0.15046	(82112724)	AT (	340300.00, 3167700.00)	DC
12.	0.14834	(82120224)	AT (	340700.00, 3171900.00)	DC
13.	0.14634c	(82051724)	AT (	340300.00, 3165700.00)	DC
14.	0.14630	(82122724)	AT (	342000.00, 3174000.00)	DC
15.	0.14611	(82090124)	AT (	340300.00, 3165700.00)	DC
16.	0.14515	(82120424)	AT (	343000.00, 3176200.00)	DC
17.	0.14329	(82122424)	AT (	343000.00, 3176200.00)	DC
18.	0.14125	(82120324)	AT (	340700.00, 3171900.00)	DC
19.	0.14103	(82101224)	AT (	340300.00, 3167700.00)	DC
20.	0.14099	(82060424)	AT (	343000.00, 3176200.00)	DC
21.	0.14068	(82052624)	AT (	343000.00, 3176200.00)	DC
22.	0.13762	(82021524)	AT (	340300.00, 3169800.00)	DC
23.	0.13688c	(82113024)	AT (	342000.00, 3174000.00)	DC
24.	0.13636	(82120224)	AT (	340300.00, 3167700.00)	DC
25.	0.13611c	(82072024)	AT (	343700.00, 3178300.00)	DC

RANK	CO
26.	0.
27.	0.
28.	0.
29.	0.
30.	0.
31.	0.
32.	0.
33.	0.
34.	0.
35.	0.
36.	0.
37.	0.
38.	0.
39.	0.
40.	0.
41.	0.
42.	0.
43.	0.
44	0.
45.	0.
46.	0.
47.	0.
48.	0.
49.	0.
50.	0

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:58 C:\P-CRUSH\CRU-03B.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.24679	(83030524)	AT (	343000.00, 3176200.00)	DC	26.	0.
2.	0.23964c	(83051024)	AT (	340700.00, 3171900.00)	DC	27.	0.
3.	0.22713	(83102324)	AT (	343700.00, 3178300.00)	DC	28.	0.
4.	0.18825c	(83041424)	AT (	342400.00, 3180600.00)	DC	29.	0.
5.	0.18688	(83102324)	AT (	342400.00, 3180600.00)	DC	30.	0.
6.	0.18580c	(83073024)	AT (	340300.00, 3165700.00)	DC	31.	0.
7.	0.18344	(83102324)	AT (	339000.00, 3183400.00)	DC	32.	0.
8.	0.18009c	(83073024)	AT (	340300.00, 3169800.00)	DC	33.	0.
9.	0.17642c	(83091124)	AT (	340300.00, 3167700.00)	DC	34.	0.
10.	0.17177	(83022724)	AT (	340300.00, 3167700.00)	DC	35.	0.
11.	0.16962	(83031524)	AT (	340300.00, 3167700.00)	DC	36.	0.
12.	0.16824	(83012024)	AT (	340700.00, 3171900.00)	DC	37.	0.
13.	0.16752	(83062824)	AT (	340300.00, 3165700.00)	DC	38.	0.
14.	0.16262c	(83062024)	AT (	340300.00, 3169800.00)	DC	39.	0.
15.	0.15960	(83030524)	AT (	334000.00, 3183400.00)	DC	40.	0.
16.	0.15853c	(83041424)	AT (	342400.00, 3180600.00)	DC	41.	0.
17.	0.15237c	(83080124)	AT (	340300.00, 3165700.00)	DC	42.	0.
18.	0.15205c	(83041424)	AT (	339000.00, 3183400.00)	DC	43.	0.
19.	0.14642	(83050724)	AT (	342000.00, 3174000.00)	DC	44.	0.
20.	0.14082	(83012024)	AT (	340300.00, 3169800.00)	DC	45.	0.
21.	0.13706	(83050724)	AT (	340700.00, 3171900.00)	DC	46.	0.
22.	0.13541	(83050724)	AT (	343000.00, 3176200.00)	DC	47.	0.
23.	0.13318	(83020124)	AT (	342400.00, 3180600.00)	DC	48.	0.
24.	0.13155	(83031524)	AT (	340300.00, 3169800.00)	DC	49.	0.
25.	0.13119	(83030524)	AT (	336500.00, 3183400.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:58 C:\F-CRUSH\CRU-84B.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.23012	(84021224)	AT (	340300.00, 3167700.00)	DC	26.	0.
2.	0.20286c	(84071524)	AT (	340300.00, 3167700.00)	DC	27.	0.
3.	0.19832c	(84021324)	AT (	342000.00, 3174000.00)	DC	28.	0.
4.	0.19632c	(84072124)	AT (	340300.00, 3165700.00)	DC	29.	0.
5.	0.18929	(84021224)	AT (	340300.00, 3165700.00)	DC	30.	0.
6.	0.16515	(84031224)	AT (	340300.00, 3165700.00)	DC	31.	0.
7.	0.16348c	(84071524)	AT (	340300.00, 3165700.00)	DC	32.	0.
8.	0.15843	(84022624)	AT (	343700.00, 3178300.00)	DC	33.	0.
9.	0.15662c	(84102824)	AT (	342000.00, 3174000.00)	DC	34.	0.
10.	0.15585c	(84061724)	AT (	340300.00, 3165700.00)	DC	35.	0.
11.	0.15362c	(84072024)	AT (	343700.00, 3178300.00)	DC	36.	0.
12.	0.15173	(84060924)	AT (	340300.00, 3165700.00)	DC	37.	0.
13.	0.15166c	(84072224)	AT (	342000.00, 3174000.00)	DC	38.	0.
14.	0.14962	(84061624)	AT (	340300.00, 3165700.00)	DC	39.	0.
15.	0.14752c	(84022124)	AT (	340300.00, 3167700.00)	DC	40.	0.
16.	0.14536c	(84080224)	AT (	340300.00, 3169800.00)	DC	41.	0.
17.	0.14467c	(84032224)	AT (	342000.00, 3174000.00)	DC	42.	0.
18.	0.14210	(84052424)	AT (	342000.00, 3174000.00)	DC	43.	0.
19.	0.14033c	(84123124)	AT (	343700.00, 3178300.00)	DC	44.	0.
20.	0.13922	(84112724)	AT (	343000.00, 3176200.00)	DC	45.	0.
21.	0.13913	(84021124)	AT (	340300.00, 3165700.00)	DC	46.	0.
22.	0.13912	(84021024)	AT (	340300.00, 3167700.00)	DC	47.	0.
23.	0.13811c	(84052224)	AT (	342000.00, 3174000.00)	DC	48.	0.
24.	0.13535c	(84120124)	AT (	340300.00, 3165700.00)	DC	49.	0.
25.	0.13519	(84011024)	AT (	342000.00, 3174000.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.30240	(85083024)	AT (	343000.00, 3176200.00)	DC	26.	0.
2.	0.18807	(85083024)	AT (	334000.00, 3183400.00)	DC	27.	0.
3.	0.17844	(85072024)	AT (	342000.00, 3174000.00)	DC	28.	0.
4.	0.16569	(85061524)	AT (	343700.00, 3178300.00)	DC	29.	0.
5.	0.15479	(85083024)	AT (	331500.00, 3183400.00)	DC	30.	0.
6.	0.15216	(85041324)	AT (	340300.00, 3167700.00)	DC	31.	0.
7.	0.15147	(85010124)	AT (	342000.00, 3174000.00)	DC	32.	0.
8.	0.14478	(85102824)	AT (	343000.00, 3176200.00)	DC	33.	0.
9.	0.14321	(85041824)	AT (	340300.00, 3165700.00)	DC	34.	0.
10.	0.14102	(85090224)	AT (	340700.00, 3171900.00)	DC	35.	0.
11.	0.14057	(85061524)	AT (	342400.00, 3180600.00)	DC	36.	0.
12.	0.14045	(85041124)	AT (	340300.00, 3165700.00)	DC	37.	0.
13.	0.13744	(85061524)	AT (	343000.00, 3176200.00)	DC	38.	0.
14.	0.13582	(85090324)	AT (	340300.00, 3165700.00)	DC	39.	0.
15.	0.13539	(85072224)	AT (	340300.00, 3167700.00)	DC	40.	0.
16.	0.13430	(85072724)	AT (	340700.00, 3171900.00)	DC	41.	0.
17.	0.13419	(85090124)	AT (	343000.00, 3176200.00)	DC	42.	0.
18.	0.13333	(85083024)	AT (	343700.00, 3178300.00)	DC	43.	0.
19.	0.13268	(85072224)	AT (	340300.00, 3165700.00)	DC	44.	0.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21.	0.13152	(85112824)	AT (	343700.00, 3178300.00)	DC	46.	0.
22.	0.13007	(85072024)	AT (	340700.00, 3171900.00)	DC	47.	0.
23.	0.12885	(85083024)	AT (	336500.00, 3183400.00)	DC	48.	0.
24.	0.12842	(85112524)	AT (	340300.00, 3165700.00)	DC	49.	0.
25.	0.12694	(85021124)	AT (	342000.00, 3174000.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:58 C:\F-CRUSH\CRU-86B.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.17010	(86031024)	AT (	343000.00, 3176200.00)	DC	26.	0.
2.	0.16707	(86031324)	AT (	343000.00, 3176200.00)	DC	27.	0.
3.	0.16546c	(86071224)	AT (	342000.00, 3174000.00)	DC	28.	0.
4.	0.16505c	(86120124)	AT (	343700.00, 3178300.00)	DC	29.	0.
5.	0.16111	(86081224)	AT (	340700.00, 3171900.00)	DC	30.	0.
6.	0.15250	(86031824)	AT (	343000.00, 3176200.00)	DC	31.	0.
7.	0.15226	(86052624)	AT (	343000.00, 3176200.00)	DC	32.	0.
8.	0.15119c	(86121924)	AT (	340700.00, 3171900.00)	DC	33.	0.
9.	0.14727c	(86052524)	AT (	342000.00, 3174000.00)	DC	34.	0.
10.	0.14533c	(86061424)	AT (	340300.00, 3165700.00)	DC	35.	0.
11.	0.14232	(86112424)	AT (	343000.00, 3176200.00)	DC	36.	0.
12.	0.14184c	(86120924)	AT (	340300.00, 3169800.00)	DC	37.	0.
13.	0.14078c	(86120924)	AT (	340700.00, 3171900.00)	DC	38.	0.
14.	0.13924c	(86120124)	AT (	339000.00, 3183400.00)	DC	39.	0.
15.	0.13754c	(86112924)	AT (	340300.00, 3169800.00)	DC	40.	0.
16.	0.13749	(86052724)	AT (	340300.00, 3167700.00)	DC	41.	0.
17.	0.13546	(86052924)	AT (	340700.00, 3171900.00)	DC	42.	0.
18.	0.13546c	(86080824)	AT (	343000.00, 3176200.00)	DC	43.	0.
19.	0.13330	(86070524)	AT (	340700.00, 3171900.00)	DC	44.	0.
20.	0.13303c	(86121924)	AT (	342000.00, 3174000.00)	DC	45.	0.
21.	0.13100c	(86062724)	AT (	340700.00, 3171900.00)	DC	46.	0.
22.	0.13036	(86030924)	AT (	340300.00, 3169800.00)	DC	47.	0.
23.	0.13028	(86031324)	AT (	343700.00, 3178300.00)	DC	48.	0.
24.	0.13007	(86110724)	AT (	340300.00, 3165700.00)	DC	49.	0.
25.	0.12979c	(86010224)	AT (	340300.00, 3165700.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:59 C:\F-CRUSH\CRU-82C.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.18180	(82120324)	AT	(342000.00, 3174000.00)	DC	26.	0.
2.	0.14099	(82120224)	AT	(340300.00, 3169800.00)	DC	27.	0.
3.	0.13359	(82122424)	AT	(343700.00, 3178300.00)	DC	28.	0.
4.	0.13354	(82122524)	AT	(340300.00, 3165700.00)	DC	29.	0.
5.	0.12788c	(82051724)	AT	(340300.00, 3165700.00)	DC	30.	0.
6.	0.12746c	(82122224)	AT	(340300.00, 3165700.00)	DC	31.	0.
7.	0.12605	(82060424)	AT	(343700.00, 3178300.00)	DC	32.	0.
8.	0.12120	(82120324)	AT	(340700.00, 3171900.00)	DC	33.	0.
9.	0.11761	(82060424)	AT	(343000.00, 3176200.00)	DC	34.	0.
10.	0.11741	(82060424)	AT	(342400.00, 3180600.00)	DC	35.	0.
11.	0.11371	(82120224)	AT	(340700.00, 3171900.00)	DC	36.	0.
12.	0.11302	(82122424)	AT	(343000.00, 3176200.00)	DC	37.	0.
13.	0.11162	(82120424)	AT	(343000.00, 3176200.00)	DC	38.	0.
14.	0.11138	(82122624)	AT	(340300.00, 3167700.00)	DC	39.	0.
15.	0.11036	(82112724)	AT	(340300.00, 3167700.00)	DC	40.	0.
16	0.10997	(82090124)	AT	(340300.00, 3165700.00)	DC	41	0
17.	0.10856c	(82051724)	AT	(340300.00, 3167700.00)	DC	42.	0.
18.	0.10689	(82122724)	AT	(342000.00, 3174000.00)	DC	43.	0.
19.	0.10515	(82120224)	AT	(340300.00, 3167700.00)	DC	44.	0.
20.	0.10502	(82060424)	AT	(339000.00, 3183400.00)	DC	45.	0.
21.	0.10392	(82110124)	AT	(340300.00, 3165700.00)	DC	46.	0.
22.	0.10348	(82021424)	AT	(340300.00, 3165700.00)	DC	47.	0.
23.	0.10304	(82051324)	AT	(340300.00, 3165700.00)	DC	48.	0.
24.	0.10208	(82122424)	AT	(342400.00, 3180600.00)	DC	49.	0.
25.	0.10166	(82122424)	AT	(342000.00, 3174000.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:59 C:\F-CRUSH\CRU-83C.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.19759	(83030524)	AT (	349000.00, 3176200.00)	DC	26.	0.
2.	0.16680c	(83051024)	AT (	340700.00, 3171900.00)	DC	27.	0.
3.	0.14602	(83022724)	AT (	340300.00, 3167700.00)	DC	28.	0.
4.	0.14156c	(83073024)	AT (	340300.00, 3165700.00)	DC	29.	0.
5.	0.14089	(83102324)	AT (	343700.00, 3178300.00)	DC	30.	0.
6.	0.13876c	(83041424)	AT (	343700.00, 3178300.00)	DC	31.	0.
7.	0.13683	(83030524)	AT (	334000.00, 3183400.00)	DC	32.	0.
8.	0.13584	(83012024)	AT (	340700.00, 3171900.00)	DC	33.	0.
9.	0.12706	(83102324)	AT (	339000.00, 3183400.00)	DC	34.	0.
10.	0.12573	(83102324)	AT (	342400.00, 3180600.00)	DC	35.	0.
11.	0.12008c	(83041424)	AT (	342400.00, 3180600.00)	DC	36.	0.
12.	0.11940c	(83041424)	AT (	339000.00, 3183400.00)	DC	37.	0.
13.	0.11554	(83012024)	AT (	340300.00, 3169800.00)	DC	38.	0.
14.	0.11362	(83050724)	AT (	343000.00, 3176200.00)	DC	39.	0.
15.	0.11290	(83050724)	AT (	342000.00, 3174000.00)	DC	40.	0.
16.	0.11224c	(83062024)	AT (	340300.00, 3169800.00)	DC	41.	0.
17.	0.11173	(83030524)	AT (	336500.00, 3183400.00)	DC	42.	0.
18.	0.10942	(83022724)	AT (	340300.00, 3165700.00)	DC	43.	0.
19	0.10564	(83050724)	AT (	340700.00, 3171900.00)	DC	44.	0.
20.	0.10364	(83022024)	AT (	340300.00, 3167700.00)	DC	45.	0.
21.	0.10092	(83082624)	AT (	342000.00, 3174000.00)	DC	46.	0.
22.	0.09951	(83112024)	AT (	341100.00, 3183400.00)	DC	47.	0.
23.	0.09788	(83051824)	AT (	340300.00, 3167700.00)	DC	48.	0.
24.	0.09647	(83030524)	AT (	331500.00, 3183400.00)	DC	49.	0.
25.	0.09611c	(83091824)	AT (	340300.00, 3165700.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** ISCST2 - VERSION 93109 *** *** FL-CRUSHED NEW KILN AVE-FLOW CHAS 13 R 1 ***

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8

Command Keys: PgUp PgDn F10=exit F1=Help

LIST 457 601 06/08/95 10:59 C:\F-CRUSH\CRU-84C.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.15145	(84021224)	AT (	340300.00, 3167700.00)	DC	26.	0.
2.	0.13267	(84022624)	AT (	343700.00, 3178300.00)	DC	27.	0.
3.	0.13234c	(84072124)	AT (	340300.00, 3165700.00)	DC	28.	0.
4.	0.12938	(84021224)	AT (	340300.00, 3165700.00)	DC	29.	0.
5.	0.12669	(84060924)	AT (	340300.00, 3165700.00)	DC	30.	0.
6.	0.12619	(84031224)	AT (	340300.00, 3165700.00)	DC	31.	0.
7.	0.12581c	(84102824)	AT (	342000.00, 3174000.00)	DC	32.	0.
8.	0.12201	(84061624)	AT (	340300.00, 3165700.00)	DC	33.	0.
9.	0.11248	(84112724)	AT (	343000.00, 3176200.00)	DC	34.	0.
10.	0.11225c	(84052224)	AT (	342000.00, 3174000.00)	DC	35.	0.
11.	0.11045c	(84123124)	AT (	343700.00, 3178300.00)	DC	36.	0.
12.	0.10978c	(84071524)	AT (	340300.00, 3167700.00)	DC	37.	0.
13.	0.10715	(84021124)	AT (	340300.00, 3165700.00)	DC	38.	0.
14.	0.10687c	(84061724)	AT (	340300.00, 3165700.00)	DC	39.	0.
15.	0.10616c	(84123124)	AT (	336500.00, 3183400.00)	DC	40.	0.
16.	0.10528	(84021024)	AT (	340300.00, 3167700.00)	DC	41.	0.
17.	0.10076c	(84081324)	AT (	342000.00, 3174000.00)	DC	42.	0.
18.	0.10001	(84021124)	AT (	340300.00, 3167700.00)	DC	43.	0.
19.	0.09960c	(84061724)	AT (	340300.00, 3167700.00)	DC	44.	0.
20.	0.09895	(84072324)	AT (	340300.00, 3167700.00)	DC	45.	0.
21.	0.09819	(84060724)	AT (	340300.00, 3165700.00)	DC	46.	0.
22.	0.09723	(84122824)	AT (	340300.00, 3167700.00)	DC	47.	0.
23.	0.09723	(84011024)	AT (	342000.00, 3174000.00)	DC	48.	0.
24.	0.09632	(84022624)	AT (	342400.00, 3180600.00)	DC	49.	0.
25.	0.09607	(84030524)	AT (	342400.00, 3180600.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 10:59 C:\F-CRUSH\CRU-85C.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.23360	(85083024)	AT (	343000.00, 3176200.00)	DC	26.	0.
2.	0.16117	(85083024)	AT (	334000.00, 3183400.00)	DC	27.	0.
3.	0.14123	(85072024)	AT (	342000.00, 3174000.00)	DC	28.	0.
4.	0.13346	(85083024)	AT (	331500.00, 3183400.00)	DC	29.	0.
5.	0.11912	(85041324)	AT (	340300.00, 3167700.00)	DC	30.	0.
6.	0.11845	(85041124)	AT (	340300.00, 3165700.00)	DC	31.	0.
7.	0.11819	(85090224)	AT (	340700.00, 3171900.00)	DC	32.	0.
8.	0.11639	(85010124)	AT (	342000.00, 3174000.00)	DC	33.	0.
9.	0.11417	(85102824)	AT (	343000.00, 3176200.00)	DC	34.	0.
10.	0.11142	(85041824)	AT (	340300.00, 3165700.00)	DC	35.	0.
11.	0.11091	(85072724)	AT (	340700.00, 3171900.00)	DC	36.	0.
12.	0.11007	(85083024)	AT (	336500.00, 3183400.00)	DC	37.	0.
13.	0.10759	(85072224)	AT (	340300.00, 3167700.00)	DC	38.	0.
14.	0.10674	(85061524)	AT (	343700.00, 3178300.00)	DC	39.	0.
15.	0.10659	(85083024)	AT (	343700.00, 3178300.00)	DC	40.	0.
16.	0.10435	(85072224)	AT (	340300.00, 3165700.00)	DC	41.	0.
17.	0.10126	(85041124)	AT (	340300.00, 3167700.00)	DC	42.	0.
18.	0.10103c	(85111624)	AT (	340300.00, 3167700.00)	DC	43.	0.
19.	0.09833	(85112524)	AT (	340300.00, 3165700.00)	DC	44.	0.
20.	0.09434	(85072624)	AT (	340300.00, 3165700.00)	DC	45.	0.
21.	0.09267	(85061524)	AT (	342400.00, 3180600.00)	DC	46.	0.
22.	0.09265	(85090324)	AT (	340300.00, 3165700.00)	DC	47.	0.
23.	0.09205	(85102724)	AT (	343700.00, 3178300.00)	DC	48.	0.
24.	0.09148	(85082924)	AT (	340300.00, 3169800.00)	DC	49.	0.
25.	0.09072	(85083024)	AT (	342400.00, 3180600.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

LIST 457 601 06/08/95 11:00 C:\F-CRUSH\CRU-86C.OUT

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION
INCLUDING SOURCE(S): 1 ,

** CONC OF SO2 IN (MICROGRAMS/CUBIC-

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CO
1.	0.13766	(86031324)	AT	(343000.00, 3176200.00)	DC	26.	0.
2.	0.12764	(86031024)	AT	(343000.00, 3176200.00)	DC	27.	0.
3.	0.12316	(86112424)	AT	(343000.00, 3176200.00)	DC	28.	0.
4.	0.12130	(86081224)	AT	(340700.00, 3171900.00)	DC	29.	0.
5.	0.12126	(86031824)	AT	(343000.00, 3176200.00)	DC	30.	0.
6.	0.11859	(86070524)	AT	(340700.00, 3171900.00)	DC	31.	0.
7.	0.10550	(86031324)	AT	(343700.00, 3178300.00)	DC	32.	0.
8.	0.10489c	(86052524)	AT	(342000.00, 3174000.00)	DC	33.	0.
9.	0.10177	(86031324)	AT	(342400.00, 3180600.00)	DC	34.	0.
10.	0.10158c	(86060324)	AT	(340300.00, 3167700.00)	DC	35.	0.
11.	0.10061c	(86121924)	AT	(340700.00, 3171900.00)	DC	36.	0.
12.	0.09986	(86031824)	AT	(343700.00, 3178300.00)	DC	37.	0.
13.	0.09983c	(86120924)	AT	(340700.00, 3171900.00)	DC	38.	0.
14.	0.09953	(86110724)	AT	(340300.00, 3165700.00)	DC	39.	0.
15.	0.09919	(86031824)	AT	(340300.00, 3167700.00)	DC	40.	0.
16.	0.09727	(86081024)	AT	(342000.00, 3174000.00)	DC	41.	0.
17.	0.09682c	(86080824)	AT	(343000.00, 3176200.00)	DC	42.	0.
18.	0.09599c	(86120924)	AT	(340300.00, 3169800.00)	DC	43.	0.
19.	0.09544	(86031324)	AT	(341100.00, 3183400.00)	DC	44.	0.
20.	0.09459c	(86112524)	AT	(343700.00, 3178300.00)	DC	45.	0.
21.	0.09330c	(86112924)	AT	(340300.00, 3169800.00)	DC	46.	0.
22.	0.09307	(86031824)	AT	(336500.00, 3183400.00)	DC	47.	0.
23.	0.09294c	(86061324)	AT	(340300.00, 3167700.00)	DC	48.	0.
24.	0.09171c	(86081424)	AT	(340300.00, 3165700.00)	DC	49.	0.
25.	0.09162	(86031024)	AT	(334000.00, 3183400.00)	DC	50.	0.

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JUN 15 1995

4APT-AEB

RECEIVED

JUN 21 1995

Bureau of
Air Regulation

Mr. Clair H. Fancy, P.E.
Chief
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 (FCSC), Brooksville, Hernando County, Florida (PSD-FL-227)

Dear Mr. Fancy:

This is to acknowledge receipt of an application for a Prevention of Significant Deterioration (PSD) permit for the proposed major modification to the above referenced Portland cement manufacturing facility by your letter dated March 14, 1995. The proposed major modification consists of the addition of a second dry process cement kiln. Capacities of both existing and proposed cement kilns will be identical, 600,000 tons per year (TPY) of cement each. The new kiln will be preheated with fuel oil, fired with coal as the primary fuel, and utilize tires as supplemental fuel. The kiln will utilize a direct-fired pulverized coal and oil burner designed specifically for cement kilns. The maximum utilization rate for tires as supplemental fuel will not exceed fifteen percent of the total heat input to the cement kiln. Both kilns will use the same existing storage and material handling equipment.

As discussed between Ms. Teresa Heron of your staff and Mr. Stan Kukier of my staff on June 7, 1995, we have the following comment.

Emissions calculations for cement kiln sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), and inhalable particulate matter (PM_{10}) emissions should be provided by the applicant. The basis of the calculations, including all references and assumptions, should also be provided by the applicant. The applicant should clarify which criteria pollutant emissions estimates are based on recent stack test results. The stack test results, including detailed background information regarding test methods and when the stack testing was performed, should also be provided. Stack tests are mentioned in Sections 3.3.1, 3.3.4, 3.3.5, and 3.3.6 of the PSD permit application. The applicant should also provide specific

cost effectiveness values for the application of SO_2 and acid gas scrubber technologies mentioned on page 4-13 to Portland cement facilities. Information on page 4-13 of the PSD permit application mentions that scrubber technologies have been shown to be cost prohibitive for Portland cement facilities.

The new FCSC cement kiln will be subject to the requirements of 40 CFR Part 60, Subpart F - Standards of Performance for Portland Cement Plants.

Thank you for the opportunity to review and comment on this application. If you have any questions, please contact Mr. Stan Kukier of my staff at (404) 347-3555, voice mail box extension 4143.

Sincerely yours,

Jewell A. Harper
Chief
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

cc: Teresa
Cleve
J. Kissel
C. Hetrick
NPS
Buck
Tom Mountain

ct
For Permit File

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

RECEIVED
MAY 22 1995
Bureau of
Air Regulation

May 19, 1995

Mr. Clair Fancy
Florida Department of Environmental Protection
111 S. Magnolia, Suite 4
Tallahassee, Florida 32301

Re: Hernando County Planning Department Comments
on Florida Crushed Stone Company PSD Permit Application PSD-FL-227

Dear Mr. Fancy:

RTP Environmental Associates, Inc. (RTP) and the applicant have prepared the following responses to the comments in the April 28, 1995 letter from Lawrence Jennings of the Hernando County Planning Department to Patricia Adams of FDEP. These responses are given below in the numbered order in the Hernando County letter.

(1) PSD review is triggered for a major source if any one pollutant is emitted in quantities above the significant emission rate for that pollutant. PSD reviews were performed previously for both the power plant and the existing cement kiln. The current permit application is also undergoing a PSD review.

(2) The current review of the permit application will consider the use of natural gas. Therefore, no additional permitting will be required beyond the current review. Emissions during use of natural gas, generally a cleaner fuel resulting in lower sulfur and particulate emissions, are expected to easily meet the permit limitations developed for other fuels for all pollutants.

(3) Chemical equation (1) on page 4-17 should read:

(1) $4NO + 4NH_3 + O_2 \rightarrow 4N_2 + 6H_2O$

(4) Tampa International Airport is the closest National Weather Service (NWS) office which measures and records meteorological data continuously on a 24 hour per day, 365 day per year basis. Continuous meteorological data (i.e., 8760 hours per year) are required by the air quality models used in the air permit application to estimate air quality impacts. Meteorological data measured at Tampa Airport are expected to be representative of meteorological conditions which occur at the Florida Crushed Stone facility given the similar locations of the Tampa airport and Hernando County on the central Gulf of Mexico coast of Florida.

The USEPA Guideline on Air Quality Models (Revised) indicates that variability of model estimates (due to different periods of meteorological data) are adequately reduced if a 5-year period of meteorological data are used (p. 9-11). Therefore, five full years of meteorological data are generally required to conduct an air quality impact analysis and no specific 5-year period of meteorological data would be expected to be more representative of worst-case impacts than any other 5-year period. For the subject application, the 1982 through 1986 period was selected for consistency with modeling analyses submitted by other applicants, particularly those which addressed Class I impacts in the nearby Chassahowitzka National Wildlife Refuge.

(5) Ambient air quality for PM_{10}, NO_2, CO, O_3, and lead would likely be better in Hernando County than the values used in the permit application from northern-Pinellas, southern-Pasco county area because of the more rural setting of Hernando County. Air quality impacts for the proposed cement kiln presented in the air permit application are very small, generally below the levels considered by USEPA to be insignificant. Therefore, the ambient air quality standards would still be maintained by a wide margin regardless of the background ambient air quality values selected by the applicant for use in the air permit application.

(6) Under current schedules, the USEPA is expected in June to publish in the Federal Register proposed revisions to the New Source Review regulations which would include significant impact levels (SILs) for Class I areas. FDEP will review the Class I impacts presented in the air permit application for the proposed cement kiln at that time for consistency with the proposed SILs to determine if additional analyses are required. This will not affect the currently expected permitting schedule since FDEP does not expect to make a final determination on the air permit application until late summer. Finally, FDEP has notified the National Park Service (NPS) about this application and has been coordinating the state permit review with the NPS in accordance with PSD requirements.

(7) The applicant proposes using the same blend of 15% on-specification used oil with 85% new fuel oil as currently permitted for the existing cement kiln and has requested similar permit conditions for the proposed kiln. These permit conditions will limit the concentrations of numerous constituents in the used oil, including total halogens, and specify a minimum 140°F flash point to ensure that the used oil is not hazardous waste in accordance with Hernando County Ordinance 90-8.

(8) As noted in the previous response, the applicant has requested permit conditions similar to the existing cement kiln permit which will ensure that the on-specification used oil is not hazardous waste, which includes a PCB limit of 50 ppm. The <2 ppm limit surmised from 40 CFR 761.20(e)(3) restricts the marketing of used oil containing greater than 2 ppm and applies only to hazardous waste facilities. Since the facility is not a hazardous waste facility and only burns used oil from the FCSC Greg Mine and CPL plant, this restriction does not apply to the proposed cement kiln.

If you have any questions or need any additional information, please feel free to contact me at 908-968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

DFE/WEC/wec

cc: T. Mountain; Florida Crushed Stone
L. Curtin, Esq.; Holland & Knight
H. Oven, T. Heron, C. Holladay; FDEP
L. Jennings, Lizanne Garcia; Hernando County Planning Dept.
M. Hober, W. Corbin; RTP
FCS Project File

J. Kussel, SWD
EPA
NPS

RTP ENVIRONMENTAL ASSOCIATES INC.
AIR • WATER • SOLID WASTE CONSULTANTS
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(908) 968-9600

LETTER OF TRANSMITTAL

TO Mr. Clair Fancy
FDEP
111 S. Magnolia, Suite 4
Tallahassee, FL 32301

Date: 05-10-95 Proj. ID: FCS

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover

VIA: ☐ 1st Class Mail ☒ Federal Express ☐ Hand Delivery ☐ Other

THE FOLLOWING ITEMS: a.m. Delivery

Copies	Date	No.	Description
2	05-10-95		Comment Responses to FDEP 04/20/95 Permit Review
1	05-10-95		Copy Same Above for T. Heron

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 Jordan

If enclosures are not as noted, kindly notify us at once.

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May 10, 1995

Mr. Hamilton S. Oven, Jr., P.E.
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Florida Crushed Stone Incompleteness/Insufficiency Review
File No. PSD-FL-227 and PA 82-17

Dear Mr. Fancy:

RTP Environmental Associates, Inc. (RTP) and the applicant have prepared the following responses to the comments in the Department's April 20, 1995 memorandum regarding the Florida Crushed Stone air permit application for the additional cement kiln. These responses are given below in the numbered order in the FDEP memorandum. In addition, responses to the National Park Service's April 19th letter follow the FDEP responses.

(1) The contemporaneous emission changes for the proposed action (addition of a second cement kiln) have been identified in the air permit application. The proposed action is a stand-alone cement kiln which will not affect currently permitted operations for the existing power plant or cement kiln. No de-bottlenecking of plant processes will occur due to the proposed kiln and any changes in actual versus potential emissions for the existing power plant or cement kiln would not be related to the proposed action. Such increases between actual and potential emissions for existing operations are excluded from PSD applicability consideration in 40 CFR 52.21(b)(2)(iii). As stated on page A.34 of the NSR Workshop Manual, "...any increase in the hours or rate of operation of a source, so long as the increase would not be prohibited by any federally-enforceable permit condition..." would not be considered for purposes of PSD applicability.

Further, as stated in the NSR Workbook on page A.40, "an emissions increase or decrease already considered in a source's PSD permit (state or federal) can not be considered a contemporaneous increase or decrease since the increases or decrease was obviously relied upon for the purpose of issuing the permit." As noted above, no changes in permitted emissions for existing operations are required for the proposed action.

(2) Besides the main facility stack, most emissions from the proposed action will be controlled by a number of fabric filter baghouses, which are summarized on Table 3-2 of the air permit application. Roads associated with the facility represent the primary source of "fugitive and unconfined" emissions associated with the proposed action. These emissions were identified and quantified in Section 3.3 of the air permit application. Table 2-1 of the air permit application has been revised to include the minor source and fugitive emissions and is attached.

Roads are washed on a daily basis in order to control excessive dust. Storage piles are not a significant source of dust due to the moisture content of the materials (approximately 10%). The applicant maintains an ambient air TSP monitoring network which is reviewed by FDEP to ensure that it meets PSD requirements. Measurements from this network, summarized in Section 5.0 of the air permit application, show that particulate emissions do not cause ambient concentrations in excess of the ambient air quality standards.

(3) Estimates of potential HAP emissions from the Unit II kiln were derived from primarily two sources: (a) existing test data for FCS Unit I and similar plants and (b) the USEPA "*Emission Factor Documentation for AP-42 Section 11.6 - Portland Cement Manufacturing*". Attached Table A lists the specific HAP compounds and associated worse-case emission values (highest recorded single test emission rate or literature value found regardless of kiln technology, input feed, input fuel other than hazardous waste, or other differentiating factors). Available FCS data are for tests when the power plant was operating with the existing kiln, so the emissions estimates based on FCS data are extremely conservative. Limited data regarding HAP emissions currently exist. These data were compiled at the request of FDEP solely for use in this analysis. Thus, this compilation of worse-case emission values available at this time is preliminary in nature and not of sufficient quality from which to develop permit levels.

As requested, RTP contacted Mr. John Smith at USEPA Region VII to obtain additional HAP data. Mr. Smith could not provide additional data other than from kilns burning hazardous waste. The proposed FCS Unit II kiln will not utilize hazardous waste as fuel. Mr. Smith felt that the data he had available would not be representative of cement kilns not burning hazardous waste. Thus, emissions data from cement plants burning hazardous waste were deemed unrepresentative and were not used.

Attached Table B presents calculated maximum ambient 8-hour, 24-hour, and annual average concentrations for each of the HAPs listed in Table A with FDEP No Threat Levels (NTLs). Impacts are shown for both the increase in facility impacts due to the proposed kiln as well as total facility impacts for two operating kilns (since only cement kiln HAP emissions are available, HAP emissions and impacts due to the existing power plant cannot be assessed). These impacts were calculated by multiplying the unitized impacts from Tables 6-4 and 6-5 of the air permit application by the appropriate cement kiln(s) HAP emission rate in grams per second.

As can be seen from the results, estimated worse-case emissions of HAPs results in impacts less than 9% of the NTLs for all pollutants. For most pollutants, particularly the organic HAPS, impacts are generally less than a fraction of the NTLs. Since the NTLs are designed to be conservative (i.e., protective of the public health), ambient HAP impacts are expected to be minimal.

(4) The applicant currently tests cement kiln dust (CKD) from the existing cement kiln and will continue to do so for the proposed cement kiln. The applicant will comply with CKD regulations as they are promulgated.

We have reviewed the methodology in USEPA's Region VII document cited. It should be noted that this is a Draft document. Over 75 pages of comments have been submitted by State and Federal agencies which will require revisions to the document and the final methodologies. The Region VII document relates to cement kilns which burn hazardous waste and require a multi-pathway health risk assessment for a RCRA Part B permit. The methodology presented is an extremely involved multi-pathway assessment requiring large amounts of site specific input data. Such an effort would cost in excess of $50,000 for the proposed facility. Neither the proposed nor the existing cement kilns burn RCRA hazardous wastes. The proposed facility is a relatively minor source of non-criteria pollutants as compared to a hazardous waste incinerator. In conversations with Mr. John Smith, a RCRA specialist with Region VII, he stated a multi-pathway health risk assessment would not typically be required for a dry process cement kiln not burning hazardous waste. Compliance with ambient air quality standards was demonstrated in the air permit application for criteria pollutant emissions. Non-criteria pollutant impacts were shown in the response to comment 3 to comply with FDEP's NTLs.

(5) Again, the applicant wishes to stress that the existing and proposed cement kilns do not burn hazardous waste. The air quality modeling analyses in the permit application and in the response to comment 3 above clearly show that the facility will continue to comply with all ambient air quality standards and FDEP NTLs promulgated or established to protect the public health and welfare.

(6) The proposed kiln will utilize the existing cement plant 20,000 gallon fuel oil tank. Use of the tank will eventually double when the proposed kiln reaches full operation. There would be no increase in VOC emissions beyond that allowed for in the current permit. Annual fuel oil usage is approximately 105,000 gallons per year for the existing cement kiln. Assuming the same utilization rate for the proposed kiln would result in an increase of 10 to 25 pounds per year of actual VOC emissions due to the proposed kiln. A revised Table 2-1 is attached which includes these VOC emission increases, as well as minor and fugitive emissions, for comparisons to the PSD significant emission limits.

(7) As noted above, the proposed cement kiln is a stand-alone cement kiln which will not affect currently permitted operations for the existing power plant or cement kiln. All

of the proposed emission sources and control devices are new units and will not affect operation of the particulate sources or control devices currently permitted for the existing cement kiln. Attached please find a new Table 3-2 which has been revised to include emission unit and control device equipment numbers shown in the permit application forms, flow diagrams, and plot plan. This table is identical to the one provided at our April 27, 1995 meeting. The flow rates were determined for each baghouse based on engineering design specifications.

(8) Available initial design specifications for each baghouse are attached. Selection of baghouse vendors will depend on competitive bidding based on final facility design criteria. Flows are best available estimates made by the engineering design firm.

(9) As noted in the response to comment 2 above, most particulate emissions will be controlled by a number of fabric filter baghouses, which are summarized on Table 3-2 of the air permit application. Roads associated with the facility represent the primary source of "fugitive and unconfined" emissions associated with the proposed action. These emissions were identified and quantified in Section 3.3 of the air permit application. Roads are washed on a daily basis in order to control excessive dust. Storage piles are not a significant source of dust due to the moisture content of the materials (approximately 10%). There are no cement kiln dust (CKD) storage piles at the facility. All CKD is stored in silos for use at the facility or for sale.

(10) The process group categories for each new emission point are as follows:

PROCESS GROUPS	EMISSION UNIT DESCRIPTION
RAW MILLING	1. Iron Ore Bin 2. Fly Ash Bin 3. Filter Dust Bin 4. Raw Meal Transport 5. Lime Silo Storage 6. Raw Meal Storage & Homogenizing Silos
KILN OPERATIONS	1. Kiln Feed System 2. Kiln Main Stack
FINISH MILLING	1. Gypsum Storage Bin 2. Clinker Transport 3. Belt Conveyor 4. Finish Mill Discharge Vent 5. Finish Mill Sepol Separator

PROCESS GROUPS	EMISSION UNIT DESCRIPTION
CEMENT HANDLING	1. Cement Storage Silo A 2. Cement Storage Silo B 3. Cement Silo Discharge Hopper
COAL HANDLING	1. Coal Transport Conveyor 2. Coal Storage Bin

The order of the emission unit descriptions above follow the order of the minor particulate sources shown on Table 3-2. As noted in the response to comment 7, a revised Table 3-2 is attached which contains the emission unit and control device equipment numbers shown in the permit application forms, flow diagrams, and plot plan.

(11) Startup of the proposed cement kiln will be accomplished with oil or natural gas. Oil or natural gas will first be combusted at low utilization rates. Utilization rates are increased gradually during the startup period to increase the kiln temperature to operating conditions. Cold startups require approximately 24 hours until the kiln is ready for operation. 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 startup periods would 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 startup period, coal and product feed first occurs at reduced rates, ramping up gradually to the final operating conditions.

As described in the next response, the burner incorporates many design features allowing for manual and automatic control of the combustion process. The controls will ensure that the combustion process can be optimized for both normal operations and for startup and shutdown conditions. At no time will the baghouse be bypassed during either startup or shutdown periods. This will help to insure that excess opacity periods do not occur as experienced at a facility in Utah which you mentioned at our meeting.

Shutdown of the kiln occurs by terminating the feed of product and fuel to the kiln. Since no fuel combustion occurs, emissions during shutdown periods would mostly be limited to particulate emissions, which will be controlled by the baghouse. Up to 24 hours are required during the shutdown period to return the kiln to ambient temperatures.

Cold startup and full shutdown periods are limited in frequency, typically less than six per year. As noted above, cement kiln emissions during these periods will be less than emissions during normal operations.

(12) The proposed cement kiln is identical to the existing kiln. This kiln uses a direct-fired burner (described below), which allows for a cooler flame to reduce formation of NO_x. For this burner type, low-NO_x burner technology would not be applicable (burner already minimizes NO_x formation through the use of large amounts of primary combustion air and less intensive flame core). The kiln design is based on a Gepol tower system without a precalciner. Heat from the kiln exhaust gases are used for other parts of the cement kiln process, so no other combustion sources are required for the proposed cement kiln.

The proposed FCS cement kiln differs from cement kilns utilizing an indirect-fired burner with a precalciner. When using indirect-fired burners, an intense high-temperature flame is required to maintain the proper kiln operating temperatures. Low-NO_x burner technology may be applicable to these type burners. Also, a separately fired burner is required for the precalciner in this design.

The kiln utilizes a direct-fired pulverized coal (PC) and oil burner specifically designed for cement kilns. The amount of primary combustion air and the amount of fuel can be independently adjusted to optimize the combustion process. A primary air tube assembly controls the primary air for PC firing while a dual-zone, mechanically atomized oil gun controls oil firing. A steel spinner is provided for better control of the flame and flame length for both PC and oil by adjusting the amount and pressure of spin air. A natural gas and electric pilot assembly is provided for ignition of the startup fuel. The position and firing angle of the burner inside the kiln is controlled by several systems.

A final operational plan will be prepared for the proposed cement kiln at a later date.

(13) The only combustion source for the proposed action is the proposed cement kiln, described in detail in the permit application. The cement kiln will be preheated with fuel oil (or a mixture of fuel oil and used oil -- see response to comment 23), fired with coal as the main fuel, and utilizes tires as supplement fuel. The applicant is requesting permit conditions to allow natural gas, an inherently clean fuel, to also be utilized as a startup fuel or for normal operations. Tires are fed whole or shredded to the kiln as a supplement fuel as discussed in the response to comment 14. "Tire-derived-fuel (TDF)" as referred to in the comment and on page 4-15 of the permit application merely refers to a mixture of tires and coal as allowed for in the permit for the existing cement kiln. Permit limits for emissions and tire utilization rates, discussed in the response to comment 14 below, represent worst-case and demonstrate compliance with applicable regulations. Fuel analyses of commercially available new fuel oil are not necessary to insure compliance with applicable regulations. As discussed in the response to comment 23, quarterly testing of the used on-specification oil is performed for the existing cement kiln. Such testing will continue for the proposed cement kiln.

(14) The only combustion source for the proposed action is the cement kiln, described in detail in the permit application. The cement kiln will be preheated with fuel oil (or a mixture of fuel oil and used oil -- see response to comment 23), fired with coal as the main fuel, and utilizes tires as supplement fuel. The applicant is requesting permit conditions to allow natural gas, an inherently clean fuel, to also be utilized as a startup fuel or for normal operations. Except for the additional use of natural gas, the applicant is requesting permit conditions for the proposed kiln similar to the existing cement kiln. In the existing cement kiln operating permit (AO27-231888A) recently amended on 8/30/94, the specific permit conditions relating to fuel firing are:

> 5. The permitted maximum coal feed input rate to the cement kiln is 10.3 tons per hour.
> 7. The utilization of tires as supplemental fuel shall not exceed 8300 hours per year.
> 8. The maximum utilization rate for tires as supplemental fuel shall not exceed 1.33 tons per hour (approximately 30 MMBtu per hour), or 15.0 percent of the total heat input to the cement kiln.
> 9. Tires used as supplemental fuel shall only be introduced into the cement kiln at the base of the preheater (kiln inlet).
> 10. The cement kiln shall be preheated using new fuel oil and/or a blend of on-specification used oil and new fuel oil with a total sulfur content not to exceed 1.5 percent by weight, and a flash point of 140 Degree F minimum. (Remainder of permit condition 10 contained in the response to comment 23 below.)
> 16. Tires used as supplemental fuel shall not be introduced into the cement kiln until both of the following conditions have been achieved:
> (A) the operating temperature of the cement kiln has reached a minimum temperature of 1400 degrees F, for one hour. The operating temperature shall be measured at the cement kiln inlet.
> (B) the oxygen level in the cement kiln is at least 3 percent (one hour average). The oxygen level shall be measured at the cement plant induced draft fan.

Except for the use of natural gas, the applicant is requesting permit conditions for the proposed cement kiln similar to the existing kiln to define the quantities and types of fuel combusted. Fuel quantities will be based on equivalent BTU quantities to fuels currently permitted for the existing cement kiln.

(15) The kiln uses a direct-fired burner specifically designed for combusting coal, oil, or natural gas in a cement kiln. The amount of primary combustion air and fuel, together with spin air, are adjusted to control the flame, flame length, and combustion conditions. The burner system is already an inherently low-NO_x design as described in the response to comment 12 above.

(16) In the applicants' opinion and as described in Sections 4.3 and 4.4 of the air permit application, fabric filter baghouses (FF) are equivalent to electrostatic precipitators (ESPs) for the control of particulate emissions (although FF may provide slightly better

control of fine particulates and acid gases) and, with ESPs, are the top particulate control technology for cement kilns. Since the top technology was selected for the proposed action, no technical, economic, or environmental analyses (typically required to substantiate a lesser ranked technology) are required in accordance with the 'Top-Down' BACT review methodology (see page B.26 in NSR Workshop Manual).

The following description of SO_2 control for cement kilns is taken from the Final Report -- Emission Factor Documentation for AP-42 Section 11.6 -- Portland Cement Manufacturing (May 18, 1994):

> "Cement kiln systems have highly alkaline internal environments that can absorb up to 95 percent of potential SO_2 emissions. However, in systems that have sulfide sulfur (pyrites) in the kiln feed, the sulfur absorption rate may be as low as 50 percent without unique design considerations or changes in raw materials. The cement kiln system itself has been determined to provide substantial SO_2 control. Fabric filters on cement kilns are also reported to absorb SO_2. Generally, substantial control is not achieved. An absorbing reagent (e.g., CaO) must be present in the filter cake for SO_2 capture to occur. Without the presence of water, which is undesirable in the operation of a fabric filter, $CaCO_3$ is not an absorbing reagent. It has been observed that as much as 50 percent of the SO_2 can be removed from the pyroprocessing system exhaust gases when this gas stream is used in a raw mill for heat recovery and drying. In this case, moisture and calcium carbonate are simultaneously present for sufficient time to accomplish the chemical reaction with SO_2."

According to the 1992 AWMA Air Pollution Engineering Manual (1992), the cement kiln system itself has been determined to be BACT for SO_2 emissions.

Organic HAP emissions are expected to be very low due to the extremely high temperatures attained in the cement kiln and the long residence times of the materials in the kiln. The kiln materials are heated to more than 2700°F as required for the pyroprocessing of the kiln materials. The material transit time in the rotary kiln is typically measured in hours. These properties explain why cement kilns are sometimes utilized to incinerate many types of hazardous wastes. Rotary kiln incinerators similar to cement kilns are considered the most versatile and most durable of the hazardous waste incinerator technologies. Inorganic (metallic or mineral) HAPs would be limited to those materials found in the fuel or the material feed. Much of these materials will be bound into the clinker product during the pyroprocessing. Most HAPs escaping in the exhaust gases would be expected to be found in the particulate fraction, which will be controlled by the fabric filter baghouse.

A discussion of startup emissions of particulate matter and visible emissions is contained above in the response to comment 11. As noted in the response, the baghouse will not be bypassed during startup, and represents top-down BACT for this

application. No significant difference in HAP or SO_2 emissions are expected from use of an ESP versus a baghouse .

(17) Due to the variability in SO_2 control efficiencies by the cement kiln process as described in the previous response, no significant changes in SO_2 emissions would be expected due to the use of cleaner fuels (i.e., natural gas or No. 2 fuel oil at 0.05% sulfur).

As reported in the AWMA Air Pollution Engineering Manual (1992), a 1982 survey showed that the average SO_2 and NO_x emissions for approximately 50 kilns were 8.41 and 4.62 lbs per ton of clinker, respectively. The standard deviation of the survey for each constituent was nearly equal to the mean value and the frequency distribution revealed a wide range of values. It is impossible, therefore, to characterize the industry for gaseous emissions of SO_2 and NO_x with a single number or narrow numerical range. Each individual pyroprocessing system has its own emissions characteristics. Extensive continuous testing of a few cement plants has shown that SO_2 and NO_x emissions from a single source will vary with time over a rather large range for a variety of reasons (e.g., 70-700 lb/hr of SO_2). Short-term tests, such as USEPA Methods 6 and 7, can lead to very erroneous conclusions regarding SO_2 and NO_x emissions since these methods represent nearly instantaneous process conditions.

The Florida Mining and Materials (FMM) Southdown permitted NO_x emission rate of 250 lbs/hr (3.14 lb/ton of clinker) is for a 30-day average. The PSD permit application for this NO_x increase showed that CEM data collected over a period of about 30 days indicated NO_x emissions varying between 138 and 730 ppdmv at 7% O_2, corresponding to between 84 and 445 lbs/hour. Given this large variation in measured emissions and the 30-day averaging time in the FMM permit limit, the proposed FCS NO_x emission limit of 359 lbs/hour (4.33 lbs/ton of clinker) based on USEPA stack test methodologies is roughly comparable to the FMM limit and perhaps even more restrictive.

The Ash Grove facility is a wet process kiln co-fired with waste solvents and thinners as well as coal. Apparently, the plant cannot operate on coal only and must mix fuels to operate. We cannot comment on the representativeness of the Ash Grove emission limits as compared to the proposed facility given the differences in the kilns and fuels.

(18) As described in previous responses, the most stringent available control technologies have been selected for all pollutants. Since the top technology was selected for all pollutants, no technical, economic, or environmental analyses (typically required to substantiate a lesser ranked technology) are required in accordance with the 'Top-Down' BACT review methodology (see page B.26 in NSR Workshop Manual).

(19) Four original signed and sealed copies of page 7 of DEP Form No. 62-210.900(1) were supplied with the air permit application. Since the seal is a raised embossed type, it may not have been visible on xeroxed copies.

(20) Questions 4 and 5 on page 22 of the application form were answered.

(21) Pages 28, 30, 32, and 34 of application form No. 62-210.900(1) have been revised and are attached.

(22) The coal processing yard is permitted by the FDEP (AO27-167363) to operate continuously in compliance with NSPS standards (40 CFR 60 Subpart Y). The coal processing yard consists of a 5 acre clay-lined storage yard, coal shaker screen, and conveyor system. On a daily basis, 1,400 to 1,600 tons of coal are processed with approximately 1,300 to 1,400 being consumed by the power plant.

For 40 CFR 60 Subpart OOO, Section 60.670(b) excludes portland cement plants subject to Subpart F (like the proposed cement kiln) for applicability to this subpart.

(23) The applicant is requesting permit conditions for the proposed kiln similar to the existing cement kiln. In the existing cement kiln operating permit (AO27-231888A) recently amended on 8/30/94, the specific permit conditions to ensure compliance with Hernando County Ordinance 90-8 (which were reviewed and approved by Hernando County Planning Department) are as follows:

10. The cement kiln shall be preheated using new fuel oil and/or a blend of on-specification used oil and new fuel oil with a total sulfur content not to exceed 1.5 percent by weight, and a flash point of 140 Degree F minimum. The constituents of the on-specification used oil shall not exceed the following associated allowable concentrations, 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	Allowable Concentration
Cadmium	2 ppm maximum
Arsenic	5 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Polychlorinated Byphenyls (PCB's)	less than 50 ppm

11. The on-specification used oil, to be blended with the new fuel oil in the cement kiln's storage tank, shall be obtained only from the used oil storage tanks located at the FCSC's Greg Mine and CPL Plant.

12. The maximum on-specification used oil concentration, in the final blend of on-specification used oil and new fuel oil, shall not exceed 15 percent, by volume.

13. The on-specification used oil to be blended and subsequently used for preheating the cement kiln 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), and shall not include fuels or blended fuels consisting in whole or part of hazardous waste or which include mixtures of any solid waste. The on-specification used oil shall be burned in compliance with Section 403.769(3), Florida Statutes.
14. The used oil sample shall be taken directly from the used oil mobile collection tank after final collection and prior to the time of initial transfer to the blend tank. The sampling frequency shall be at least quarterly.

NOTE: This sampling method was selected by the FCSC and has been approved by the Department of Environmental Protection, Southwest District and the Hernando County Planning Department.

15. The used oil sample from Specific Condition No. 14 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	-

Again, the applicant is requesting permit conditions for the proposed cement kiln similar to the existing kiln which will ensure compliance with the Hernando County Ordinance 90-8.

(24) Responses to the National Park Service letter are given below.

(25) As described in the response to comment 1 above, the proposed cement kiln is a stand-alone plant which will not affect currently permitted operations for the existing power plant or cement kiln. Additionally, the proposed megawatt increase for the power plant would only be for periods when the cement kilns are not operating. Thus, the power plant changes would not affect air quality impacts modeled and presented in the air permit application for the proposed cement kiln. Separate modeling analyses were prepared by Koogler and Associates for the power plant megawatt increase.

(26) As discussed at the April 27, 1995 meeting with FDEP, the three largest minor PM sources were modeled. These three minor PM sources, located about 850 meters from the nearest property boundary, account for over 78% of total minor source particulate

emissions. Source 2G-12 is located on top of the two Raw Mill storage silos, which are 210 feet high and 36 feet in diameter. Sources 2N-13 and 2N-20 are located on top of the Finish Mill, which is about 115 feet high, 130 feet long, and 40 feet wide. Modeling was performed first with SCREEN2 to determine worst-case centerline concentrations at the nearest property boundary to five kilometers. The source characteristics input to SCREEN2 are as follows:

Source:	--------2G-12--------		--------2N-13--------		--------2N-20--------	
Height:	219 ft	66.75 m	123 ft	37.49 m	123 ft	37.49 m
Diameter:	3.29 ft	1.003 m	5.05 ft	1.538 m	8.52 ft	2.597 m
Temp:	180°F	355.4 K	200°F	366.5 K	160°F	344.3 K
Flowrate:	17,000 ACFM		40,000 ACFM		115,000 ACFM	
Exit Vel:		10.16 m/s		10.16 m/s		10.16 m/s
Emission:	1.5 lb/hr	0.189 g/s	3.43 lb/hr	0.432 g/s	9.86 lb/hr	1.242 g/s
Bld Dims:	210 ft H	64.01 m	115 ft H	35.05 m	115 ft H	35.05 m
	72 ft L	21.95 m	130 ft L	39.62 m	130 ft L	39.62 m
	36 ft W	10.97 m	40 ft W	12.19 m	40 ft W	12.19 m

Other SCREEN2 inputs were an ambient temperature of 293 Kelvins, full SCREEN2 meteorology dataset, and rural dispersion conditions. Only simple terrain impacts were considered and no terrain or flagpole heights were input. Maximum 1-hour SCREEN2 impacts occurred near the property fenceline (no cavity wakes reached the property fenceline) and were 2.235, 20.28, and 33.32 ug/m^3 for sources 2G-12, 2N-13, and 2N-20, respectively. Multiplying by a 24-hour averaging time ratio of 0.4 gives respective maximum 24-hour PM impacts of 0.894, 8.11, and 13.33 ug/m^3. The impacts for the two larger sources are greater than the 24-hour TSP and PM_{10} significant impact levels (SILs) of 5.0 ug/m^3. Therefore, additional refined modeling analyses were performed with ISCST2 using the full five years of meteorological data and the modeling methodology for the refined modeling analyses presented in the air permit application. Table C gives the maximum combined PM impacts for all five years of meteorology for the three minor PM sources. As can be seen, annual PM impacts are all less than the SIL of 1 ug/m^3. Impacts for 24-hour averaging times exceeded the SIL of 5 ug/m^3 primarily in the property fenceline grid. A review of the ISCST2 outputs shows that only those receptors along the nearest east fenceline exceeded the SIL (about 22 out of the 422 fenceline receptors modeled). Only one radial grid receptor (1000 meters at 90° -- just beyond the east fenceline) exceed the 24-hour SIL.

In order to determine the extent of significant 24-hour PM impacts, the fine grid receptors (out to 3 kilometers) shown as Attachment 4 to the April 12, 1995 letter to Cleve Holladay were modeled with ISCST2 and all five years of meteorological data. These maximum impacts are included on Table C. Figure A shows those receptors with 24-hour PM impacts greater than the 5 ug/m^3 SIL. As can be seen, the area of significant impacts is quite small, approximately one-third of a square kilometer immediately outside the property fenceline.

The maximum 24-hour PM impact from the three modeled minor PM sources is 8.36 ug/m^3, predicted to occur at the property fenceline. This maximum minor source impact is less than the TSP and PM_{10} Class II increments of 37 and 30 ug/m^3, respectively. This area of significant minor source PM impacts is very close to one of the two TSP monitoring sites (1740-005) maintained by the applicant as shown on Figure A. Adding the maximum second-highest background TSP concentration measured at this monitoring site of 67 ug/m^3 (see Table 5-3 of the air permit application) to the maximum second-highest 24-hour impact of 6.68 ug/m^3 (in the fine grid) gives a maximum 24-hour total concentration of 74 ug/m^3, which is considerably less than the TSP and PM_{10} AAQS of 150 ug/m^3.

Therefore, compliance with AAQS and Class II increments are indicated for the minor PM sources. As shown on Figure A, the TSP monitoring site is close to the significant impact area. Since this monitoring site has and will continue to measure impacts from existing sources, including the various FCS operations, multisource modeling analyses should not be required to demonstrate compliance with AAQS.

Responses to the National Park Service (NPS) comments in their April 19, 1995 letter are given below.

Second Paragraph -- As noted in previous responses to FDEP comments (Responses 1, 7, and 25), the proposed cement kiln is independent of other FCS sources and, as such, constitutes a separate PSD action from the current power plant modification and existing emissions.

Third Paragraph -- Table 7 in the information submitted on March 21, 1995 contains a listing of maximum facility impacts (for both two cement kilns and two cement kilns plus power plant) on Class I areas for the criteria pollutants with increments (i.e., SO_2, NO_2, and PM)."

Third Paragraph -- As shown on Table 6-8 of the permit application, the proposed modification will result in increases in facility impacts less than the significant impact levels proposed by USEPA in their preproposal draft revisions to the NSR regulations. In addition, we believe that only increases in facility impacts due to the proposed action (rather than total facility impacts) are applicable when considering modeling requirements. Therefore, we do not believe that multisource modeling analyses are appropriate for the proposed action.

Fourth Paragraph -- Annual Class I impacts due to the proposed modification for Pb, Be, and Hg emissions were calculated from Tables 6-4 and 6-5 of the air permit application for two operating cement kilns. Maximum increases in annual Class I impacts due to the proposed kiln are 2.31×10^{-6}, 5.20×10^{-7}, 1.73×10^{-8}, and 2.95×10^{-4} ug/m^3 for Pb, Hg, Be, and H_2SO_4, respectively. Maximum annual Class I impacts for two operating kilns are 6.47×10^{-6}, 1.46×10^{-6}, 4.85×10^{-8}, and 8.25×10^{-4} ug/m^3 for Pb, Hg, Be, and H_2SO_4, respectively. Concerning AQRVs, see the response to the eighth paragraph below.

Fifth Paragraph -- The VISCREEN analysis was redone with the more conservative assumptions requested by the NPS. Emissions of H_2SO_4 were considered as primary sulfate emissions for the cement kilns (0.146 g/s per kiln). Power plant sulfate emissions were assumed to be equal to 1.4% of the SO_2 emission rate (1.289 g/s) based on Table 1.1-1, footnote b, of AP-42 Supplement F. A background visual range (BVR) of 65 kilometers (km) was used, representing the 90th percentile annual visual range, rather than the 25 km default BVR given in Figure 9 of the visibility workbook. Finally, wind speeds measured at the Tampa Airport (height of 22 feet) were considered to be representative of wind speeds at stack top (height of 320 foot) for computing the joint frequency distribution.

Based on these revisions, a revised Table 7-2 from the air permit application is attached. This table shows that values of both ΔE and contrast exceed the critical values for a larger number of periods. Maximum absolute values for all meteorological conditions analyzed occur for sky backgrounds with the sun in front the observer for ΔE and the sun behind the observer for contrast values. Based on ΔE values, existing emissions could result in a visible plume about 5.5% of the time while facility emissions after the proposed modification could result in a visible plume about 5.9% of the time. Based on contrast values, existing emissions could result in a visible plume about 3.3% of the time while facility emissions after the proposed modification would result in a visible plume about 2.5% of the time. It should be noted that the periods with significant contrast values is a subset of the significant ΔE periods. Based on the difference of 0.4% from the ΔE values or 0.7% from the contrast values, the proposed modification might result in a plume being visible inside the Class I area one to three days per year more frequently than under current conditions. This value is less than the 1% value suggested in the visibility workbook as a worst-case percentile value and about the same as calculated previously in the air permit application.

A diskette containing the input and output files for the revised VISCREEN analyses have been sent to Mr. Cleve Holladay of your staff. A diskette has also been sent to the NPS for their review.

Sixth Paragraph -- All modeling input and output files were supplied to FDEP on 3.5" diskette with the March 21, 1995 submittal, as well as a hard-copy of all modeling outputs. At the request of Mr. Holladay, copies of these diskettes were sent by RTP directly to the NPS on April 28, 1995.

Eighth Paragraph -- AQRV analyses were presented in Section 7.0 of the air permit application. As noted in the comment given as the NPS fifth paragraph, Class I visibility analyses were specifically addressed. Soils and vegetation impacts for the project vicinity were addressed in Section 7.3. Since increases in facility impacts in the Class I area would be considerably less than impacts in the project vicinity, no significant impacts on Class I soils and vegetation or other AQRVs would be expected.

If you have any questions or need any additional information, please feel free to contact me at 908-968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

DFE/WEC/wec

Attachments

cc: T. Mountain, Florida Crushed Stone
L. Curtin, Holland & Knight
C. Fancy (two copies), T. Heron, C. Holladay
S. Kukier, USEPA Region IV
J. Bunyak, NPS
M. Hober, W. Corbin, M. Lewis, RTP
FCS Project File

TABLE A

HAP EMISSION FACTORS
For Volatile Organic Compounds

#	COMPOUND	EMISSION FACTOR (lbs/ton Clinker)	SOURCE[a]
1.	Benzene	1.9×10^{-2}	(1)
2.	Biphenyl	7.8×10^{-6}	(1)
3.	Carbon disulfide	2.5×10^{-3}	(2)
4.	Chlorobenzene	3.9×10^{-4}	(2)
5.	Ethylbenzene	1.8×10^{-4}	(2)
6.	2-Ethyl hexyl phthalate	2.1×10^{-4}	(1)
7.	Formaldehyde	5.4×10^{-4}	(1)
8.	Hexane	5.7×10^{-5}	(3)
9.	Hydrogen chloride[b]	1.4×10^{-1}	(1)
10.	Methyl chloride	3.6×10^{-4}	(2)
11.	Methylene chloride	7.8×10^{-4}	(1)
12.	Methyl ethyl ketone	3.0×10^{-5}	(1)
13.	Naphthalene	3.9×10^{-3}	(1)
14.	Phenol	1.1×10^{-4}	(1)
15.	Styrene	5.2×10^{-4}	(2)
16.	2,3,7,8-TCDD[c]	6.5×10^{-10}	(2)
17.	Toluene	2.4×10^{-3}	(2)
18.	Trichloroethane	4.3×10^{-6}	(1)
19.	Xylenes	6.9×10^{-4}	(2)

[a](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.
[b]HCl is not a Volatile Organic Compound.
[c]Total penta through octa dioxin and furan emissions as 2,3,7,8-TCDD equivalents.

TABLE A (Concluded)

HAP EMISSION FACTORS
For Metals

#	COMPOUND	EMISSION FACTOR (lbs/ton clinker)	SOURCE[a]
1.	Arsenic	4.8×10^{-5}	(1)
2.	Beryllium	9.9×10^{-7}	(2)
3.	Cadmium	6.0×10^{-5}	(1)
4.	Chromium	2.5×10^{-4}	(2)
5.	Cobalt	6.0×10^{-5}	(1)
6.	Lead	1.6×10^{-3}	(1)
7.	Manganese	1.1×10^{-3}	(2)
8.	Mercury	4.8×10^{-4}	(1)
9.	Nickel	2.4×10^{-4}	(1)
10.	Selenium	2.6×10^{-4}	(2)

[a](1) Emissions 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.

TABLE B
HAP IMPACTS COMPARED TO NO THREAT LEVELS

Pollutant/ Avg.Time	Facility Increase Due to Proposed Kiln (ug/m^3)	Total Facility Impact With Proposed Kiln (ug/m^3)	NTL (ug/m^3)	---Percent of NTLs---- Facility Increase	Total Facility
Benzene					
8-HR	0.04755	0.14169	30	0.16%	0.47%
24-HR	0.02113	0.05051	7.2	0.29%	0.70%
ANNUAL	0.00150	0.00519	1.2E-01	1.25%	4.33%
Biphenyl					
8-HR	0.00002	0.00006	13	<0.005%	<0.005%
24-HR	0.00001	0.00002	3.12	<0.005%	<0.005%
Carbon disulfide					
8-HR	0.00626	0.01864	310	<0.005%	0.01%
24-HR	0.00278	0.00665	74.4	<0.005%	0.01%
ANNUAL	0.00020	0.00068	2.0E+02	<0.005%	<0.005%
Chlorobenzene					
8-HR	0.00098	0.00291	3450	<0.005%	<0.005%
24-HR	0.00043	0.00104	828	<0.005%	<0.005%
Ethylbenzene					
8-HR	0.000450	0.001342	4340	<0.005%	<0.005%
24-HR	0.000200	0.000479	1041.6	<0.005%	<0.005%
ANNUAL	0.000014	0.000049	1.0E+03	<0.005%	<0.005%
Formaldehyde					
8-HR	0.00135	0.00403	12	0.01%	0.03%
24-HR	0.00060	0.00144	2.88	0.02%	0.05%
ANNUAL	0.00004	0.00015	7.7E-02	0.05%	0.19%
Hexane[a]					
8-HR	0.000143	0.000425	1760	<0.005%	<0.005%
24-HR	0.000063	0.000152	422.4	<0.005%	<0.005%
ANNUAL	0.000004	0.000016	2.0E+02	<0.005%	<0.005%

[a]All Hexane emissions assumed to be n-Hexane for comparison to NTLs.

TABLE B (Continued)
HAP IMPACTS COMPARED TO NO THREAT LEVELS

Pollutant/ Avg.Time	Facility Increase (ug/m^3)	Total Facility Impact (ug/m^3)	NTL (ug/m^3)	---Percent of NTLs---- Facility Increase	Total Facility
Hydrogen chloride					
8-HR	0.35036	1.04401	75	0.47%	1.39%
24-HR	0.15571	0.37218	18	0.87%	2.07%
ANNUAL	0.01104	0.03827	7.0E+00	0.16%	0.55%
Methyl chloride					
8-HR	0.00090	0.00268	1030	<0.005%	<0.005%
24-HR	0.00040	0.00096	247.2	<0.005%	<0.005%
Methylene chloride					
8-HR	0.00195	0.00582	1740	<0.005%	<0.005%
24-HR	0.00087	0.00207	417.6	<0.005%	<0.005%
ANNUAL	0.00006	0.00021	2.1E+00	<0.005%	0.01%
Methyl ethyl ketone					
8-HR	0.000075	0.000224	5900	<0.005%	<0.005%
24-HR	0.000033	0.000080	1416	<0.005%	<0.005%
ANNUAL	0.000002	0.000008	8.0E+01	<0.005%	<0.005%
Napthalene					
8-HR	0.00976	0.02908	520	<0.005%	0.01%
24-HR	0.00434	0.01037	124.8	<0.005%	0.01%
Phenol					
8-HR	0.000275	0.000820	190	<0.005%	<0.005%
24-HR	0.000122	0.000292	45.6	<0.005%	<0.005%
ANNUAL	0.000009	0.000030	3.0E+01	<0.005%	<0.005%
Styrene					
8-HR	0.00130	0.00388	2130	<0.005%	<0.005%
24-HR	0.00058	0.00138	511.2	<0.005%	<0.005%
2,3,7,8-TCDD (Dioxin)					
ANNUAL	5.13E-11	1.78E-10	2.2E-08	0.23%	0.81%

TABLE B (Continued)
HAP IMPACTS COMPARED TO NO THREAT LEVELS

Pollutant/ Avg.Time	Facility Increase (ug/m^3)	Total Facility Impact (ug/m^3)	NTL (ug/m^3)	---Percent of NTLs---- Facility Increase	Total Facility
Toluene					
8-HR	0.00601	0.01790	3770	<0.005%	<0.005%
24-HR	0.00267	0.00638	898	<0.005%	<0.005%
ANNUAL	0.00019	0.00066	3.0E+02	<0.005%	<0.005%
Trichloroethylene					
8-HR	0.000011	0.000032	2690	<0.005%	<0.005%
24-HR	0.000005	0.000011	645.6	<0.005%	<0.005%
Xylenes					
8-HR	0.00173	0.00515	4340	<0.005%	<0.005%
24-HR	0.00077	0.00183	1041.6	<0.005%	<0.005%
ANNUAL	0.00005	0.00019	8.0E+01	<0.005%	<0.005%
Arsenic (As)					
8-HR	0.000120	0.000358	2	0.01%	0.02%
24-HR	0.000053	0.000128	0.48	0.01%	0.03%
ANNUAL	0.000004	0.000013	2.3E-04	1.74%	5.65%
Beryllium (Be)					
8-HR	0.0000025	0.0000074	0.02	0.01%	0.04%
24-HR	0.0000011	0.0000026	0.0048	0.02%	0.05%
ANNUAL	0.0000001	0.0000003	4.2E-04	0.02%	0.07%
Cadmium (Cd)					
8-HR	0.000150	0.000447	0.5	0.03%	0.09%
24-HR	0.000067	0.000160	0.12	0.06%	0.13%
ANNUAL	0.000005	0.000016	5.6E-04	0.89%	2.86%
Chromium (Cr)					
8-HR	0.00063	0.00186	5	0.01%	0.04%
24-HR	0.00028	0.00066	1.2	0.02%	0.06%
ANNUAL	0.00002	0.00007	8.3E-04[a]	2.41%	8.43%

[a]Calculated from hexavalent chromium annual HAP based on the standard assumption that 10% of the total chromium emitted is in hexavalent form.

TABLE B (Concluded)
HAP IMPACTS COMPARED TO NO THREAT LEVELS

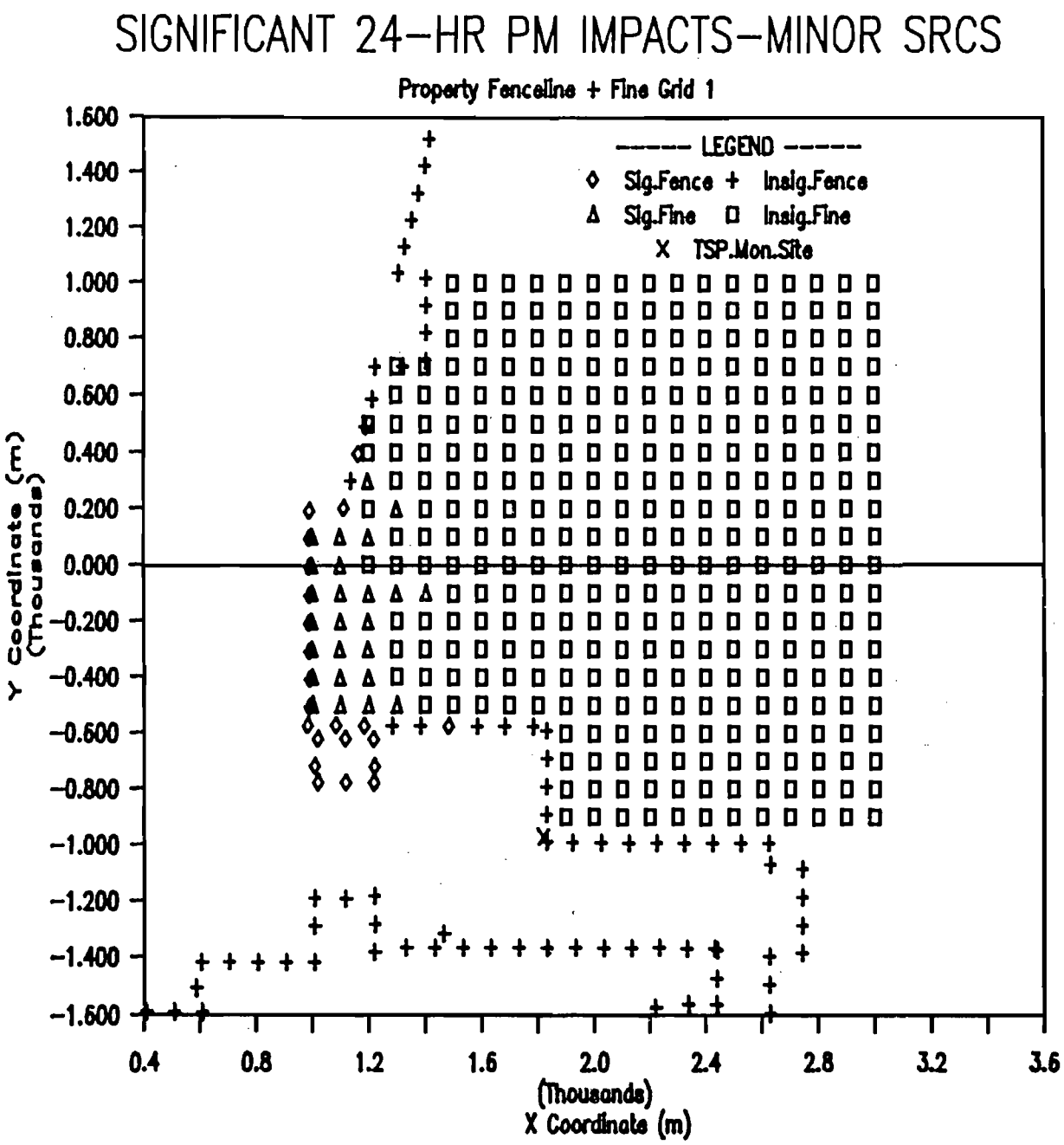
Pollutant/ Avg.Time	Facility Increase (ug/m^3)	Total Facility Impact (ug/m^3)	NTL (ug/m^3)	---Percent of NTLs---- Facility Increase	Total Facility
Cobalt (Co)					
8-HR	0.00015	0.00045	0.5	0.03%	0.09%
24-HR	0.00007	0.00016	0.12	0.06%	0.13%
Lead (Pb)					
8-HR	0.00400	0.01193	0.5	0.80%	2.39%
24-HR	0.00178	0.00425	0.12	1.48%	3.54%
ANNUAL	0.00013	0.00044	9.0E-02	0.14%	0.49%
Manganese (Mn)					
8-HR	0.00275	0.00820	50	0.01%	0.02%
24-HR	0.00122	0.00292	12	0.01%	0.02%
ANNUAL	0.00009	0.00030	4.0E-01	0.02%	0.07%
Mercury (Hg)					
8-HR	0.00120	0.00358	0.1	1.20%	3.58%
24-HR	0.00053	0.00128	0.024	2.21%	5.33%
ANNUAL	0.00004	0.00013	3.0E-01	0.01%	0.04%
Nickel (Ni)					
8-HR	0.00060	0.00179	1	0.06%	0.18%
24-HR	0.00027	0.00064	0.24	0.11%	0.27%
ANNUAL	0.00002	0.00007	4.2E-03	0.48%	1.67%
Selenium (Se)					
8-HR	0.00065	0.00194	2	0.03%	0.10%
24-HR	0.00029	0.00069	0.48	0.06%	0.14%

TABLE C
MINOR SOURCE PARTICULATE IMPACTS

	Fenceline Rec Grid		Radial Receptor Grid		Fine Receptor Grid	
	Impact	Location	Impact	Location	Impact	Location
Year/Avg.Time	(ug/m^3)	X,Y(m)	(ug/m^3)	X,Y(m)	(ug/m^3)	X,Y(m)
82 Annual	0.42522	991, -307	0.38987	1000, 0	0.41932	1000,-300
24-Hour Max	6.19627	991, -107	4.86525	1000, 0	5.94182	1000,-100
24-Hour H2H	5.47358	991, -507	3.54241	1000, 0	5.53024	1000,-500
83 Annual	0.46680	991, -307	0.41378	1000, 0	0.46513	1000,-300
24-Hour Max	6.80201	985, -574	4.94602	1000, 0	6.68231	1000,-400
24-Hour H2H	5.37118	1020, -621	4.41248	1000, 0	4.85226	1000,-300
84 Annual	0.55561	991, -207	0.42057	1000, 0	0.54816	1000,-200
24-Hour Max	7.08755	1020, -779	4.50820	1000, 0	6.69893	1000,-200
24-Hour H2H	6.59860	991, -207	4.34662	1000, 0	6.68680	1000,-200
85 Annual	0.57819	991, -207	0.50738	1000, 0	0.56864	1000,-200
24-Hour Max	8.36054	1020, -621	6.53240	1000, 0	6.60654	1000, 100
24-Hour H2H	6.12899	991, -7	6.03319	1000, 0	6.03319	1000, 0
86 Annual	0.66725	991, -207	0.57579	1000, 0	0.65826	1000,-200
24-Hour Max	7.21513	991, -507	6.54482	1000, 0	6.74158	1000,-500
24-Hour H2H	5.92100	991, 93	4.76763	1000, 0	5.69617	1000, 100

Maximum impacts from all grids are underlined.

FIGURE A


SIGNIFICANT 24-HR PM IMPACTS-MINOR SRCS
Property Fenceline + Fine Grid 1
----- LEGEND -----
◊ Sig.Fence + Insig.Fence
Δ Sig.Fine □ Insig.Fine
X TSP.Mon.Site
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
-0.200
-0.400
-0.600
-0.800
-1.000
-1.200
-1.400
-1.600
Y Coordinate (m)
(Thousands)
0.4
0.8
1.2
1.6
2.0
2.4
2.8
3.2
3.6
(Thousands)
X Coordinate (m)

ADDITIONAL ATTACHMENTS

REVISED TABLES AND TEXT
FOR AIR PERMIT APPLICATION

TABLE 2-1
PSD POLLUTANT APPLICABILITY[a]

POLLUTANT	POTENTIAL INCREASE IN FACILITY EMISSIONS (tons/year)	PSD SIGNIFICANT EMISSION RATES (tons)	SUBJECT TO PSD REVIEW
SO_2	198.5	40	YES
NO_x	1581.2	40	YES
CO	569.4	100	YES
TSP	300.9	25	YES
PM_{10}	300.9	15	YES
O_3 (VOC emissions)	31.21	40	NO
Pb	0.04	0.6	NO
Hg	0.009	0.1	NO
Be	0.0003	0.0004	NO
H_2SO_4	5.1	7	NO

[a]Revised to include fugitive emissions and emissions from minor particulate sources.

TABLE 7-2
LEVEL-2 VISIBILITY SCREENING ANALYSES

Stab Class	WS Class (m/s)	Avg. WS (m/s)	$u\sigma_y\sigma_z$ (m^3/s)	Transport Time (hrs)	Freq.	Cumul Freq.	VISCREEN RESULTS -Power+2 Kilns- ΔE	-Power+2 Kilns- Contrast	-Power+1 Kiln- ΔE	-Power+1 Kiln- Contrast
F	1-2	1.5	4.51E+04	3.7	0.50%	0.50%	22.893*	-.160*	19.233*	-.126*
F	2-3	2.5	7.52E+04	2.2	1.51%	2.01%	16.175*	-.108*	13.204*	-.085*
F	3-4	3.5	1.05E+05	1.6	0.44%	2.45%	12.521*	-.082*	10.069*	-.063*
E	1-2	1.5	1.23E+05	3.7	0.09%	2.54%	15.128*	-.100*	12.286*	-.079*
F	4-5	4.5	1.35E+05	1.2	0.00%	2.54%	10.206*	-.065*	8.122*	-.049
E	2-3	2.5	2.05E+05	2.2	0.69%	3.23%	10.077*	-.064*	8.014*	-.049
E	3-4	3.5	2.87E+05	1.6	0.63%	3.86%	7.539*	-.046	5.934*	-.035
D	1-2	1.5	3.02E+05	3.7	0.05%	3.91%	8.999*	-.056*	7.125*	-.043
E	4-5	4.5	3.69E+05	1.2	0.41%	4.32%	6.017*	-.036	4.708*	-.028
E	5-6	5.5	4.51E+05	1.0	0.13%	4.45%	5.005*	-.030	3.901*	-.023
D	2-3	2.5	5.03E+05	2.2	0.43%	4.88%	5.715*	-.035	4.467*	-.026
E	7-8	7.5	6.15E+05	0.7	0.00%	4.88%	3.743*	-.022	2.905*	-.017
D	3-4	3.5	7.04E+05	1.6	0.59%	5.47%	4.183*	-.025	3.251*	-.019
D	4-5	4.5	9.05E+05	1.2	0.46%	5.93%	3.298*	-.020	2.555	-.015
D	5-6	5.5	1.11E+06	1.0	0.35%	6.28%	2.722	-.016	2.105	-.012
D	6-7	6.5	1.31E+06	0.9	0.26%	6.54%	2.317	-.014	1.789	-.010
D	7-8	7.5	1.51E+06	0.7	0.07%	6.61%	2.017	-.012	1.556	-.009
D	8-9	8.5	1.71E+06	0.7	0.01%	6.62%	1.785	-.010	1.376	-.008
D	9-10	9.5	1.91E+06	0.6	0.00%	6.62%	1.602	-.009	1.234	-.007
D	>10	10.5	2.11E+06	0.5	0.01%	6.63%	1.452	-.008	1.118	-.006
C	1-2	1.5	2.15E+06	3.7	0.03%	6.66%	1.928	-.011	1.487	-.008
C	2-3	2.5	3.59E+06	2.2	0.14%	6.80%	1.170	-.007	0.900	-.005
C	3-4	3.5	5.02E+06	1.6	0.28%	7.08%	0.839	-.005	0.645	-.004
C	4-5	4.5	6.46E+06	1.2	0.41%	7.49%	0.655	-.004	0.503	-.003
C	5-6	5.5	7.89E+06	1.0	0.20%	7.69%	N/C	N/C	N/C	N/C
C	6-7	6.5	9.33E+06	0.9	0.02%	7.71%	N/C	N/C	N/C	N/C
B	1-2	1.5	9.36E+06	3.7	0.02%	7.73%	N/C	N/C	N/C	N/C
C	7-8	7.5	1.08E+07	0.7	0.01%	7.74%	N/C	N/C	N/C	N/C
B	2-3	2.5	1.56E+07	2.2	0.13%	7.87%	N/C	N/C	N/C	N/C
A	1-2	1.5	2.08E+07	3.7	0.01%	7.88%	N/C	N/C	N/C	N/C
B	3-4	3.5	2.18E+07	1.6	0.38%	8.26%	N/C	N/C	N/C	N/C
B	4-5	4.5	2.81E+07	1.2	0.08%	8.34%	N/C	N/C	N/C	N/C
A	2-3	2.5	3.46E+07	2.2	0.06%	8.40%	N/C	N/C	N/C	N/C

σ_y and σ_z dispersion coefficients at 20.0 km based on Tables 1-1 and 1-2 of ISCST2 User's Manual Vol.II and are (A through F stabilities): σ_y = 2769, 2133, 1515, 1005, 752, and 501 meters and σ_z = 5000, 2924, 947, 200, 109, and 60 meters. Values identified by VISCREEN as exceeding the visibility screening criteria are starred "*". Due to limited probability for significant results, VISCREEN runs were not performed for those cases noted as "N/C".

TABLE 3-2

MINOR SOURCES AND EMISSIONS

NO.	EMISSION UNIT DESCRIPTION	PLOT PLAN E7-150.000.10-327618 EMISSION UNIT LEGEND NUMBER	EMISSION UNIT EQUIPMENT NUMBER	DUST COLLECTOR EQUIPMENT NUMBER	PROCESS RATE	GRAIN LOADING	FLOWRATE	EMISSIONS	
					(tons/hr)	(grains/acf)	(ACFM)	lbs/hr	tons/yr
1	Iron Ore Bin	53	2D-61[a]	2D-63[a]	2.0	0.01	3000	0.26	1.13
2	Fly Ash Bin	56	2D-64[c]	2D-67[c]	7.0	0.01	3400	0.29	1.28
3	Filter Dust Bin	55	2D-72[c]	2D-75[c]	25.0	0.01	4500	0.39	1.69
4	Raw Meal Transport	62	2F-03[c]	2F-14[c]	160.0	0.01	1000	0.09	0.38
5	Lime Silo Storage	75	2F-21[c]	2F-30[c]	300.0	0.01	4000	0.34	1.50
6	Raw Meal Storage & Homogenizing Silos	63	2G-01[c]	2G-12[c]	160.0	0.01	17,000	1.5	6.40
7	Kiln Feed System	64	2H-05, 2E-66[c]	2H-15[c]	130.0	0.01	7200	0.62	2.70
8	Gypsum Storage Bin	72	2L-14[d]	2L-08[d]	150.0	0.01	2000	0.17	0.75
9	Clinker Transport	71	2L-03[d]	2L-16[d]	75.0	0.01	2000	0.17	0.75
10	Belt Conveyor	34	2M-08[d]	2M-08[d]	120.0	0.01	4500	0.39	1.69
11	Finish Mill Discharge Vent	73	2N-02[e]	2N-13[e]	15.0	0.01	40,000	3.43	15.0
12	Finish Mill Sepol Separator	73	2N-08[e]	2N-20[e]	120.0	0.01	115,000	9.86	43.20
13	Cement Storage Silo A	74	2Q-01, 2Q-20[e]	2Q-15A[e]	120.0	0.01	4620	0.40	1.70
14	Cement Storage Silo B	74	2Q-01, 2Q-20[e]	2Q-15B[e]	120.0	0.01	4620	0.40	1.70
15	Cement Silo Discharge Hopper	74	2Q-01, 2Q-20[e]	2Q-17[e]	540.0	0.01	3000	0.26	1.13
16	Coal Transport Conveyor	68	2S-03[d]	2S-04[d]	100.0	0.01	2000	0.17	0.75
17	Coal Storage Bin	69	2S-10[d]	2S-07[d]	100.0	0.01	2000	0.17	0.75
TOTAL									82.50

[a]Plate #1 titled "*Raw Material Storage and Handling*", permit application Attachment B.
[b]Plate #2 titled "*Raw Mill System*", permit application Attachment B.
[c]Plate #3 titled "*Raw Material, Storage, Homogenizing Silo, and Kiln Feed*", permit application Attachment B.
[d]Plate #4 titled "*Preheater, Kiln, Cooler, and Coal System*", permit application Attachment B.
[e]Plate #5 titled "*Finish Grinding System*", permit application Attachment B.

Data regarding the Pb, Hg, and Be content of fuels used currently by FCS is not available. In addition, emissions test data for Pb, Hg, Be, and H_2SO_4 mist are not available. The draft emission factor documentation for AP-42, Section 11.6 provided emission factors for Pb, Hg, Be, and H_2SO_4 mist from a similar cement production facility utilizing similar technology and burning similar fuel. These values are:

1) Pb - 7.5×10^{-5} pounds Pb per ton clinker
2) Hg - 2.4×10^{-5} pounds Hg per ton clinker
3) Be - 6.6×10^{-7} pounds Be per ton clinker
4) H_2SO_4 - 0.014 pounds H_2SO_4 per ton clinker

Also, the existing Unit I permit limits the Pb content of on-specification used oils to 100 ppm by weight. Estimated worst-case emissions for Pb, Hg, and Be are based on the assumption that the proposed Unit II kiln can operate up to 8688 hours fueled on coal or a mix of coal and TDF, and utilize approximately 294,100 gallons per year (gal/yr) of a fuel oil/used oil mix (85% to 15% mix maximum) for start-up. Estimated worst-case emissions for H_2SO_4 are based on full year operation (8760 hours) at the AP-42 emission rate listed above. Estimated maximum emissions (i.e., increase in facility emissions) calculate to be 0.043 tpy of Pb; 0.009 tpy of Hg; 0.0003 tpy of Be; and 5.1 tpy H_2SO_4.

The significant emission increase level for Pb is 0.6 tons, for Hg it is 0.1 tons, for Be it is 0.0004 tons and for H_2SO_4 it is 7 tons. As can be seen, worst-case facility emissions are less than the significant emission increase criteria for all four pollutants. Thus, for this application, Pb, Hg, Be, and H_2SO_4 are not subject to PSD review.

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: **Other**		
2. Future Effective Date of Allowable Emissions: **Date of Permit Approval**		
3. Requested Allowable Emissions and Units: **4.33 lbs/ton clinker**		
4. Equivalent Allowable Emissions:	**359.0** lb/hour	**1572.0** tons/year
5. Method of Compliance: **Installation of a continuous emission monitor following promulgation of final regulations in 40 CFR 64.**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): **Potential emissions at maximum operating capacity = allowable emissions**		

B. NO OTHER EMISSION LIMITATION APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: **Other**		
2. Future Effective Date of Allowable Emissions: **Date of Air Permit approval**		
3. Requested Allowable Emissions and Units: **0.54 lbs/ton clinker**		
4. Equivalent Allowable Emissions:	**45.0** lb/hour	**197.1** tons/year
5. Method of Compliance: **Installation of a continuous emission monitor following promulgation of final regulations in 40 CFR 64**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): **Potential emissions at maximum operating capacity = allowable emissions**		

B. **NO OTHER EMISSION LIMITATION APPLICABLE**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: **Other**		
2. Future Effective Date of Allowable Emissions: **Date of Air Permit approval**		
3. Requested Allowable Emissions and Units: **0.60 lb/ton clinker**		
4. Equivalent Allowable Emissions:	**49.5** lb/hour	**216.0** tons/year
5. Method of Compliance: **Compliance Emission Test**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): **Potential emissions at maximum operating capacity = allowable emissions**		

B.

1. Basis for Allowable Emissions Code: **Rule**		
2. Future Effective Date of Allowable Emissions: **Date of Air permit approval**		
3. Requested Allowable Emissions and Units: **0.6 lb/ton clinker**		
4. Equivalent Allowable Emissions:	**49.5** lb/hr	**216.0** tons/year
5. Method of Compliance: **Compliance Emission Test**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): **Rule = 40 CFR 60, Subpart F**		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: **Other**		
2. Future Effective Date of Allowable Emissions: **Date of Air Permit approval**		
3. Requested Allowable Emissions and Units: **0.60 lb/ton clinker**		
4. Equivalent Allowable Emissions:	**49.5** lb/hour	**216.0** tons/year
5. Method of Compliance: **Compliance Emission Test**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): **Potential emissions at maximum operating capacity = allowable emissions**		

B.

1. Basis for Allowable Emissions Code: **Rule**		
2. Future Effective Date of Allowable Emissions: **Date of Air Permit approval**		
3. Requested Allowable Emissions and Units: **0.6 lb/ton clinker**		
4. Equivalent Allowable Emissions:	**49.5** lb/hr	**216.0** tons/year
5. Method of Compliance: **Compliance Emission Test**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): **Rule = 40 CFR 60, Subpart F**		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2D-63
Emission Unit Description:	Iron Ore Bin

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	500
Bag Fabric:	Polyester	**Flowrate (ACFM):**	3000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	100	**Inlet Moisture Content:**	Ambient
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2D-67		
Emission Unit Description:	Fly Ash Bin		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	567
Bag Fabric:	Polyester	**Flowrate (ACFM):**	3400
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	100	**Inlet Moisture Content:**	Ambient
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2D-75
Emission Unit Description:	Filter Dust Bin

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	750
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4500
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2F-14
Emission Unit Description:	Raw Meal Transport

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	167
Bag Fabric:	Polyester	**Flowrate (ACFM):**	1000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2F-30
Emission Unit Description:	Lime Silo Storage

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	667
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	10%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2G-12
Emission Unit Description:	Raw Meal Storage and Homogenizing Silo

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	2833
Bag Fabric:	Polyester	**Flowrate (ACFM):**	17000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2H-15		
Emission Unit Description:	Kiln Feed System		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	1200
Bag Fabric:	Polyester	**Flowrate (ACFM):**	7200
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2L-08
Emission Unit Description:	Gypsum Storage Bin

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	333
Bag Fabric:	Polyester	**Flowrate (ACFM):**	2000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	70	**Inlet Moisture Content:**	Ambient
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2L-16		
Emission Unit Description:	Clinker Transport		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	333
Bag Fabric:	Polyester	**Flowrate (ACFM):**	2000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2M-08		
Emission Unit Description:	Belt Conveyer		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	750
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4500
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	100	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2N-13		
Emission Unit Description:	Finish Mill Discharge Vent		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	10000
Bag Fabric:	Polyester	**Flowrate (ACFM):**	40000
Air To Cloth Ratio:	4:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2N-20
Emission Unit Description:	Finish Mill Sepol Separator

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	28750
Bag Fabric:	Polyester	**Flowrate (ACFM):**	115000
Air To Cloth Ratio:	4:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	160	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2Q-15A		
Emission Unit Description:	Cement Storage Silo A		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	770
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4620
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2Q-15B
Emission Unit Description:	Cement Storage Silo B

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	770
Bag Fabric:	Polyester	**Flowrate (ACFM):**	4620
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	200	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2Q-17
Emission Unit Description:	Cement Silo Discharge Hopper

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	600
Bag Fabric:	Polyester	**Flowrate (ACFM):**	3000
Air To Cloth Ratio:	6:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	180	**Inlet Moisture Content:**	<1%
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2S-04
Emission Unit Description:	Coal Transport Conveyer

Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	444
Bag Fabric:	Polyester	**Flowrate (ACFM):**	2000
Air To Cloth Ratio:	4.5:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	70	**Inlet Moisture Content:**	Ambient
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2S-07		
Emission Unit Description:	Coal Storage Bin		
Dust Collector Type:	Pulse Jet	**Total Cloth Area (sq. ft.):**	444
Bag Fabric:	Polyester	**Flowrate (ACFM):**	2000
Air To Cloth Ratio:	4.5:1	**Control Efficiency:**	99.9%
Temperature of Outlet (deg. F):	70	**Inlet Moisture Content:**	Ambient
Outlet Grain Loading (gr/ACF):	0.01		

DUST COLLECTOR
SPECIFICATION DATA SHEET

Dust Collector Equipment Number:	2E-40		
Emission Unit Description:	Kiln Dust Collector		
Dust Collector Type:	Reverse Air	**Total Cloth Area (sq. ft.):**	221669
Bag Fabric:	Fiberglass	**Flowrate (ACFM):**	380000
Air To Cloth Ratio:	1.93:1	**Control Efficiency:**	>99.9%
Temperature of Outlet (deg. F):	430	**Outlet Moisture Content:**	12% max.
Outlet Grain Loading (gr/ACF):	0.01		

Board of County Commissioners

Hernando County

PLANNING DEPARTMENT

Government Center / Administration Building
20 North Main Street, Room 262
Brooksville, Florida 34601-2807

Planning - (904) 754-4057
Fax - (904) 754-4420

April 28, 1995

RECEIVED
MAY 2 1995
Bureau of
Air Regulation

Ms. Patricia G. Adams
Bureau Air Regulation
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Florida Crushed Stone Company
New Cement Kiln, Hernando County, PSD-FL-227

Dear Ms. Adams:

Hernando County staff have reviewed the above referenced PSD application. Our comments and questions are provided below.

1. The VOC pollutant emissions for the Unit I Kiln are 27.8 tpy and the power plant VOC emissions are 15.33 tpy. Alone these values are below the 40 tpy PSD significant emission rate, however cumulatively, they equal 43.36 tpy. **Was a PSD review performed when the Unit I kiln and the power plant were initially constructed?**

2. The application indicated that the Unit II kiln would utilize a mix of fuels, including gas. **Will additional permitting be required should FCS begin utilizing natural gas as a fuel source?**

3. Chemical equation (1) on page 4-17 does not balance for nitrogen.

4. The applicant used five years of meteorologic data from Tampa International Airport for the years 1982-1986. **Is this the closest data point for the project site? Would more recent data be more representative of conditions at the site?**

5. The applicant is utilizing ambient air data for the northern-Pinellas, southern-Pasco county area for PM_{10}, NO_x, CO, ozone and lead. **Is this less restrictive for the applicant than using data from Hernando County, if data were available?**

6. The maximum increase in facility impacts for the 3-hour and 24-hour SO_2 and annual NO_x in the Class I area are greater than the SILs typically used by the national Park Service. However, they are below the draft SILs proposed by EPA. **Which SILs will DEP use in reviewing the application? Has the National Park Service been notified of the proposed modification?**

E:\WPDATA\KLG\DEPPERMT\NWKILN.DEP

7. Since Hernando County adopted an Air Toxics and Hazardous Waste Fuel Burning Facility Moratorium, on May 15, 1990, there is concern regarding the use of on-specification used oil which may be presumed to be a hazardous waste. On-specification used oil is presumed to be a hazardous waste if total halogens exceed 1000 ppm. Further, used oil may be a characteristic hazardous waste if the flash point is less than 140° F. **Therefore, Hernando County requests that any permit issued to FCS for the Unit II kiln include a specific condition which limits total halogens to 1000 ppm and sets the minimum flash point at 140° F, thereby removing any implication that the fuel may be a hazardous waste.**

8. The FDEP guidance document on Burning Used Oil Containing Low Concentrations of PCBs (copy enclosed), dated March 31, 1994, stated that industrial furnaces, including cement kilns, can only burn used oil containing less than 50 ppm PCBs while operating at their normal temperatures. Also pursuant to the Guidance document, cement kilns cannot burn used oil containing PCBs above the detection limit of 2 ppm during startup or shutdown. **Based on the Guidance Document and on knowledge of previous air permits issued in Hernando County, we request a maximum allowable level of <2 ppm for PCBs for the on-specification used oil.**

I would appreciate a written response to these questions and comments so that we may include them in our files. Please note that these are initial comments and questions by staff, and do not reflect comments or questions that may be submitted at a later date following review by the Board of County Commissioners.

If you have any questions or would like to discuss this information, please contact Ms. Lizanne Garcia at (904)754-4057 (SunCom 669-4057).

Thank you for your cooperation in this matter.

Sincerely,

Lawrence Jennings,
Department Director

KLG:tag

Enclosure

E:\WPDATA\KLG\DEPPERMT\NWKILN.DEP

Florida Department of
Environmental Protection

Memorandum

DARM-PER/GEN-10

TO: John Ruddell, Director
Division of Waste Management

District Air Program Administrators
County Air Program Administrators
Bureau of Air Regulation Engineers

FROM: Howard L. Rhodes, Director
Division of Air Resources Management

DATE: March 31, 1994

SUBJECT: Guidance on Burning Used Oil
Containing Low Concentrations of PCBs

The Department will use the 40 CFR 761 federal regulations on polychlorinated biphenyls (PCBs) as the basis for regulating the burning of "on-specification" used oil containing less than 50 ppm PCBs.

Used oil containing less that 50 ppm PCBs is an excluded product. Excluded PCBs products as applied to used oil means: oils which have a concentration of less than 50 ppm PCBs; were legally available before October 1, 1984; and have not been mixed with a material containing more than 50 ppm PCBs.

Used oil containing 50 ppm or more PCBs is not an excluded PCB product and is subject to the Toxic Substance Control Act (TSCA) regulations, 40 CFR 761. These regulations specify precisely how PCB contaminated material can be disposed of. EPA would be involved in approving the burning of used oil containing more than 50 ppm PCBs.

The following is a brief summary of the federal regulations (40 CFR 761) concerning burning of used or waste oil (products primarily derived from petroleum which include but are not limited to fuel oils, motor oils, gear oils, cutting oils, transmission fluids, hydraulic fluids, dielectric fluids, etc.) with low concentrations (less 50 ppm) of PCBs for energy recovery.

40 CFR 761, Polychlorinated Biphenyls; Exclusions, Exemptions and Use Authorizations, includes requirements for the burning of used oil with low concentrations of PCBs (less 50 ppm) for energy recovery. Some of the requirements, explained in the preamble of this federal rule that was published in the June 27, 1988, Federal Register, are:

1. For regulatory purposes used oil fuel is presumed to contain PCBs above the detection limit of 2 ppm. These regulations define detectable as meaning the practical limit of quantification. 40 CFR 761.30(e)(2).

2. The detection limit is defined as 2 ug/g from any resolvable gas chromatographic peak, i.e. 2 ppm. The American Society of Testing and Materials (ASTM) analytical methods for PCBs referenced in 40 CFR 761.60(a)(3)(iii)(B)(6) is ASTM D-808-81 for chlorine. (Note that some regulations list a lower PCB detection concentration with a different analytical method). (40 CFR 761.3)

3. A claim that used oil fuel does not contain quantifiable levels (≥2 ppm) of PCBs must be documented by analysis or other information. The first person making the claim that the used oil does not contain PCBs is responsible for furnishing the documentation. The documentation can be tests, personal or special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the oil contains no detectable PCBs. (40 CFR 761.20(e)(2)(i))

4. Used oil containing less than 50 ppm PCBs is an excluded PCB product, but is subject to restrictions on use of PCB containing oil as a fuel. (40 CFR 761.3 (4) and 761.20(e))

5. Used oil containing less than 50 ppm PCBs may be burned in an industrial/electrical utility boiler or industrial furnace and other equipment as defined in 40 CFR 260.10 or referenced in Volumes I or II of PB-87-173-837, National Technology Information Service (NTIS), without a federal permit. (40 CFR 761.20(e)(3))

6. Used oil containing any detectable quantities of PCBs (≥2 ppm) cannot be used as a sealant, coating, or dust control agent and cannot be burned in a non-industrial boiler or furnace (boilers in hotels, offices, laundries, service stations, greenhouses, colleges, hospitals, schools, prisons, etc.). (40 CFR 761.20(e))

7. RCRA approved boilers (industrial boilers and electric utilities) and industrial furnaces (cement kilns, phosphate kilns, aggregate kilns, blast furnaces, asphalt plants, phosphate rock dryers, etc.) are among the facilities that can burn used oil with less than 50 ppm PCBs for energy recovery. They can only burn used oil while operating at their normal temperature. They cannot burn used oil containing PCBs during startup or shutdown. (40 CFR 761.20(e)(3))

8. Automobile manufacturers may burn used oil containing PCBs that they generate in their own space heaters. Other space heaters are not allowed to burn used oil containing detectable quantities of PCBs (≥ 2 ppm). (40 CFR 761.20(e)(1)(iii))

9. An eligible burner (person burning the used oil) must provide the marketer (person selling the used oil) with a one time written notice certifying that he will burn the used oil that is presumed to contain low concentrations of PCBs (2 to 50 ppm) in a qualified combustion device (40 CFR 279.61 and 40 CFR 260.10). The notice must state that EPA has been given a description of the used oil management activities and an industrial/electrical utility boiler or industrial furnace will be used to burn the oil. (40 CFR 761.20(e)(3))

Our only grounds at this time to limit the burning of used oil containing less than 50 ppm PCBs would need to be based on federal regulations or public health concern. The applicant will need to furnish the maximum PCBs content of the used oil that the source will burn for the Department to determine which regulations are applicable. Only industrial/electric utility boilers and industrial furnaces can burn used oil containing 2 to 50 ppm PCBs in Florida. EPA has concluded that the burning of used oil containing less than 50 ppm in an utility or industrial boiler and furnace is unlikely to cause unreasonable risk of injury to human health or the environment.

Based on this information, the Division of Air Resources Management has concluded that the burning of used oil with a PCB content of less than 50 ppm is allowed in a industrial/electric utility boiler or an industrial furnace by the federal regulations. "On-specification" used oil containing less than 2 ppm PCBs can be burned in any combustion device (industrial or nonindustrial) if authorized by a Department permit. The PCB content shall be determined using EPA, DER, or ASTM approved methods.

For used oil containing 2 to 50 ppm PCBs, the Department's air permits must specifically state in a permit condition that used oil can be burned and if the used oil is "on-specification" or "off-specification". It should specify the maximum concentration of PCBs (<50 ppm unless otherwise specified by the applicant). It should also include the maximum quantity of used oil to be burned. The permit shall also require a copy of any applicable marketer's notice or EPA notification for the Department's files. No additional public notice shall be required for a source as described above to burn used oil containing up to 50 ppm PCBs.

HLR/CHF wr.

TO: Buck Oven

THRU: Clair Fancy
Al Linero

FROM: Teresa Heron
Cleve Holladay

DATE: April 20, 1995

SUBJ: Florida Crushed Stone
Incompleteness/Insufficiency Review
File No. PSD-FL-227 and PA 82-17

The Bureau of Air Regulation has reviewed this application for incompleteness/insufficiency and has compiled the following comments. Please submit these comments to Florida Crushed Stone as part of the Department's incompleteness/insufficiency response.

EMISSION DATA

1. What are the contemporaneous emission changes of all criteria and noncriteria pollutants associated with this project? Please supply calculations for these changes that compare representative past actual emissions with the future potential emissions being requested for these pollutants. Include all assumptions, reference material and calculations.

2. How will fugitive and unconfined emissions from the different steps in the process be controlled? Quantify these emissions (identify the location).

3. Per the 1990 Clean Air Act Amendments (CAAA), EPA is to issue a Maximum Achievable Control Technology (MACT) standard by November 15, 1997, applicable to cement plants. Per Title III (Air Toxics) of the CAAA's 189 Hazardous Air Pollutants (HAPs) are now regulated air pollutants. Please provide the emission rates and ambient maximum 8 hour, 24 hour and average annual concentrations for HAPs emitted from cement manufacturing, including the tire burning scenario.

4. On February 7, 1995, EPA issued a regulatory determination on Cement Kiln Dust (CKD) which was required by RCRA Subtitle C. Accordingly, EPA will develop CKD regulations. Although the

present status of CKD will be maintained until such rules are written, we encourage the applicant to develop a multipathway health risk assessment to address the potential for indirect health and environmental effects from the kiln's emissions. EPA's Region VII Office (Kansas City, KA) is developing a generic workplan for cement kilns burning hazardous waste in their region. The workplan uses a tiering approach to expedite the process. We suggest you review the draft document (a copy is available from this office, if requested) developed by the EPA Region VII Office as a possible mechanism for developing a less time and resource intensive protocol for completing a risk assessment.

5. What additional assurance can you provide the Department that the operation of this facility will not be a threat to human health and welfare (such as by the fuels burned, etc.)?

6. Are there any emissions of VOC's from storage tanks associated with this project? If so, please quantify.

PROCESS EVALUATION

7. On the flow diagram and plot plan, show what process and control equipment is affected by this application. Show which baghouses, as described in your report, will be used (Table 3-2). Any changes? Any additions?

8. Submit design specifications of each baghouse that will be used. How was the flow (dscfm) calculated for each baghouse? Show any estimates used in this calculations.

9. What reasonable precautions will be used to minimize unconfined particulate matter emissions from the plant (quarries, haul roads, CKD handling equipment, dust disposal piles, manufacturing area, etc.).

10. Group each new emission point by unit category (raw material handling, raw mill system, kiln system, etc.). This approach will help in the writing of the permit conditions.

11. Describe procedures for startup and shutdown of the process equipment to insure minimization of excess emissions.

12. Provide a plan to establish good combustion practice to minimize NOx, CO and VOC emissions from the kiln. Ultimately, such a plan should be reflected in the plant operating procedures.

13. Provide a fuel analysis for the tire-derived-fuel (TDF) and for each grade of oil which is to be burned at the different combustion sources at this facility.

14. Specify the quantities of each fuel and the different mixtures of fuels that may be burned at each combustion source at this facility (consumption rate, percentage, etc.)

BACT EVALUATION

15. Explain the NOx controls proposed for each combustion source. Provide drawings and design details (text) for any low NOx burners, staged combustion, or other methods used to lower free O_2 available for NOx formation.

16. Explore the option of utilizing an electrostatic precipitator and discuss the benefits/problems of this approach compared to the baghouse. Include a discussion of SO_2 control and HAPs and any effects on start-up emissions of particulate matter and visible emissions. What is the actual SO_2 removal of the system?

17. Discuss feasibility of using cleaner fuels, such as natural gas or No. 2 fuel oil at 0.05% sulfur, to minimize SO_2 and NOx emissions. For reference, permitted NOx emissions are 3.14 lbs/ton of clinker at Florida Mining and Materials (2/93) and permitted SO_2 emissions are 0.31 lb/ton of clinker at Ash Grove Cement (6/90). Investigate any emerging technology for the control of NOx.

18. The BACT analysis must be expanded. BACT is done on a case-by-case basis and, at a minimum should include a technical, economic, and environmental analysis of any applicable control technology. Please refer to EPA New Source Review Workshop Manual.

APPLICATION FORM

19. Submit a signed copy of page 7 of DEP Form No. 62-210.900(1) with the professional engineer seal.

20. Complete questions 4 and 5 of page 22 of the application.

21. Complete pages 28, 30, 32 , 34 of the application form No. 62-210.900(1). There are also few other blank fields throughout out the application that need to be completed.

22. The modification of this facility appears to be subject to New Source Performance Standards 40 CFR 60, Subpart Y Coal Preparation Plants and 40 CFR 60, Subpart OOO Nonmetallic Mineral Processing Plant. Please address all requirements in these regulations when preparing your response to this letter.

GENERAL

23. Will the proposed project comply with all of Hernando County's air pollution control regulations. Please see attached copy of the County regulation that may apply to your proposal. This ordinance was filed with the Secretary of State on May 17, 1990.

24. Please address the comments in the attached National Park Service correspondence. Also be advised that we are still waiting for comments from EPA. As soon as we receive their information, it will be forwarded to you.

AIR QUALITY ANALYSIS

25. Address any contemporaneous changes, if any, in emissions due to the proposed megawatt increase in the power plant and consider the impact of these changes in the air quality analysis. In addition, are there any contemporaneous changes in emissions from cement kiln I due to the proposed megawatt increase in the power plant? If there are, then these changes should also be considered in the air quality impact analysis.

26. Include particulate emissions from additional minor particulate source operations proposed to be constructed with cement kiln II (listed in Table 3-2 of the PSD report) in the PM_{10} significant impact area modeling to determine whether further PM_{10} modeling is necessary.

If you have any questions on this matter, please write to A. A. Linero or call Marty Costello, P.E. (BACT engineer), Cleve Holladay (meteorologist) or Teresa Heron (review engineer) at (904) 488-1344.

TH/CH/t

Attachments

cc: B. Thomas, SWD
J. Harper, EPA
J. Bunyak, NPS
L. Roberts, P.E.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

IN REPLY REFER TO:

APR 10 1995

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

Dear Mr. Fancy:

We have reviewed the Prevention of Significant Deterioration (PSD) Application for the new cement kiln (kiln #2) proposed by Florida Crushed Stone (FCS) Company. The kiln would be located 20 km southeast of Chassahowitzka Wilderness Area (WA), a Class I air quality area, administered by the Fish and Wildlife Service (Service). The new kiln would emit significant amounts of PM-10, sulfur dioxide (SO_2), nitrogen oxides (NO_x), and carbon monoxide. FCS currently operates kiln #1 at the site.

We understand that another PSD application has been submitted for a modification to the power plant on the FCS property. This application was submitted by Central Power and Lime, formerly Florida Crushed Stone. Both Central Power and Lime and Florida Crushed Stone are under common ownership/control, and therefore emissions from both proposed projects should be considered together for PSD review.

Air Quality Analysis

The air quality impact analysis for the proposed cement kiln is incomplete. The information in the permit application and the additional modeling analysis (March 21, 1995) is insufficient to determine whether emissions from the proposed new kiln (kiln #2) and other sources at the facility (kiln #1 and the power plant) would have a significant impact at Chassahowitzka WA. We understand that your office will be requiring additional modeling to be performed before the application is deemed complete. We request that FCS model Class I area impacts using revised facility emission rates specified by your office. Upon review of the revised modeling analysis, we will determine if a cumulative SO_2 Class I increment analysis is required. Also, if there is a change in the facility's NO_x or PM-10 emission rates from the present analysis, those Class I impacts must also be recalculated. The March 21, 1995, analysis indicates that a cumulative nitrogen dioxide (NO_2) Class I increment analysis is required because predicted NO_2 impacts exceed the Service Class I significant level of 0.025 micrograms per cubic meter.

The revised air quality impact analysis should also include annual impacts from lead (Pb), beryllium (Be), and mercury (Hg) emissions to the Class I area. The effects on resources from these pollutants should be addressed in the air quality related values analysis.

The VISCREEN analysis was incorrectly done. The emissions of sulfuric acid mist (H_2SO_4) from the proposed kiln should be included in the analysis as primary sulfate (SO_4). Also, the VISCREEN 2 analysis applied wind speed changes to the meterological data that are inappropriate. The Environmental Protection Agency document on VISCREEN (Workbook for Plume Visual Impact Screening and Analysis, EPA-450/4-88-015, September 1988) does not indicate that compensation to wind speeds, using wind speed profile adjustments calculations, are to be applied. The revised VISCREEN analysis should not apply these wind speed profile changes. In addition, the analysis assumed a background visual range (BVR) of 25 km. The analysis should be done using a BVR of 65 km, the 90th percentile annual visual range for the wilderness area.

Due to the complex nature of this permit application, please require the applicant to submit, in addition to the written analysis, the modeling input and output files to us on a 3.5 floppy disk(s) for both the increment and visibility modeling analyses.

Best Available Control Technology

The Best Available Control Technology analysis appears to be complete.

Air Quality Related Values Analysis

No Class I Air Quality Related Values analysis was done, and thus, this part of the application is incomplete.

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 telephone number 303/969-2617.

Sincerely yours,

Jeffrey S. Haskett

for Noreen K. Clough
Regional Director

cc: J. Heron
C. Holladay
B. Owen
J. Mountain, FCS
J. Kissel, SW Dist
J. Harper, EPA
Fernando Co (5-23-95)

AGENDA FOR APRIL 11, 1995 MEETING CONCERNING FLORIDA CRUSHED STONE PERMIT APPLICATION

I. STATUS OF AIR PERMIT

- A. Modeling Review
- B. Engineering Review
- C. NPS/Class I Issues

II. FORM OF AIR PERMIT

III. PPSA PROCESS

- A. Public Information/Outreach
- B. Local Approvals
- C. Hearing Requirements

IV. SCHEDULE

AGENDA FOR APRIL 11, 1995 MEETING
CONCERNING FLORIDA CRUSHED STONE PERMIT APPLICATION

I. STATUS OF AIR PERMIT

- A. Modeling Review
- B. Engineering Review
- C. NPS/Class I Issues Drop emission rate 50 → 45 → 25 lb/hr

II. FORM OF AIR PERMIT

III. PPSA PROCESS

- A. Public Information/Outreach
- B. Local Approvals
- C. Hearing Requirements

IV. SCHEDULE

Fla Crushed Stone

- are the nurgen fuel oil & on specification used oil only used for start ups?
- Actual volumetric flow rate at different scenarios.

File: Fla Crushed Stone

Florida Department of Environmental Protection

Meeting Sign-In Sheet

Re: FIA Crushed Stone **Date:**

Name	Representing	Telephone
William Corbin	RTP Env Assoc. 908-	968-9600
Larry Curtin	HAK	224-7000
Steve Holladay	DEP/BARM/BAR/NSRS	904-488-1344
Don Lacey	Cortazar Engineering Assoc	904 796-9423
Tom Shoemaker	Florida Crushed Stone Co.	(904) 799-7881
Buck Oven	DEP - Siting	(904) 4870477
Donald F. Elias	RTP Environmental Assoc, Inc	(908) 968-9600
Al Linero	DEP / BAR - New Source Review	(904) 488-1344
Martin Costello	" "	" "
TERESA HERON	" " "	"
Clair Fancy	" " "	"

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. Cleve Holladay
Florida Dept. Environ. Protection
111 S. Magnolia, Suite 4
Tallahassee, FL 32301

Date: 03-22-95 Proj. ID: FCS

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover
VIA: ☐ 1st Class Mail ☒ Federal Express ☐ Hand Delivery ☐ Other
THE FOLLOWING ITEMS: a.m. Delivery

Copies	Date	No.	Description
1	03-22-95		Modeling Outputs and Diskettes for Florida Crushed Stone Application

RECEIVED
MAR 23 1995
Bureau of
Air Regulation

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 Please note that this information is being shipped to your office in two boxes. The Fedex shipper numbers are 1276300340 and 1276300336. Should you not receive both these boxes in the a.m. delivery, please call Mary Jordan at (908) 968-9600.

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. Cleve Holladay
FDEP Two Tower Office Building
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400

Date: 03-21-95 Proj. ID: FCS

RECEIVED
MAR 22 1995
Bureau of Air Regulation

WE ARE SENDING YOU: [XX] Attached [ ] Under separate cover
VIA: [ ] 1st Class Mail [XX] Federal Express [ ] Hand Delivery [ ] Other
THE FOLLOWING ITEMS:

Copies	Date	No.	Description
1	03-21-95		Letter from D. Elias RE: Florida Crushed Stone
2	03-21-95		Copies of above letter for C. Fancy and T. Rogers

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: _____

Fed Ex # 1034617-1
RTP Env'

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

March 21, 1995

Mr. Cleve Holladay
Florida Department of Environmental Protection
Twin Tower Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Holladay:

Last week an air permit application was submitted for a second cement kiln at the Florida Crushed Stone facility in Brooksville, Florida. Modeling analyses were performed for two facility configurations for which the second cement kiln would increase facility impacts:

(1) Case 1 - increases in facility impacts due to the proposed kiln when the existing kiln only is operating; and
(2) Case 2 - increases in facility impacts due to the proposed kiln when the existing kiln and power plant are operating.

As shown on Table 6-8 of the permit application (copy attached), maximum increases in facility Class I SO_2 and NO_x impacts are greater than the National Park Service (NPS) significant impact levels (SILs) but less than the USEPA draft Class I SILs proposed by the New Source Review Reform Committee last summer. It should be noted that for Case 2, two cement kilns operating with the power plant, is the facility configuration most likely to occur the majority of the time. For this operating scenario, no increases in facility Class I impacts greater than the NPS SILs were predicted. Case 1, two cement kilns operating without the power plant, is unlikely to occur for a significant portion of the year but was analyzed in the permit application since it is a plausible source configuration.

For Case 1, the number of receptor-periods and the number of periods with impacts greater than the NPS SILs (based on the "traditional" set of 13 receptors for the Chassahowitzka NWA) were as follows:

	--No. of Receptor-Periods-- ---greater than NPS SILs---		-------No. of Periods------ ---greater than NPS SILs---	
	24-Hour SO_2	3-Hour SO_2	24-Hour SO_2	3-Hour SO_2
1982	56	3	28	3
1983	35	0	18	0
1984	46	1	32	1
1985	44	2	24	2
1986	37	1	21	1

These impacts, the periods of occurrences, and the Class I receptor locations are attached on Tables 1 through 5 for Tampa meteorological data from 1982 through 1986, respectively.

Additionally, the permit application only gives increases in facility Class I impacts and does not provide facility impacts. As you have requested, we have attached on Tables 6 and 7 the maximum facility Class I impacts for both Cases 1 and 2. Table 6 shows the maximum impacts by year for each year of meteorological data for a unitized facility emission rate of 1 gram/second. Table 7 shows the maximum overall Class I facility impacts for all criteria pollutants. These impacts are compared on Table 7 to the maximum increases in facility impacts given on Table 6-8 of the air permit application. As can be seen on Table 7, the magnitude of facility impacts is comparable to the increases in facility impacts given earlier. Both are very small when compared to the Class I increments, primarily due to the tall GEP stack height.

Finally, it is our understanding that at least three previous applications have performed additional analyses demonstrating compliance within the Class I areas. Additionally, several of the major utility sources impacting Chassahowitzka are reducing SO_2 emissions. Due to the GEP stack at FCS, our impacts, even under worst-case conditions are minor. This opinion is confirmed by the consensus Class I significance levels released by the New Source Review Reform Committee. Any additional modeling would only add unnecessary delays.

Based on the above facts, we feel that no further modeling should be required. Please confirm this determination.

We are sending you separately two boxes containing the 3.5" diskettes and printed outputs of the modeling runs.

We would be happy to meet with you and/or the Park Service, either telephonically or in person, to discuss the results should you feel it would be helpful. If you require any additional information or have any questions concerning these analyses, please feel free to contact either William E. Corbin or myself at the above telephone number.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.

Donald F. Elias
Principal

DFE/WEC/wec

cc: T.Mountain/L.Curtin, FCS
C.Fancy/T.Rogers, FDEP
M.Hober/W.Corbin/FCS Project File, RTP
G. Kissel, SWDist
G. Nergen, EPA
G. Bumpus, DAS
C. Nettles, Nimrods Co

TABLE 1
1982 INCREASES IN CLASS I IMPACTS GREATER THAN NPS SILs
FOR TWO OPERATING KILNS

PERIOD (YYMMDDHH)	24-HOUR CONC (ug/m^3)	LOCATION (RANK) X,Y(m) (TOP 50)
82010724	0.06955	-18000,11500 (53)
82013024	0.07244	-19700, 7300 (42)
82021424	0.08604	-19700, 3200 (24)
82030624	0.09031	-18900,20900 (17)
82040224	0.07174	-18000,11500 (43)
82041624	0.06917	-28500,20900 (55)
82042524	0.07086	-17000,13700 (48)
82050724	0.07901	-19700, 5200 (31)
82051324	0.09198	-19700, 3200 (14)
"	0.07065	-19700, 7300 (49)
82051724	0.11085	-19700, 3200 (4)
"	0.08658	-19700, 5200 (21)
82052424	0.07703	-18000,11500 (34)
82060324	0.07736	-18000,11500 (33)
"	0.07632	-19700, 5200 (36)
"	0.06955	-17000,13700 (54)
82060424	0.10391	-17000,13700 (7)
"	0.10120	-16300,15800 (10)
"	0.09350	-17600,18100 (12)
"	0.08630	-21000,20900 (22)
"	0.07097	-18900,20900 (46)
"	0.07034	-23500,20900 (50)
"	0.07006	-26000,20900 (52)
82060724	0.08102	-19700, 3200 (28)
82073124	0.07023	-18000,11500 (51)
82090124	0.09082	-19700, 3200 (16)
"	0.07394	-19700, 5200 (38)
82101224	0.10122	-19700, 5200 (9)
"	0.08947	-19700, 3200 (18)
82110124	0.07981	-19700, 3200 (29)
82111224	0.10334	-17000,13700 (8)
"	0.07621	-26000,20900 (37)
"	0.07137	-28500,20900 (45)
82112724	0.08298	-19700, 5200 (27)
82120124	0.07305	-19300, 9400 (41)
82120224	0.11507	-19700, 7300 (2)
"	0.09406	-19300, 9400 (11)
"	0.08527	-19700, 5200 (25)
82120324	0.15604	-18000,11500 (1)
"	0.10930	-19300, 9400 (5)
"	0.07343	-19700, 7300 (40)
82120424	0.09221	-17000,13700 (13)
"	0.07682	-18000,11500 (35)
"	0.07147	-26000,20900 (44)
"	0.06890	-28500,20900 (56)
82122424	0.11295	-16300,15800 (3)
"	0.09118	-17000,13700 (15)
"	0.08781	-17600,18100 (19)
"	0.08690	-21000,20900 (20)
"	0.08618	-23500,20900 (23)
82122524	0.10595	-19700, 3200 (6)
"	0.07947	-18000,11500 (30)
"	0.07353	-19700, 5200 (39)
82122624	0.07817	-19700, 5200 (32)
82122724	0.08409	-18000,11500 (26)
"	0.07090	-17000,13700 (47)

PERIOD (YYMMDDHH)	3-HOUR CONC (ug/m^3)	LOCATION (RANK) X,Y(m) (TOP 50)
82051709	0.52051	-19700, 3200 (2)
82060709	0.49960	-19700, 3200 (3)
82111209	0.54321	-17000,13700 (1)

TABLE 2
1983 INCREASES IN CLASS I IMPACTS GREATER THAN NPS SILs
FOR TWO OPERATING KILNS

PERIOD (YYMMDDHH)	24-HOUR CONC (ug/m^3)	LOCATION (RANK) X,Y(m) (TOP 50)
83012024	0.11516	-19300, 9400 (5)
"	0.09955	-19700, 7300 (8)
83022024	0.08963	-19700, 5200 (14)
"	0.07689	-19700, 3200 (29)
83022724	0.12978	-19700, 5200 (2)
"	0.09633	-19700, 3200 (11)
83030524	0.16871	-17000,13700 (1)
"	0.12025	-26000,20900 (4)
"	0.09869	-23500,20900 (9)
"	0.08379	-28500,20900 (19)
"	0.08209	-16300,15800 (24)
83041424	0.10479	-16300,15800 (7)
"	0.09505	-21000,20900 (12)
"	0.09274	-17600,18100 (13)
83042824	0.07077	-23500,20900 (32)
83050724	0.09857	-17000,13700 (10)
"	0.08677	-18000,11500 (16)
"	0.08181	-19300, 9400 (26)
"	0.07899	-23500,20900 (28)
83051024	0.12422	-19300, 9400 (3)
"	0.07427	-17000,13700 (30)
83051324	0.07046	-19300, 9400 (33)
83051824	0.08611	-19700, 5200 (17)
"	0.08314	-19700, 3200 (20)
83061724	0.07094	-19700, 5200 (31)
83062024	0.08261	-19700, 7300 (22)
"	0.06862	-18000,11500 (35)
83073024	0.10627	-19700, 3200 (6)
83082624	0.08275	-18000,11500 (21)
83091824	0.08148	-19700, 3200 (27)
83102324	0.08743	-21000,20900 (15)
"	0.08247	-17600,18100 (23)
"	0.08202	-16300,15800 (25)
83112024	0.08493	-18900,20900 (18)
83122724	0.07014	-19300, 9400 (34)

TABLE 3
1984 INCREASES IN CLASS I IMPACTS GREATER THAN NPS SILs
FOR TWO OPERATING KILNS

24-HOUR PERIOD (YYMMDDHH)	24-HOUR CONC (ug/m^3)	24-HOUR LOCATION (RANK) X,Y(m) (TOP 50)	3-HOUR PERIOD (YYMMDDHH)	3-HOUR CONC (ug/m^3)	3-HOUR LOCATION (RANK) X,Y(m) (TOP 50)
84011024	0.07283	-18000,11500 (35)	84081309	0.50744	-18000,11500 (1)
84012324	0.07122	-19700, 3200 (40)			
84012624	0.06882	-18000,11500 (44)			
84021024	0.08356	-19700, 5200 (19)			
84021124	0.08768	-19700, 3200 (13)			
"	0.08235	-19700, 5200 (20)			
84021224	0.10498	-19700, 5200 (4)			
"	0.09147	-19700, 3200 (9)			
84022124	0.08745	-19700, 5200 (14)			
84022624	0.11657	-16300,15800 (1)			
"	0.08619	-17600,18100 (16)			
"	0.08418	-21000,20900 (18)			
"	0.08026	-23500,20900 (24)			
"	0.07429	-17000,13700 (32)			
84030524	0.08687	-17600,18100 (15)			
"	0.08430	-18900,20900 (17)			
"	0.07901	-16300,15800 (27)			
"	0.07022	-21000,20900 (43)			
84031224	0.10121	-19700, 3200 (6)			
84050124	0.07092	-19300, 9400 (42)			
84050724	0.07095	-18900,20900 (41)			
84052224	0.09400	-18000,11500 (8)			
84052424	0.09136	-18000,11500 (10)			
84052824	0.06846	-19300, 9400 (45)			
84060724	0.08231	-19700, 3200 (21)			
84060824	0.07227	-19700, 3200 (38)			
84060924	0.11139	-19700, 3200 (2)			
84061624	0.10255	-19700, 3200 (5)			
84061724	0.08058	-19700, 5200 (23)			
"	0.07405	-19700, 3200 (33)			
84070524	0.07978	-18000,11500 (25)			
84072124	0.08156	-19700, 3200 (22)			
84072324	0.07161	-19700, 5200 (39)			
84072824	0.07724	-17000,13700 (28)			
84072924	0.07263	-19300, 9400 (37)			
84081324	0.07617	-18000,11500 (29)			
84082324	0.07603	-19700, 3200 (30)			
84102024	0.07307	-17000,13700 (34)			
84102824	0.10646	-18000,11500 (3)			
84112724	0.09626	-17000,13700 (7)			
"	0.07445	-28500,20900 (31)			
"	0.07265	-18000,11500 (36)			
"	0.06834	-26000,20900 (46)			
84122824	0.07901	-19700, 5200 (26)			
84123124	0.08883	-16300,15800 (11)			
"	0.08770	-23500,20900 (12)			

TABLE 4

1985 INCREASES IN CLASS I IMPACTS GREATER THAN NPS SILs
FOR TWO OPERATING KILNS

PERIOD (YYMMDDHH)	24-HOUR CONC (ug/m^3)	LOCATION (RANK) X,Y(m) (TOP 50)	PERIOD (YYMMDDHH)	3-HOUR CONC (ug/m^3)	LOCATION (RANK) X,Y(m) (TOP 50)
85010124	0.09213	-18000,11500 (12)	85050209	0.55397	-16300,15800 (1)
85021024	0.07073	-19700, 5200 (32)	85083003	0.49419	-17000,13700 (2)
85022124	0.07348	-19700, 5200 (27)			
85022224	0.07597	-19700, 3200 (25)			
85032124	0.07035	-17000,13700 (35)			
85041124	0.10690	-19700, 3200 (5)			
"	0.09070	-19700, 5200 (13)			
85041324	0.09956	-19700, 5200 (6)			
85041824	0.09390	-19700, 3200 (10)			
85050224	0.08927	-16300,15800 (15)			
"	0.07498	-21000,20900 (26)			
"	0.07274	-17600,18100 (28)			
85060624	0.07020	-28500,20900 (38)			
85061524	0.07865	-16300,15800 (24)			
"	0.07126	-21000,20900 (31)			
"	0.07044	-17600,18100 (34)			
85072024	0.10862	-18000,11500 (4)			
"	0.07051	-28500,20900 (33)			
85072224	0.08985	-19700, 5200 (14)			
"	0.08095	-19700, 3200 (19)			
85072624	0.07910	-19700, 3200 (22)			
85072724	0.08902	-19300, 9400 (16)			
85073024	0.06919	-18000,11500 (40)			
85083024	0.19581	-17000,13700 (1)			
"	0.14318	-26000,20900 (2)			
"	0.11800	-28500,20900 (3)			
"	0.09814	-23500,20900 (7)			
"	0.09225	-16300,15800 (11)			
"	0.07924	-17600,18100 (21)			
"	0.07022	-21000,20900 (37)			
85090224	0.09722	-19300, 9400 (8)			
"	0.06875	-19700, 7300 (43)			
85102724	0.07905	-16300,15800 (23)			
"	0.07271	-17000,13700 (29)			
"	0.06890	-23500,20900 (42)			
85102824	0.09638	-17000,13700 (9)			
"	0.06869	-26000,20900 (44)			
85111624	0.08443	-19700, 5200 (18)			
85112024	0.07226	-19700, 5200 (30)			
"	0.06961	-19700, 7300 (39)			
85112524	0.07950	-19700, 3200 (20)			
85112824	0.08615	-16300,15800 (17)			
"	0.07033	-21000,20900 (36)			
"	0.06902	-17600,18100 (41)			

TABLE 5
1986 INCREASES IN CLASS I IMPACTS GREATER THAN NPS SILs
FOR TWO OPERATING KILNS

PERIOD (YYMMDDHH)	24-HOUR CONC (ug/m^3)	LOCATION (RANK) X,Y(m) (TOP 50)	PERIOD (YYMMDDHH)	3-HOUR CONC (ug/m^3)	LOCATION (RANK) X,Y(m) (TOP 50)
86031024	0.10019	-17000,13700 (5)	86061509	0.53123	-19700, 3200 (1)
"	0.07738	-26000,20900 (20)			
86031324	0.12081	-17000,13700 (1)			
"	0.09087	-16300,15800 (6)			
"	0.08765	-17600,18100 (8)			
"	0.08198	-18900,20900 (12)			
"	0.07998	-26000,20900 (16)			
"	0.07203	-21000,20900 (32)			
"	0.07026	-23500,20900 (35)			
86031824	0.10409	-17000,13700 (4)			
"	0.08636	-16300,15800 (9)			
"	0.08278	-23500,20900 (10)			
"	0.07686	-19700, 5200 (23)			
"	0.07168	-26000,20900 (33)			
86040524	0.07501	-19700, 3200 (24)			
86052524	0.07800	-18000,11500 (18)			
86052724	0.06863	-19300, 9400 (36)			
86052824	0.07349	-18000,11500 (27)			
86060324	0.08118	-19700, 5200 (14)			
86061324	0.07712	-19700, 5200 (21)			
86061424	0.08268	-17000,13700 (11)			
"	0.07432	-28500,20900 (26)			
"	0.07309	-18000,11500 (28)			
86061524	0.07688	-19700, 3200 (22)			
86070524	0.10590	-19300, 9400 (3)			
86070924	0.07209	-18000,11500 (30)			
86080824	0.07458	-17000,13700 (25)			
86081024	0.08142	-18000,11500 (13)			
86081224	0.08955	-19300, 9400 (7)			
86092524	0.06805	-19700, 7300 (37)			
86110724	0.08026	-19700, 3200 (15)			
86112424	0.10648	-17000,13700 (2)			
"	0.07987	-26000,20900 (17)			
86112524	0.07796	-17000,13700 (19)			
"	0.07206	-16300,15800 (31)			
"	0.07125	-23500,20900 (34)			
86120924	0.07248	-19300, 9400 (29)			

TABLE 6
MAXIMUM CLASS I FACILITY IMPACTS[a]

Year/ Avg.Time	Case 1 - 2 Cement Kilns Conc.	X,Y Coor(m)	Case 2 - 2 Cement Kilns + Power Plant Conc.	X,Y Coor(m)
82/Annual	0.00281	-19700, 3200	0.00150	-19700, 3200
1-hr MAX	0.23413	-19700, 5200	0.11304	-16300,15800
H2H	0.18709	-16300,15800	0.09989	-16300,15800
3-hr MAX	0.10762	-19700, 3200	0.05911	-19700, 5200
H2H	0.09399	-19700, 3200	0.05169	-17000,13700
8-hr MAX	0.05888	-18000,11500	0.03568	-18000,11500
H2H	0.05166	-19700, 5200	0.02670	-18000,11500
24-hr MAX	0.03357	-18000,11500	0.01881	-18000,11500
H2H	0.02330	-19700, 3200	0.01451	-16300,15800
83/Annual	0.00248	-18000,11500	0.00140	-18000,11500
1-hr MAX	0.20765	-18000,11500	0.11773	-19700, 3200
H2H	0.19031	-19700, 5200	0.10506	-19700, 3200
3-hr MAX	0.11958	-19700, 7300	0.06603	-19700, 3200
H2H	0.07716	-17000,13700	0.06054	-18000,11500
8-hr MAX	0.07336	-16300,15800	0.03544	-21000,20900
H2H	0.06343	-16300,15800	0.03387	-16300,15800
24-hr MAX	0.03670	-17000,13700	0.02258	-17000,13700
H2H	0.02593	-16300,15800	0.01526	-19300, 9400
84/Annual	0.00270	-19700, 3200	0.00146	-19700, 3200
1-hr MAX	0.21376	-19700, 5200	0.12348	-19700, 3200
H2H	0.18554	-19700, 5200	0.11072	-19700, 3200
3-hr MAX	0.11882	-18000,11500	0.05892	-16300,15800
H2H	0.09357	-19700, 5200	0.05676	-19700, 5200
8-hr MAX	0.08044	-19700, 3200	0.03517	-16300,15800
H2H	0.05364	-19700, 3200	0.03115	-19700, 3200
24-hr MAX	0.02985	-19700, 5200	0.01681	-19700, 3200
H2H	0.02448	-19700, 3200	0.01563	-19700, 3200
85/Annual	0.00229	-19700, 3200	0.00126	-19700, 3200
1-hr MAX	0.21910	-19700, 3200	0.11628	-19700, 7300
H2H	0.20452	-17000,13700	0.11387	-19700, 7300
3-hr MAX	0.11204	-17000,13700	0.06208	-17000,13700
H2H	0.09329	-17000,13700	0.05058	-17000,13700
8-hr MAX	0.06786	-17000,13700	0.03789	-19700, 5200
H2H	0.05328	-17000,13700	0.03145	-17000,13700
24-hr MAX	0.04389	-17000,13700	0.02481	-17000,13700
H2H	0.02164	-18000,11500	0.01327	-17000,13700
86/Annual	0.00260	-18000,11500	0.00145	-17000,13700
1-hr MAX	0.19969	-19700, 5200	0.12465	-18000,11500
H2H	0.18416	-19700, 3200	0.10718	-18000,11500
3-hr MAX	0.10964	-19700, 3200	0.05952	-18900,20900
H2H	0.09665	-18000,11500	0.05355	-17000,13700
8-hr MAX	0.05026	-19700, 7300	0.03341	-17000,13700
H2H	0.05014	-19700, 7300	0.02973	-17000,13700
24-hr MAX	0.02530	-17000,13700	0.01740	-17000,13700
H2H	0.02390	-17000,13700	0.01631	-17000,13700

[a]Facility class I impacts in ug/m^3 for a facility emission rate of 1 gram/second. Maximum and maximum second-highest impacts are underlined. X,Y coordinates are in meters east and north of the facility stack.

TABLE 7
MAXIMUM FACILITY CLASS I IMPACTS AND
MAXIMUM INCREASES IN FACILITY CLASS I IMPACTS[a]

Pollutant/ Avg.Time		Case 1 - 2 Cement Kilns Maximum Impacts	Case 1 - 2 Cement Kilns Maximum Increases	Case 2 - 2 Cement Kilns + Power Plant Maximum Impacts	Case 2 - 2 Cement Kilns + Power Plant Maximum Increases
SO_2	3-hr MAX	1.431	0.554	6.872	0.372
	3-hr H2H	1.157	0.500	6.301	0.341
	24-hr MAX	0.525	0.196	2.582	0.064
	24-hr H2H	0.310	0.115	1.697	0.053
	Annual MAX	0.034	0.011	0.156	< 0.0
NO_2	Annual MAX	0.254	0.091	0.296	0.040
PM	24-hr MAX	0.547	0.221	0.425	0.119
	24-hr H2H	0.323	0.130	0.280	0.085
	Annual MAX	0.035	0.013	0.026	0.007

[a]Impacts given in ug/m^3.

TABLE 6-8
MAXIMUM INCREASES IN FACILITY IMPACTS DUE TO PROPOSED MODIFICATION[a] COMPARED TO SIGNIFICANT IMPACT LEVELS

********************** CLASS II MAXIMUM INCREASES **********************

Pollutant/ Avg.Time		-------Facility Configuration------- (CP1+CP2) -(CP1)	(PP+CP1+CP2) -(PP+CP1)	Class II SILs	Maximum Percent of SILs
SO_2	3-hour	2.393	1.193	25	9.6%
	24-hour	0.590	0.178	5	11.8%
	Annual	0.040	0.003	1	4.0%
NO_2	Annual	0.341	0.128	1	34.1%
PM_{10}	24-hour	0.633	0.328	5	12.7%
/TSP	Annual	0.047	0.024	1	4.7%
CO	1-hour	14.467	8.260	2000	0.7%
	8-hour	3.829	1.460	500	0.8%

**** CLASS I MAXIMUM INCREASES COMPARED TO NPS SIGNIFICANT IMPACT LEVELS ****

Pollutant/ Avg.Time		----- Facility Configuration----- (CP1+CP2) -(CP1)	(PP+CP1+CP2) -(PP+CP1)	National Park Service Class I SILs	Maximum Percent of SILs
SO_2	3-hour	0.554	0.372	0.48	115.4%
	24-hour	0.196	0.064	0.068	288.2%
	Annual	0.011	< 0.0	0.025	44.0%
NO_2	Annual	0.091	0.040	0.025	364.0%
PM_{10}	24-hour	0.221	0.119	0.27	81.8%
	Annual	0.013	0.007	0.080	16.3%
TSP	24-hour	0.221	0.119	0.33	67.0%
	Annual	0.013	0.007	0.083	15.7%

**** CLASS I MAXIMUM INCREASES COMPARED TO EPA SIGNIFICANT IMPACT LEVELS ****

Pollutant/ Avg.Time		-----Facility Configuration------ (CP1+CP2) -(CP1)	(PP+CP1+CP2) -(PP+CP1)	USEPA Draft Proposed Class I SILs	Maximum Percent of SILs
SO_2	3-hour	0.554	0.372	1.0	55.4%
	24-hour	0.196	0.064	0.2	98.0%
	Annual	0.011	< 0.0	0.1	11.0%
NO_2	Annual	0.091	0.040	0.1	91.0%
PM_{10}	24-hour	0.221	0.119	0.3	73.7%
	Annual	0.013	0.007	0.2	6.5%
TSP	24-hour	0.221	0.119	0.4	55.3%
	Annual	0.013	0.007	0.2	6.5%

[a]Impacts and significant impact levels (SILs) shown in ug/m^3. Impacts are maximum short-term and long-term increases in facility impacts due to proposed modification.

Law Offices
HOLLAND & KNIGHT

A Partnership Including Professional Corporations

315 South Calhoun Street
Suite 600
P.O. Drawer 810 (ZIP 32302-0810)
Tallahassee, Florida 32301
904-224-7000
FAX 904-224-8832

Atlanta
Fort Lauderdale
Jacksonville
Lakeland
Miami
Orlando
St. Petersburg
Tampa
Washington, D.C.
West Palm Beach

March 20, 1995

LAWRENCE N. CURTIN
904-425-5678

VIA HAND DELIVERY

Mr. Hamilton S. Oven, Jr., P.E.
Office of Siting Coordination
Department of Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Suite 953A
Tallahassee, Florida 32399-3000

Re: Central Power & Lime, Inc. -- Conditions of Certification; PA 82-17

Dear Buck:

As you know, last week an Application was filed with the Department for authorization to construct a second cement plant at the site of the existing CPL cogeneration facility in Hernando County, Florida. The permit application was submitted to the Bureau of Air Quality Management for processing, in accordance with our earlier meetings with you, Clair Fancy and others. The Application is for a 600,000 ton per year cement plant. A copy of the Application is enclosed for your files.

We have reviewed the Conditions of Certification for the cogeneration facility, and have discussed the matter with you and with Clair Fancy at various meetings. Since the construction will be at the site of a certified cogeneration facility, you will be involved in the review. With respect to the air emissions, we have not identified any specific Conditions of Certification that will require modification. However, some language may be required to reflect the additional facility. Additionally, the enclosed Application materials and subsequent submittals should be considered as an update to the Site Certification Application.

We have identified changes to the water balance at the facility as a result of this proposal and other activities. I have enclosed for your review, and appropriate distribution, a report from Imperial Testing Laboratories that details these modifications. A revised Water Use Plan is included. In summary, the construction and operation of the proposed new kiln is not expected to have any impact on water supply. The net effect of all of the changes is a reduction in the currently approved groundwater

withdrawal requirements. This reduction is approximately 1.2 million gallons per day. In connection with the authorization of construction of the additional cement plant, the Conditions of Certification should be modified to reflect this reduction.

We understand there is no need to submit an additional modification fee at this time since a substantial portion of a previously submitted modification fee remains at the Department. We will keep you advised of the progress and will plan to schedule a meeting with you at the appropriate time to discuss any questions you may have or additional information you may require.

Please do not hesitate to contact us to discuss the matter.

Sincerely,

HOLLAND & KNIGHT

Lawrence N. Curtin

Attachments
cc w/o enc:
Mr. Clair Fancy
Mr. Tom Mountain

LNC/mrh
TAL-59933

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

March 14, 1995

Mr. Charles B. Hetrick
County Administrator
Hernando County Government Center
20 N. Main Street, Room 461
Brooksville, FL 34601

RE: Florida Crushed Stone Company
New Cement Kiln
Hernando County, PSD-FL-227

Dear Mr. Hetrick:

Enclosed for your review and comment is the above referenced PSD application. Please forward your comments to the Department's Bureau of Air Regulation as soon as possible. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact Teresa Heron or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia G. Adams

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

CHF/pa

Enclosures

cc: Teresa Heron
Cleve Holladay

Department of Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

March 14, 1995

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

RE: Florida Crushed Stone Company
New Cement Kiln
Hernando County, PSD-FL-227

Dear Ms. Harper:

Enclosed for your review and comment is the above referenced PSD application. Please forward your comments to the Department's Bureau of Air Regulation as soon as possible. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact Teresa Heron or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia D. Adams for

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

CHF/pa

Enclosures

cc: Teresa Heron
Cleve Holladay

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

March 14, 1995

Mr. John Bunyak, Chief
Policy, Planning and Permit Review Branch
National Park Service-Air Quality Division
P. O. Box 25287
Denver, Colorado 80225

RE: Florida Crushed Stone Company
New Cement Kiln
Hernando County, PSD-FL-227

Dear Mr. Bunyak:

Enclosed for your review and comment is the above referenced PSD application. Please forward your comments to the Department's Bureau of Air Regulation as soon as possible. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact Teresa Heron or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia D. Adams for

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

CHF/pa

Enclosures

cc: Teresa Heron
Cleve Holladay

Law Offices
HOLLAND & KNIGHT

A Partnership Including Professional Corporations

315 South Calhoun Street
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Atlanta
Fort Lauderdale
Jacksonville
Lakeland
Miami
Orlando
St. Petersburg
Tampa
Washington, D.C.
West Palm Beach

LAWRENCE N. CURTIN
904-425-5678

March 13, 1995

Mr. Clair Fancy
Department of Environmental
Protection
111 South Magnolia, Suite 4
Tallahassee, Florida

Re: Florida Crushed Stone Company -- Application to Construct a Second 600,000 Ton Per Year Cement Kiln at the Florida Crushed Stone Company Facility In Brooksville, Florida

Dear Clair:

Enclosed for processing are the original and 6 copies of Florida Crushed Stone Company's Application to construct a second 600,000 ton per year cement kiln at the site of the cogeneration facility located in Brooksville, Florida. In accordance with our earlier meetings with you and Buck Oven, we understand that a separate processing fee is not required for this Application, and that any charges will be deducted from the fee already paid for our currently pending Modification to the Conditions of Certification for the cogeneration facility.

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 me or Tom Mountain at (904) 799-7881.

Sincerely,

Holland & Knight

Lawrence N. Curtin (MRH)

Lawrence N. Curtin

cc: Mr. Tom Mountain
T. Tolbert
C. Holladay
D. Kasul
C. Petrick
J. Harper
G. Bunyak

LNC/mrh
TAL-59612

RECEIVED
MAR 13 1995
Bureau of
Air Regulation

Department of Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT
APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form provides general information on the scope of this application, the purpose for which this application is being submitted, and the nature of any construction or modification activities proposed as a part of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department on diskette, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility name, if any; and a brief reference to the facility's physical location. If known, also enter the ARMS or AIRS facility identification number. This information is intended to give a quick reference, on the first page of the application form, to the facility addressed in this application. Elsewhere in the form, numbered data fields are provided for entry of the facility data in computer-input format.

Applicant: Florida Crushed Stone Company
Facility: Florida Crushed Stone Company
10311 Cement Plant Road, Brooksville, FL 34601

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3/13/95
2. Permit Number:	AC21-274892
3. PSD Number (if applicable):	PSD-FL-227
4. Siting Number (if applicable):	PA 82-12

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Joseph T. Piermatteo, Senior Vice President

2. Owner/Authorized Representative or Responsible Official Mailing Address:

   Organization/Firm: **Florida Crushed Stone Company**
   Street Address: **10311 Cement Plant Road**
   City: **Brooksville** State: **Florida** Zip Code: **34601**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: **(904) 799-7881** Fax: (904) 799-3508

4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative of the facility (non-Title V source) addressed in this Application for Air Permit or the responsible official, as defined in Chapter 62-213, 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. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this application 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. If the purpose of this application is to obtain an air operation permit or operation permit revision for one or more emissions units which have undergone construction or modification, I certify that, with the exception of any changes detailed as part of this application, each such emissions unit 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. 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 unit.*

Joseph J Piermatteo — Signature

3-11-95 — Date

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility (or Title V source). An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID	Description of Emissions Unit
2E-40	Rotary Kiln/Clinker Cooler/Gepol Pre-heater/Raw Mill/Shaft Dryer
2D-63	Iron Ore Bin
2D-67	Fly Ash Bin
2D-75	Filter Dust Bin
2F-14	Raw Meal Transport
2F-30	Lime Storage Silo
2G-12	Raw Meal Storage and Homogenizing Silos
2H-15	Kiln Feed System
2L-08	Gypsum Storage Bin
2L-16	Clinker Transport
2M-08	Belt Conveyor
2N-13	Finish Mill Discharge Vent
2N-20	Finish Mill Sepol Separator
2Q-15A	Cement Storage Silo A
2Q-15B	Cement Storage Silo B
2Q-17	Cement Silo Discharge Hopper
2S-04	Coal Transport Conveyor
2S-07	Coal Storage Bin

Purpose of Application and Category

Check one (except as otherwise indicated):

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. Also check Category III.

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. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

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 Rule 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. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

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. (PPSA)

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Construction of a cement production line consisting of a kiln, a raw mill, a clinker cooler, a finish mill, a dryer, and associated material handling equipment and control devices. This production line will be the same size as an existing line already operating at the site.

2. Projected or Actual Date of Commencement of Construction (DD-MON-YYYY):

01-11-1995

3. Projected Date of Completion of Construction (DD-MON-YYYY):

01-11-1997

Professional Engineer Certification

1. Professional Engineer Name: **Larry Roberts**
   Registration Number: **Florida 18040**

2. Professional Engineer Mailing Address:

   Organization/Firm: **Central Power & Lime, Inc.**
   Street Address: **10311 Cement Plant Road**
   City: **Brooksville** State: **FL** Zip Code: **34601**

3. Professional Engineer Telephone Numbers:
   Telephone: **(904) 799-7881** Fax: **(904) 796-6281**

4. Professional Engineer Statement:

   I, the undersigned, hereby certify, except as particularly noted herein, that:*

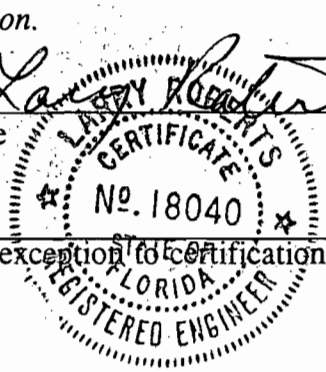
   (1) To the best of my knowledge, there is reasonable assurance (a) that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; or (b) for any application for a Title V source air operation permit, 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;

   (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; and

   (3) For any application for an air construction permit for one or more proposed new or modified emissions units, 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.

Signature Larry Roberts Date 3/11/95

(seal)



* Attach any exception to certification statement.

DEP Form No. 62-210.900(1) - Form
Effective: 11-23-94

Application Contact

1. Name and Title of Application Contact:

Tom W. Mountain - Environmental Manager

2. Application Contact Mailing Address:

Organization/Firm: **Florida Crushed Stone Company**
Street Address: **10311 Cement Plant Road, P.O. Box 1508**
City: **Brooksville** State: **FL** Zip Code: **34605-1508**

3. Application Contact Telephone Numbers:
Telephone: **(904) 799-7881** Fax: **(904) 796-6281**

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Name, Location, and Type

1. Facility Owner or Operator: **Florida Crushed Stone Company**			
2. Facility Name: **Florida Crushed Stone Company**			
3. Facility Identification Number: **40TPA270021** [ ] Unknown			
4. Facility Location Information: Facility Street Address: **10311 Cement Plant Road** City: **Brooksville** County: **Hernando** Zip Code: **34601**			
5. Facility UTM Coordinates: Zone: **17** East (km): **360.0** North (km): **3162.5**			
6. Facility Latitude/Longitude: Latitude (DD/MM/SS): **28° 34' 55"** Longitude (DD/MM/SS): **82° 25' 52"**			
7. Governmental Facility Code: **0**	8. Facility Status Code: **A**	9. Relocatable Facility? [ ] Yes [X] No	10. Facility Major Group SIC Code: **32**
11. Facility Comment:			

Facility Contact

1. Name and Title of Facility Contact: **Tom W. Mountain - Environmental Manager**			
2. Facility Contact Mailing Address: Organization/Firm: **Florida Crushed Stone Company** Street Address: **10311 Cement Plant Road** City: **Brooksville** State: **Florida** Zip Code: **34601**			
3. Facility Contact Telephone Numbers: Telephone: **(904) 799-7881** Fax: **(904) 796-6281**			

Facility Regulatory Classifications

1. Small Business Stationary Source? [ ] Yes [X] No [ ] Unknown
2. Title V Source? [X] Yes [ ] No
3. Synthetic Non-Title V Source? [ ] Yes [X] No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? [X] Yes [ ] No
5. Synthetic Minor Source of Pollutants Other than HAPs? [ ] Yes [X] No
6. Major Source of Hazardous Air Pollutants (HAPs)? [ ] Yes [X] No [ ] Possible
7. Synthetic Minor Source of HAPs? [ ] Yes [X] No
8. One or More Emissions Units Subject to NSPS? [X] Yes [ ] No
9. One or More Emission Units Subject to NESHAP? [ ] Yes [X] No
10. Title V Source by EPA Designation? [X] Yes [ ] No
11. Facility Regulatory Classifications Comment:

B. FACILITY REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of federal, state, and local regulations applicable to the facility as a whole. (Regulations applicable to individual emissions units within the facility are addressed in Subsection III-B of the form.)

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

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 (NSPS) for Portland Cement Plants
40 CFR 61	National Emission Standards for Hazardous Air Pollutants (NESHAP)
40 CFR 64	Enhanced Monitoring Rule (Proposed October 22, 1993)
62-210 FAC	Stationary Sources - General Requirements
62-212 FAC	Stationary Sources - Preconstruction Review
62-272 FAC	Ambient Air Quality Standards
62-296 FAC	Stationary Source - Emission Standards
62-297 FAC	Stationary Source - Emissions Monitoring

C. FACILITY POLLUTANT INFORMATION

This subsection of the Application for Air Permit form allows for the reporting of potential and estimated emissions of selected pollutants on a facility-wide basis. It must be completed for each pollutant for which the applicant proposes to establish a facility-wide emissions cap and for each pollutant for which emissions are not reported at the emissions-unit level.

Facility Pollutant Information: Pollutant _____ of _____

1. Pollutant Emitted: **Not Applicable**		
2. Estimated Emissions:		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

Facility Pollutant Information: Pollutant _____ of _____

1. Pollutant Emitted: **Not Applicable**		
2. Estimated Emissions:		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

D. FACILITY SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the facility as a whole. (Supplemental information related to individual emissions units within the facility is provided in Subsection III-I of the form.) Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location:
[ ] Attached, Document ID: **Please Refer to PPSA Document**
[ ]Not Applicable [ ]Waiver Requested

2. Facility Plot Plan:
[X] Attached, Document ID: **See Attached Attachment C**
[ ]Not Applicable [ ]Waiver Requested

Plot Plan for Emission Control Points, Drawing No. E7-150.0010-327618.

3. Process Flow Diagram(s):
[X] Attached, Document ID: **See Attached Flow Diagrams, Attachment B**
[ ]Not Applicable [ ]Waiver Requested

4. Precautions to Prevent Emissions of Unconfined Particulate Matter:
[ ] Attached, Document ID: **Please Refer to PPSA Application Document**
[ ]Not Applicable [ ] Waiver Requested

5. Fugitive Emissions Identification:
[ ] Attached, Document ID: **Please Refer to PPSA Application Document**
[ ]Not Applicable [ ]Waiver Requested

6. Supplemental Information for Construction Permit Application:
[ ] Attached, Document ID: **Please Refer to PPSA Application Document**

[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

7. List of Insignificant Activities:
[ ] Attached, Document ID:_____ [ ] Not Applicable

8. List of Equipment/Activities Regulated under Title VI:

[ ] Attached, Document ID:_____

[ ] Equipment/Activities Onsite but Not Required to be Individually Listed

[ ] Not Applicable

9. Alternative Methods of Operation:
[ ] Attached, Document ID:_____ [ ] Not Applicable

10. Alternative Modes of Operation (Emissions Trading):
[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Enhanced Monitoring Plan:
[ ] Attached, Document ID: [ ] Not Applicable

12. Risk Management Plan Verification:

[ ] Plan Submitted to Implementing Agency - Verification Attached, Document ID:_____

[ ] Plan to be Submitted to Implementing Agency by Required Date

[ ] Not Applicable

13. Compliance Report and Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Statement (Hard-copy Required)
[ ] Attached, Document ID:_____ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[**X**] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Rotary Kiln, Clinker Cooler, Gepol Pre-heater, Raw Mill, and Dryer

Source Description: Operation of a rotary kiln, clinker cooler, Raw Mill, Dryer and Pre-heater all exhausting to a baghouse and out a single stack. The maximum clinker production rate is 83 tons per hour. The cement kiln is preheated with fuel oil or a used oil/fuel oil mix, and is fired with either coal or a mixture of coal and tire-derived fuel (TDF).

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Polysius** Model Number: **N/A**

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Fabric Filter**
2. Control Device or Method Code: **016**

B.

1. Description: **Staged Combustion**
2. Control Device or Method Code: **025**

C.

1. Description: **Flue Gas Alkalinity**
2. Control Device or Method Code: **N/A**

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**276.62*** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **Not Applicable**		
4. Maximum Production Rate: **83 tons clinker/hour**		
5. Operating Capacity Comment:		

* **Maximum heat input rate is equivalent to heat input from combustion of 10.3 tons per hour of coal at 13,428 BTU/lb dry coal (value from July, 1994 coal sample).**

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:

24 hours/day	**7** days/week
52 weeks/year	**8,760** hours/year

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

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 (NSPS) for Portland Cement Plants
40 CFR 61	National Emission Standards for Hazardous Air Pollutants (NESHAP)
40 CFR 64	Enhanced Monitoring Rule (Proposed October 22, 1993)
62-210 FAC	Stationary Sources - General Requirements
62-212 FAC	Stationary Sources - Preconstruction Review
62-272 FAC	Ambient Air Quality Standards
62-296 FAC	Stationary Source - Emission Standards
62-297 FAC	Stationary Source - Emission Monitoring
62-4.070 FAC	Permits

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attached Diagram: Mechanical Process Flow Sheets "Pre-heater, Kiln, Cooler, and Coal System" and "Raw Mill System"**		
2. Emission Point Type Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4		
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Emissions from the cement kiln, clinker cooler, raw mill system, pre-heater and dryer all exhaust out a single stack.**		
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [**X**] V [ ] W		
6. Stack Height:	**320**	feet
7. Exit Diameter:	**10.0**	feet
8. Exit Temperature:	**272**	°F
9. Actual Volumetric Flow Rate:	**254,600**	acfm

10. Percent Water Vapor :	**15** %
11. Maximum Dry Standard Flow Rate:	**163,650** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment: **Stack exit temperature, flow rate, and percent moisture are at typical operational conditions. See attached document for further discussion.**	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment **1** of **3**

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Cement Kiln: Emissions related to tons of cement clinker produced**	
2. Source Classification Code (SCC): **30500706**	
3. SCC Units: **Tons produced**	
4. Maximum Hourly Rate: **83**	5. Maximum Annual Rate: **727,080**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):

   Cement Kiln/Dryer: Emissions related to tons of coal burned.

2. Source Classification Code (SCC): **39000201**

3. SCC Units: **Tons**

4. Maximum Hourly Rate: **10.3**	5. Maximum Annual Rate: **90,228**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
0.76% Expected	**10.0% Expected**

9. Million Btu per SCC Unit: **26.9***

10. Segment Comment:

*** Million BTUs per ton of dry coal calculated from sample of coal at facility.**

15% of maximum total heat input may be attributable to combustion of tire-derived fuel.

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Cement Kiln/Dryer: Emissions related to 1000 gallons of oil burned.**
2. Source Classification Code (SCC): **39000502**
3. SCC Units: **1000 gallons**

4. Maximum Hourly Rate: **4.1**	5. Maximum Annual Rate: **295**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **1.5%**	8. Maximum Percent Ash: **2.99%**
9. Million Btu per SCC Unit: **138.1**	

10.Segment Comment:

*** Please note that FCS utilizes a mixture of virgin fuel oil and on-specification used oils for start-up of the cement kiln. Estimated maximum number of start-ups per year would be six, each lasting 12 hours.**

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 4

1. Pollutant Emitted: **NO_x**
2. Total Percent Efficiency of Control: **Please Refer to PPSA Application Document** %
3. Primary Control Device Code: **025**
4. Secondary Control Device Code:
5. Potential Emissions: **359.0** lb/hour **1572.0** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **Not Applicable**
8. Emission Factor: **Please Refer to PPSA Application Document** Reference:
9. Emissions Method Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: **Please Refer to PPSA Application Document**
11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 2 of 4

1. Pollutant Emitted: **SO_2**
2. Total Percent Efficiency of Control: **Please Refer to PPSA Application Document** %
3. Primary Control Device Code: **025**
4. Secondary Control Device Code:
5. Potential Emissions: **45.0** lb/hour **197.1** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **Not Applicable**
8. Emission Factor: **Please Refer to PPSA Application Document** Reference:
9. Emissions Method Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: **Please Refer to PPSA Application Document**
11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 3 of 4

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: **Please Refer to PPSA Application Document** %
3. Primary Control Device Code: **016**
4. Secondary Control Device Code:
5. Potential Emissions: **49.5** lb/hour **216.0** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **Not Applicable**
8. Emission Factor: **Please Refer to PPSA Application Document** Reference:
9. Emissions Method Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: **Please Refer to PPSA Application Document**
11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 4 of 4

1. Pollutant Emitted: **PM_{10}**
2. Total Percent Efficiency of Control: **Please Refer to PPSA Application Document** %
3. Primary Control Device Code: **016**
4. Secondary Control Device Code:
5. Potential Emissions: **49.5** lb/hour **216.0** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **Not Applicable**
8. Emission Factor: **Please Refer to PPSA Application Document** Reference:
9. Emissions Method Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: **Please Refer to PPSA Application Document**
11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emission Limitation **1** **of** **1**

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [**X**] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10 %** Exceptional Conditions: **10 %** Maximum Period of Excess Opacity Allowed: **N/A** min/hour
4. Method of Compliance: **Installation of a continuous opacity monitoring system.**
5. Visible Emissions Comment: **Visible limit based on allowable in Federal NSPS 40 CFR 60 Subpart F.**

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor **1** of **5**

1. Parameter Code: **VE**
2. CMS Requirement: [**X**] Rule [ ] Other
3. Monitor Information: **To be determined at a later date** Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY): **To be determined at a later date**
5. Performance Specification Test Date (DD-MON-YYYY): **To be determined at a later date.**
6. Continuous Monitor Comment: **40 CFR 60, Subpart F required continuous opacity monitor installation. These Federal rules are adopted by reference in 62-296.800 FAC.**

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor **2** of **5**

NOT APPLICABLE

1. Parameter Code: **SO_2**
2. CMS Requirement: [**X**] Rule [ ] Other
3. Monitor Information: **To be determined at a later date** Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY): **To be determined at a later date**
5. Performance Specification Test Date (DD-MON-YYYY): **To be determined at a later date**
6. Continuous Monitor Comment: **SO_2 CEM required by Florida Department of Environmental protection in accordance with 62-4.070 FAC.**

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor 3 of 5

1. Parameter Code: NO_x
2. CMS Requirement: [X] Rule [ ] Other
3. Monitor Information: **To be determined at a later date** Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY): **To be determined at a later date**
5. Performance Specification Test Date (DD-MON-YYYY): **To be determined at a later date**
6. Continuous Monitor Comment: **NO_x CEM required by Florida Department of Environmental Protection in accordance with 62-4.070 FAC. Installation proposed following promulgation of final regulations in 40 CFR 64.**

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor **4** of **5**

1. Parameter Code: **Flow**
2. CMS Requirement: [**X**] Rule [ ] Other
3. Monitor Information: **To be determined at a later date** Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY): **To be determined at a later date**
5. Performance Specification Test Date (DD-MON-YYYY): **To be determined at a later date**
6. Continuous Monitor Comment: **Flow monitor required by Florida Department of Environmental Protection in accordance with 62-4.070 FAC. Installation proposed following promulgation of final regulations in 40 CFR 64.**

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor **5** of **5**

1. Parameter Code: O_2
2. CMS Requirement: [ ] Rule [X] Other
3. Monitor Information: **To Be Determined at a Later Date** Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY): **To Be Determined at a Later Date**
5. Performance Specification Test Date (DD-MON-YYYY): **To be determined at a later date**
6. Continuous Monitor Comment: **Monitor will be installed to measure flue gas oxygen concentration.**

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[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, 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.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[X] C	[ ] E	[ ] Unknown
NO2	[X] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	lb/hour	tons/year
SO2	lb/hour	tons/year
NO2		tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [**X**] Attached, Document ID: **Attachment B** [] Not Applicable [] Waiver Requested

2. Fuel Analysis or Specification

   [**X**] Attached, Document ID: **Attachment A** [] Not Applicable[] Waiver Requested

3. Detailed Description of Control Equipment

   [**X**] Attached, Document ID: **Please Refer to PPSA Application Document**

   [] Not Applicable[] Waiver Requested

4. Description of Stack Sampling Facilities

   [] Attached, Document ID:_____ [] Not Applicable [**X**] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____
   [ ] Previously submitted, Date:_____
   [**X**] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: **Please Refer to PPSA Application Document**

   [ ] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: **Please Refer to PPSA Application Document**

   [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Iron Ore Bin Source # 2D-61

Source Description: Iron Ore Storage Bin. Vents to Dust Collector 2D-63. Refer to Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage Handling"

2. ARMS Identification Number: [**X**] No Corresponding ID [] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2D-63**
2. Control Device or Method Code: **018**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	**Not Applicable** lb/hr tons/day
3. Maximum Process or Throughput Rate:	**4000 lb/hr**
4. Maximum Production Rate:	**Not Applicable**
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage and Handling"**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**89** feet
7. Exit Diameter:	**1.38** feet
8. Exit Temperature:	**100** °F
9. Actual Volumetric Flow Rate:	**3000** acfm

10. Percent Water Vapor :	**2 -3** %
11. Maximum Dry Standard Flow Rate:	**2744-2772** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **2**	5. Maximum Annual Rate: **17,520**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**018**
4. Secondary Control Device Code:	
5. Potential Emissions:	**0.26** lb/hour **1.13** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 **NOT APPLICABLE**	_____ to _____ tons/year
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $3000 acfm \times \frac{60 \text{ min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{.26\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5%** Exceptional Conditions: **10%** Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation - EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [X] Attached, Document ID: **Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage and Handling"**

   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at Later Date**

   [ ] Not Applicable[ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____

   [ ] Previously submitted, Date:_____

   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations. Plan Will Include Monthly Inspection

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [X] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 3 of 18

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Fly Ash Bin Source # 2D-64

Source Description: Storage Bin for Fly Ash. Vents to Dust Collector 2D-67. See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed, Emission Point 2D-67".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2D-67**
2. Control Device or Method Code: **018**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **14,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: :Raw Material Storage, Homogenizing Silo and Kiln Feed. Emission Point 2D-67".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**124** feet
7. Exit Diameter:	**1.7** foot
8. Exit Temperature:	**100** °F
9. Actual Volumetric Flow Rate:	**3400** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**3110-3126** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Approximate Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **7**	5. Maximum Annual Rate: **61,320**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**0.29** lb/hour **1.28** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**	
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $3400\ ACFM \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.29\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [X] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:			
PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:				
PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [**X**] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID: _____ [**X**] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID: _____ [**X**] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID: _____
   [ ] Previously submitted, Date: _____
   [**X**] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Filter Dust Bin Source # 2D-72

Source Description: Filter Dust Storage Bin. Vents to Dust Collector 2D-75. See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed, Emission Point 2D-75".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2D-75**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **50,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: :Raw Material Storage, Homogenizing Silo, and Kiln Feed. Emission Point 2D-75".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**124** feet
7. Exit Diameter:	**1.7** foot
8. Exit Temperature:	**100** °F
9. Actual Volumetric Flow Rate:	**4500** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**3492-3510** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **25**	5. Maximum Annual Rate: **219,000**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: **99.9** %
3. Primary Control Device Code: **017**
4. Secondary Control Device Code:
5. Potential Emissions: **0.39** lb/hour **1.69** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: $4500\ ACFM \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.39\ lb}{hr}$
11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[**X**] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [**X**] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID: _____ [**X**] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID: _____ [**X**] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID: _____
   [ ] Previously submitted, Date: _____
   [**X**] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspection

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Raw Meal Transport Source # 2F-11

Source Description: Pneumatic Conveyor for Raw Meal Transfer. Vents to Dust Collector 2F-14. See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed".

2. ARMS Identification Number: [X] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2F-14**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **320,000**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**30** feet
7. Exit Diameter:	**1.1** foot
8. Exit Temperature:	**180** °F
9. Actual Volumetric Flow Rate:	**1000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**800.3-804.4** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment **1** of **1**

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **160**	5. Maximum Annual Rate: **1,401,600**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted: **PM**		
2. Total Percent Efficiency of Control:		**99.9** %
3. Primary Control Device Code: **017**		
4. Secondary Control Device Code:		
5. Potential Emissions:	**0.09** lb/hour	**0.38** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No		
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**		
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**		
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5		

10. Calculation of Emissions:

$$1000\ ACFM\ x\ \frac{60\ \text{min}}{hr}\ x\ \frac{0.01\ gr}{acf}\ x\ \frac{1\ lb}{7000\ gr}\ =\ \frac{0.09\ lb}{hr}$$

11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [X] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____
   [ ] Previously submitted, Date:_____
   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [X] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Lime Storage Silo Source # 2F-21

Source Description: Lime Storage Silo. Vents to Dust Collector 2F-30. See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed, Emission Point 2F-30".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2F-30**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **600,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed. Emission Point 2F-30".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**160** feet
7. Exit Diameter:	**1.6** foot
8. Exit Temperature:	**200** °F
9. Actual Volumetric Flow Rate:	**4000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**3104-3120** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Approximate Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **300**	5. Maximum Annual Rate: **2,628,000**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**0.34** lb/hour **1.5** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3	_____ to _____ tons/year **NOT APPLICABLE**
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions:	

$$4000\ ACFM\ x\ \frac{60\ \text{min}}{hr}\ x\ \frac{0.01\ gr}{acf}\ x\ \frac{1\ lb}{7000\ gr}\ =\ \frac{0.34\ lb}{hr}$$

11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:			
PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:				
PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [**X**] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID: _____ [**X**] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID: _____ [**X**] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID: _____
   [ ] Previously submitted, Date: _____
   [**X**] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[**X**] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Raw Meal Storage and Homogenizing Silos, Source #2G-01

Source Description: Two Raw Meal Blending Silos. Vent to Dust Collector 2G-12. See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed, Emission Point 2G-12".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2G-12**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **320,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed. Emission Point 2G-12".**	
2. Emission Point Type Code: [ ] 1 [X] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Two Raw Material and Homogenizing Silos Venting to One Dust Collector**	
5. Discharge Type Code: [ ] D [ ] F [X] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**219** feet
7. Exit Diameter:	**3.3** foot
8. Exit Temperature:	**180** °F
9. Actual Volumetric Flow Rate:	**17,000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**13,604-13,674** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **160**	5. Maximum Annual Rate: **1,401,600**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**1.5** lb/hour **6.4** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**	
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $17{,}000\ ACFM \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{1.5\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram [**X**] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed"** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: **Will Provide at a Later Date** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [ ] Not Applicable **Will Follow Manufacturer's Recommendations**
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [ ] Not Applicable **Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections**
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____ [**X**] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Kiln Feed System Source # 2H-05

Source Description: A Calibration Bin to Provide Raw Material to the Pre-heater Kiln Feed System. Bin Vents to Dust Collector 2H-15. See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed, Emission Point 2H-15".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2H-15**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate: lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **260,000 lbs/hr**	
4. Maximum Production Rate: **Not Applicable**	
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo, and Kiln Feed. Emission Point 2H-15."**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**73** feet
7. Exit Diameter:	**2.14** foot
8. Exit Temperature:	**180** °F
9. Actual Volumetric Flow Rate:	**7200** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**5762-5792** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Clinker Grinding: Emissions Related to Tons of Cement Produced.**	
2. Source Classification Code (SCC): **30500717**	
3. SCC Units: **Cement Processed**	
4. Maximum Hourly Rate: **100**	5. Maximum Annual Rate: **762,000**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**0.62** lb/hour **2.7** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**	
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $7200\ ACFM \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.62\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. **NOT APPLICABLE**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[**X**] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [X] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Storage, Homogenizing Silo and Kiln Feed**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID: _____
   [ ] Previously submitted, Date: _____
   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [X] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Gypsum Storage Bin Source # 2L-14

Source Description:A Gypsum Storage Bin. Bin Vents to Dust Collector 2L-08. See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2L-08".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2L-08**
2. Control Device or Method Code: **018**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **300,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System. Emission Point 2L-08".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**110** feet
7. Exit Diameter:	**1.1** foot
8. Exit Temperature:	**70** °F
9. Actual Volumetric Flow Rate:	**2000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**1933-1943** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Approximate Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **150**	5. Maximum Annual Rate: **1,314,000**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**0.17** lb/hour **0.75** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3	_____ to _____ tons/year **NOT APPLICABLE**
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $2000\ ACFM \times \frac{60\ min}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.17\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [X] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:			
PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:				
PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [**X**] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Pre-Heater, Kiln, Cooler, and Coal System"**

   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____

   [ ] Previously submitted, Date:_____

   [**X**] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Clinker Transport Conveyor, Source # 2L-03

Source Description: Transport of Clinker from Clinker Cooler to Clinker Transport Conveyor. Emissions Vent to Dust Collector 2L-16. See Attachment B - Mechanical process Flow Diagram: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2L-16".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2L-16**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate: lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **150,000 lbs/hr**	
4. Maximum Production Rate: **Not Applicable**	
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2L-16".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**32** feet
7. Exit Diameter:	**1.1** foot
8. Exit Temperature:	**180** °F
9. Actual Volumetric Flow Rate:	**2000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**1601-1609** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Approximate Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **75**	5. Maximum Annual Rate: **657,000**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**0.17** lb/hour **0.75** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**	
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $2000\ ACFM \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.17\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[**X**] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [X] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID: _____
   [ ] Previously submitted, Date: _____
   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [X] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Belt Conveyor, Source # 2M-04

Source Description: Belt Conveyor to Convey Material From Clinker Silo and Gypsum Silo. Conveyor Vents to Dust Collector 2M-08. See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2M-08".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2M-08**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **240,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2M-08".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**40** feet
7. Exit Diameter:	**1.7** foot
8. Exit Temperature:	**180** °F
9. Actual Volumetric Flow Rate:	**4500** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**3601-3620** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Approximate Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **120**	5. Maximum Annual Rate: **1,051,200**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**0.39** lb/hour **1.69** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**	
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $4500\ ACFM \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.39\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [X] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	0	lb/hour	0	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [X] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Raw Material Pre-Heater, Kiln, Cooler, and Coal System"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____

   [ ] Previously submitted, Date:_____

   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [X] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Finish Discharge Vent, Source # 2N-02

Source Description: Discharge Vent for Finish Mill for Grinding Cement Clinker and Gypsum. Emissions Vent to Dust Collector 2N-13. See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System, Emission Point 2N-13".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Dust Collector #2N-13**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate: lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **30,000 lbs/hr**	
4. Maximum Production Rate: **Not Applicable**	
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System, Emission Point 2N-13".**	
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [X] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**123** feet
7. Exit Diameter:	**5.0** feet
8. Exit Temperature:	**200** °F
9. Actual Volumetric Flow Rate:	**40,000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**31,040-31,200** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **15**	5. Maximum Annual Rate: **131,400**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**3.43** lb/hour **15.0** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 **NOT APPLICABLE**	_____ to _____ tons/year
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $40{,}000\ acfm \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{3.43\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [X] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [X] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____

   [ ] Previously submitted, Date:_____

   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [X] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Finish Mill Sepol Separator, Source # 2N-08

Source Description: A High-efficiency Centrifugal Material Separator. Emissions Vent to Dust Collector 2N-20. See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System, Emission Point 2N-20".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector 2N-20**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **240,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System, Emission Point 2N-20".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**123** feet
7. Exit Diameter:	**8.6** feet
8. Exit Temperature:	**160** °F
9. Actual Volumetric Flow Rate:	**115,000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**94,997-95,487** dcsfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment **1** of **1**

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **120**	5. Maximum Annual Rate: **1,051,200**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**9.86** lb/hr **43.2** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 **NOT APPLICABLE**	_____ to _____ tons/year
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $115{,}000\ acfm \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = 9.86\ lb$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[**X**] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram [X] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System"** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: **Will Provide at a Later Date** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [ ] Not Applicable **Will Follow Manufacturer's Recommendations**
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [ ] Not Applicable **Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections**
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____ [X] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[**X**] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Cement Storage Silos, Source 2Q-01A and 2Q-20

Source Description: Three Cement Storage Silos. One Identified as 2Q-01A and the Left (In Diagram) Two Chambers of Storage Silo Identified as 2Q-20. Emissions Vent to Dust Collector 2Q-15A. See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System, Emission Point 2Q-15A".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2Q-15A**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate: lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **240,000 lbs/hr**	
4. Maximum Production Rate: **Not Applicable**	
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System. Emission Point 2Q-15A".**	
2. Emission Point Type Code: [ ] 1 [ ] 2 [X] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Three Cement Storage Silos Venting to One Dust Collector**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [X] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**203** feet
7. Exit Diameter:	**1.7** feet
8. Exit Temperature:	**200** °F
9. Actual Volumetric Flow Rate:	**4620** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**3585-3604** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **120**	5. Maximum Annual Rate: **1,051,200**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted:	**PM**
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code:	**017**
4. Secondary Control Device Code:	
5. Potential Emissions:	**0.4** lb/hour **1.7** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3	_____ to _____ tons/year **NOT APPLICABLE**
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $4620\ acfm \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.4\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:			
PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:				
PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [**X**] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____

   [ ] Previously submitted, Date:_____

   [**X**] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[**X**] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Cement Storage Silos, Source # 2Q-01B and 2Q-20

Source Description: Three Cement Storage Silos. One Identified as 2Q-01B and the Right Two (In Diagram) Chambers of Storage Silo Identified as 2Q-20. Emissions Vent to Dust Collector 2Q-15B. See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System, Emission Point 2Q-15B".

2. ARMS Identification Number: [X] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2Q-15B**
2. Control Device or Method Code: **017**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **240,000**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System. Emission Point 2Q-15B".**	
2. Emission Point Type Code: [ ] 1 [ ] 2 [X] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Three Cement Storage Silos Venting to One Dust Collector**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [X] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**203** feet
7. Exit Diameter:	**1.7** feet
8. Exit Temperature:	**200** °F
9. Actual Volumetric Flow Rate:	**4620** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**3585-3604** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Approximate Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **120**	5. Maximum Annual Rate: **1,051,200**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: **99.9** %
3. Primary Control Device Code: **017**
4. Secondary Control Device Code:
5. Potential Emissions: **0.4** lb/hour **1.7** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: $4620\ acfm\ x\ \frac{60\ \text{min}}{hr}\ x\ \frac{0.01\ gr}{acf}\ x\ \frac{1\ lb}{7000\ gr} = \frac{0.4\ lb}{hr}$
11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [X] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [**X**] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____
   [ ] Previously submitted, Date:_____
   [**X**] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Cement Storage Silo Discharge Hopper, Source # 2Q-08.

Source Description: Discharge Hopper Collects Cement from Silos for Discharge to Trucks. Emissions Vent to Dust Collector 2Q-17. See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System, Emission Point 2Q-17".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector 2Q-17**
2. Control Device or Method Code: **018**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **1,080,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System, Emission Point 2Q-17".**	
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [X] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**30** feet
7. Exit Diameter:	**1.5** feet
8. Exit Temperature:	**180** °F
9. Actual Volumetric Flow Rate:	**3000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**2413-2475** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: **Approximate** Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **540**	5. Maximum Annual Rate: **4,730,000**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: **99.9** %
3. Primary Control Device Code: **017**
4. Secondary Control Device Code:
5. Potential Emissions: **0.26** lb/hr **1.13** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: $3000\ acfm\ x\ \frac{60\ \text{min}}{hr}\ x\ \frac{0.01\ gr}{acf}\ x\ \frac{1\ lb}{7000\ gr} = \frac{0.26\ lb}{hr}$
11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [**X**] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:			
PM	[**X**] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:				
PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [**X**] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Finish Grinding System"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____

   [ ] Previously submitted, Date:_____

   [**X**] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable

   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Coal Transport Conveyor, Source # 2S-03.

Source Description: Belt Conveyor for Transporting Coal to Storage Bin. Emissions Vent to Dust Collector 2S-04. See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2S-04".

2. ARMS Identification Number: [**X**] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2S-04**
2. Control Device or Method Code: **018**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **200,000**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2S-04".**	
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [X] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**5** feet
7. Exit Diameter:	**1.1** foot
8. Exit Temperature:	**70** °F
9. Actual Volumetric Flow Rate:	**2000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**1933-1943** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Approximate Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment **1** of **1**

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **100**	5. Maximum Annual Rate: **876,000**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10.Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted: **PM**	
2. Total Percent Efficiency of Control:	**99.9** %
3. Primary Control Device Code: **018**	
4. Secondary Control Device Code:	
5. Potential Emissions: **0.17** lb/hour	**0.75** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**	
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**	
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5	
10. Calculation of Emissions: $2000\ ACFM \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.17\ lb}{hr}$	
11. Pollutant Potential/Estimated Emissions Comment:	

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [X] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:

PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [X] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID: _____
   [ ] Previously submitted, Date: _____
   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [X] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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 Description and Status

1. Description of Emissions Unit Addressed in This Section:

Source Name: Coal Storage Bin, Source # 2S-10

Source Description: Bin for Storing Coal Ahead of the Coal Mill. Emissions Vent to Dust Collector 2S-07. See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2S-07".

2. ARMS Identification Number: [X] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **32**

6. Initial Startup Date (DD-MON-YYYY): **Not Applicable**

7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **Not Applicable**

8. Package Unit:
Manufacturer: **Not Applicable** Model Number:

9. Generator Nameplate Rating: **Not Applicable** MW

10. Incinerator Information: **Not Applicable**
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature : °F

11. Emissions Unit Comment:

Emissions Unit Control Equipment

A.

1. Description: **Baghouse Dust Collector #2S-07**
2. Control Device or Method Code: **018**

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

D.

1. Description:
2. Control Device or Method Code:

E.

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		**Not Applicable** mmbtu/hr
2. Maximum Incineration Rate:	lb/hr	**Not Applicable** tons/day
3. Maximum Process or Throughput Rate: **200,000 lbs/hr**		
4. Maximum Production Rate: **Not Applicable**		
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

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300 FAC	**Stationary Sources - Permits Required**
62-212.300 FAC	**Pre-Construction Review**
62-296.310 FAC	**General Particulate Emission Limiting Standards**

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System, Emission Point 2S-07".**	
2. Emission Point Type Code: [**X**] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Not Applicable**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Not Applicable**	
5. Discharge Type Code: [ ] D [ ] F [**X**] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	**5** feet
7. Exit Diameter:	**1.1** feet
8. Exit Temperature:	**70** °F
9. Actual Volumetric Flow Rate:	**2000** acfm

10. Percent Water Vapor :	**2-3** %
11. Maximum Dry Standard Flow Rate:	**1933-1943** dscfm
12. Nonstack Emission Point Height:	**Not Applicable** feet
13. Emission Point UTM Coordinates: Approximate Zone: **17** East (km): **360.0** North (km): **3162.5**	
14. Emission Point Comment:	

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Raw Material Transfer: Emissions related to tons of material handled.**	
2. Source Classification Code (SCC): **30500712**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **100**	5. Maximum Annual Rate: **876,000**
6. Estimated Annual Activity Factor: **Not Applicable**	
7. Maximum Percent Sulfur: **Not Applicable**	8. Maximum Percent Ash: **Not Applicable**
9. Million Btu per SCC Unit: **Not Applicable**	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 1

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: **99.9** %
3. Primary Control Device Code: **018**
4. Secondary Control Device Code:
5. Potential Emissions: **0.17** lb/hour **0.75** tons/year
6. Synthetically Limited? [ ] Yes [**X**] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year **NOT APPLICABLE**
8. Emission Factor: **0.01 gr/acf** Reference: **Control Device Performance Specifications**
9. Emissions Method Code: [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
10. Calculation of Emissions: $2000\ ACFM \times \frac{60\ \text{min}}{hr} \times \frac{0.01\ gr}{acf} \times \frac{1\ lb}{7000\ gr} = \frac{0.17\ lb}{hr}$
11. Pollutant Potential/Estimated Emissions Comment:

Allowable Emissions (Pollutant identified on front of page)

A. NOT APPLICABLE

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **VE**
2. Basis for Allowable Opacity: [ ] Rule [**X**] Other
3. Requested Allowable Opacity: Normal Conditions: **5** Exceptional Conditions: **10** % Maximum Period of Excess Opacity Allowed: **10** min/hour
4. Method of Compliance: **Visual Observation EPA Method 9**
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

NOT APPLICABLE

1. Parameter Code:
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] 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.

   [X] 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?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] 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, 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.

3. Increment Consuming/Expanding Code:			
PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:				
PM	**0**	lb/hour	**0**	tons/year
SO2		lb/hour		tons/year
NO2				tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram
   [X] Attached, Document ID: **See Attachment B - Mechanical Process Flow Sheet: "Pre-heater, Kiln, Cooler, and Coal System"**
   [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [ ] Attached, Document ID: **Will Provide at a Later Date**
   [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____
   [ ] Previously submitted, Date:_____
   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [ ] Not Applicable
   Will Follow Manufacturer's Recommendations - Will Include Monthly Inspections

8. Supplemental Information for Construction Permit Application
   [ ] Attached, Document ID: _____ [X] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan

[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements

[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Not Applicable

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December 4, 1995

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Dept. of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: DEP Files PSD-FL-227, AC27-274892, PA82-17
Florida Crushed Stone, Proposed 2nd Cement Kiln

Dear Mr. Fancy:

Florida Crushed Stone (FCS) wishes to thank the Department for the final permit for the second cement kiln which addressed many of our concerns as set forth in our October 24th letter. FCS submits the following comments for the record and requests that the Department's final air construction permit reflect the following conditions as appropriate.

NO_x Emission Limit

The Department imposed a 24-hour NO_x emission limit of 2.8 lb/ton for the second cement kiln (adding a footnote to Table I allowing up to 18 months after startup of commercial operation to achieve this standard). As stated previously, FCS feels this is a very aggressive limit.

In the Department's BACT Determination, it was agreed that SNCR is not a "demonstrated technology" on preheater-only type kilns. In addition, the only operating facilities with current NO_x permit limits near 2.8 lb/ton are the Lone Star Industries, California plant (2.5 lb/ton) and the Calvaras Cement, California plant (staged combustion retrofits required to meet 2.9 lb/ton). Both plants are preheater/precalciner kilns, which allow for staged combustion conditions. As noted at our October 11th meeting, the unique feed materials available at the FCS facility do not permit the use of a precalciner.

Other facilities listed in or considered for the Department's BACT Determination were a facility never constructed (Dixie Cement, Tennessee at 1.11 lb/ton), two recent/pending BACT determinations which have not yet initiated construction (Great Star Cement, Nevada at 3.1 lb/ton based on SNCR, which local agency personnel felt would never be built and Florida Rock Industries at 2.8 lb/ton), and two facilities which have never met their permitted NO_x emission limit. The two latter plants were the SW Portland, Odessa, Texas facility which was never able to achieve the permit limit of 0.85 lb/ton and is currently being repermitted (a 1983 test showed 5.7 lb/ton) and a Texas Lehigh plant in Texas which was never able to achieve the 2.09 lb/ton limit and was repermitted at about 3.7 lb/ton based on the average of stack test data (even this limit was later dropped).

Other than the two California plants listed above, the most stringent permit limit for an operating facility is Florida Mining & Materials (FMM) Kiln #2, permitted in 1993 with a 30-day emission limit of 3.14 lb/ton.

At the October 11th meeting, it was agreed that emissions for the FCS or FMM kilns could be used to support emission limits alternatives to the 2.8 lb/ton value. These data represent kiln configurations and feed stocks most representative of the proposed kiln. In our October 24th letter, recent 1993 and 1994 stack test data for FCS kiln 1 were submitted which show NO_x emissions at or slightly above 2.8 lb/ton. These data are for limited test periods of about three hours and may not be representative of the entire range of operating conditions experienced during a full year.

FCS also provided 36 days (April 1993) of available CEM data for FMM kiln #2 obtained from Koogler and Associates. While average (36-day) NO_x emissions are about 2.0 lb/ton as represented by the Department during our meeting, one 24-hour average was greater than 3.1 lb/ton. Therefore, as stated above, FCS feels that the 24-hour NO_x emission limit of 2.8 lb/ton is a very aggressive limit.

Recordkeeping Requirements

As noted in our October 24th letter, FCS feels that Permit Condition 28 should be revised to require recordkeeping of the preheater feed rate rather than kiln feed rate. As noted in our letter and in the existing kiln permit, the kiln feed rate is a calculated value based on the measured preheater feed rate.

Kiln Gas Temperatures

The Department did reword the requirement for 1750°F kiln gas temperatures in Permit Condition 7 to reflect periods "upon reaching steady state conditions, and within 6 hours [of startup]." However, FCS feels that this permit condition is unnecessary. The pyroprocessing of cement requires temperatures in excess of 3000°F. This combined with the long residence times associated with cement kilns insures the destruction of dioxins, furans, and precursors. The requirement to monitor the temperature of gases exiting the kiln serves no useful purpose in ensuring complete combustion and low dioxin emissions.

Typographical Errors

The remaining comments correct typographical errors in the final permit and do not change any of the permit conditions. These corrections are:

Final Air Construction Permit:

(1) Page 1, Second Paragraph, First line: This line should read (change underlined):

"...second portland cement kiln at a maximum..."

(2) Page 1, Second Paragraph, Last two lines: This cover page description of the source does not reflect the fuel types allowed for by the permit conditions. These lines should read (changes underlined):

"...coal as the main fuel, and burn whole tires, tire derived fuel, and/or natural gas as the supplemental fuel."

(3) Page 5, Condition 3, Third line: Two periods mark the end of a sentence.

(4) Page 5, Condition 4.b, Second line: the word *"and"* should be deleted between the words *"and/or"* and *"blends"*.

(5) Page 6, Condition 10, Fourth line: The citation for the used oil sample should read (correction underlined):
"...from Specific Condition No. 31 shall be..."

(6) Page 7, Condition 10, First three lines on page: The Flash Point test method should be EPA SW-846 (1010), the Heat of Combustion test method should be ASTM D240, and the test methods for density and PCBs should be blank.

(7) Pages 11 and 12, Conditions 35 et. al: Since condition 34 has been removed, conditions 35 through 38 should be renumbered (i.e., become conditions 34 through 37).

(8) Table I: In accordance with the revised permit language in Condition 13, Table I should include a footnote stating the following:
"Visible limits shown for minor baghouse sources are alternative standards in accordance with Rule 62-297.620(4) in lieu of stack tests to demonstrate compliance with the 0.01 gr/dscf emission limitations."

Best Available Control Technology (BACT) Determination:

(1) Page 12, Kiln (SO_2) Pollutant Emission Limit, Second line: Should read (corrections underlined):
"...blend of fuel oil and on-spec used oil (1.5% sulfur by weight)..."

(2) Page 13, Paragraph 7, Third Line: Should read (corrections underlined):
"...using EPA Methods 29 and 104 to confirm..."

Please call either myself or William Corbin at 908-968-9600 or Tom Mountain of FCS at 904-799-7881 if you have any questions or need any additional information.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

cc: H.Oven/A.Linero/T.Heron/C.Holladay, DEP
L.Curtin, Esq., H&K
W.Corbin/M.Hober/M.Lewis/FCS Project File, RTP

CC: EPA
NPS
SWD
D. Beason, OGC
L. Jennings, Hernando C
T. Mountain, FCS

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October 24, 1995

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Dept. of Environmental Protection
111 S. Magnolia Drive, Suite 4
Tallahassee, FL 32301

Re: DEP Files PSD-FL-227, AC27-274892, PA82-17
Florida Crushed Stone, Proposed 2nd Cement Kiln

Dear Mr. Fancy:

The applicant wishes to provide the following comments on the Notice of Intent to Issue Permit, the Draft Permit, and the Department's BACT Determination for the proposed 2nd cement kiln at the Florida Crushed Stone (FCS) facility near Brooksville, Hernando County, Florida. These materials were attached to the October 3, 1995 letter from yourself to Mr. Joseph T. Piermatteo of FCS.

NOTICE OF INTENT TO ISSUE PERMIT

Class I Increment Consumption

On page 2, it should be noted that the maximum PSD Class I NO_2 increment consumed of 1.0 $\mu g/m^3$ is for emissions from both the proposed project as well as all other applicable PSD sources within at least 100 kilometers (km) of the Chassahowitzka National Wildlife Refuge.

BACT DETERMINATION

Minor Particulate Sources BACT Emission Limits

The applicant accepts the 5% opacity limit as an alternative limit to the lb/hour emission limits in accordance with standard Department policy given at FAC 17-297.620(4) for minor particulate sources equipped with baghouses.

NO_x Permit Limit

Attached is a summary of NO_x test data for Florida Mining and Minerals and Florida Crushed Stone. As can be noted from the data, the value of 2.8 lbs/ton of clinker is a very aggressive standard. Current stack tests from 1993 and 1994 for kiln alone testing at Florida Crushed Stone indicates values at or slightly above this number, while CEM data from Florida Mining and Minerals shows a 24-hour block average value as high as 3.11 on April 20, 1993.

Florida Crushed Stone still believes that the appropriate permit level for BACT for this kiln, considering the kiln design and available feed materials, is 4.33 lbs/ton of clinker. However, in the interest of expediting the permit application, we have agreed to accept the Department's suggested value of 2.8 lbs/ton of clinker. Good faith efforts will be made to achieve this limit within the first 18 months after start-up of commercial operations. However, we would also request that the Department re-review its position, and if possible, increase the permitted level to the originally proposed 4.33 lbs/ton of clinker or to extend the averaging period to 30 days, similar to the existing Florida Mining and Minerals permit.

As discussed with the Department, any of the increased levels will show compliance with air quality standards as well as AQRV values. The National Park Service U.S. Fish & Wildlife personnel have agreed that the PLUVUE-II model should be run with the rural dispersion coefficients, which would then demonstrate no significant impact.

DRAFT PERMIT

Feed Rates

Specific condition 3 (page 5) limits the kiln to a clinker production rate of 83.0 tons per hour (TPH) and a maximum preheater feed of 138.0 TPH. Based on the preheater feed rate, the kiln feed rate is calculated to be an equivalent of 127.0 TPH. Since preheater feed rates are easier to measure than kiln feed rates and in accordance with condition 3, the applicant requests that page 10 (condition 28) be rewritten as follows (revisions underlined) to require the preheater feed rate to be recorded rather than kiln feed rate:

> 28. FCS shall record, as a minimum, the daily dry preheater feed rate for 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.

Types of Fuels and Usage

In the air permit application and comment responses, FCS requested that tire derived fuel (TDF, i.e., shredded tires) as well as whole tires be permitted for the facility consistent with recent permit modifications for the existing kiln (see attachment 6 to the July 11, 1995 comment responses). FCS also requested the permit allow the use of natural gas as well as coal, tires, TDF, etc. during normal operation of the kiln. Therefore, please revise paragraph 2 on page 1 of the *Air Construction Permit* to include TDF with whole tires as supplemental fuel and natural gas with coal as the main fuel fired.

The Kiln 2 draft permit refers to blends of oil only and one condition specifically refers to No. 2 fuel oil. Since the same blend tank will be utilized for both kilns, FCS requests that the Kiln 2 permit conditions be no more restrictive than the Kiln 1 permit conditions, which allow the use

of any grade virgin oil and/or blended with on-spec used oil up to the 15% by volume maximum limit.

Therefore, please revise pages 5 (permit condition 4) and 6 (permit condition 6) of the *Air Construction Permit* to read as follows (revisions underlined):

> 4. Fuels fired in No. 2 kiln shall not exceed a total heat input rate of 303 MMBTU/hr and shall consist only of:
>
> a. Coal, whole tires, tire derived fuel (shredded tires), and natural gas for normal operation
>
> b. Natural gas, all grades of virgin fuel oil, and/or blends of virgin fuel oil and on-spec used oils for startup.
>
> 6. Whole tires and tire derived fuel may be fed continuously at the kiln inlet ...

Coal Sulfur Contents

The Kiln 1 permit was modified in August 1994 to remove references to coal sulfur contents and testing requirements. At that time, it was determined by the Southwest District office that restricting the coal sulfur content was not necessary to ensure compliance with the Kiln 1 SO_2 permit limit. For this reason and given that the permit requires an SO_2 Continuous Emission Monitor (CEM) to verify permit compliance, the applicant wishes to request that page 5 (permit condition 5) of the *Air Construction Permit* be revised to include only the following language:

> 5. The coal usage rate shall not exceed 10.3 TPH or 90,228 TPY based on continuous operation.

Use of Tire Derived Fuel

The following language which appears on page 6 (permit condition 7) of the *Air Construction Permit* does not exist in Kiln 1 permit: "Thereafter, gases exiting the kiln shall be maintained at an outlet temperature of 1750 degrees F." As written, this condition fails to specify any averaging time for compliance purposes and conflicts with the earlier requirement of 1400 degrees F for one hour prior to initiating tire firing (i.e., would require an instantaneous jump from 1400 to 1750 degrees F). As discussed in our October 11th meeting, this condition is difficult to measure and unnecessary. Therefore, the applicant requests that this language be removed.

In addition, permit condition 34 (page 11) of the *Air Construction Permit* requires that "In the event of...any malfunction of process equipment resulting in kiln emissions exceeding limits set forth in Tables I and II, the operator shall immediately stop the feeding of tires into the kiln and not resume the firing of tires until the emission control equipment has been put into proper working order." This conflicts with existing test data which suggests that tires and tire derived fuel may actually improve combustion conditions and lower NO_x emissions. If the kiln is in an upset condition, the last thing you want to do is to upset it further. Tire feed

is stopped when coal feed is stopped for the most part. Therefore, the applicant requests that this condition be removed.

Minor PM Emission Limits

The draft permit language gives minor sources emission limits as visibility limits and not lb/hour limits, which is contrary to current permit language for other existing FCS sources. The applicant is willing to accept an opacity limit of 5% as an alternative limit in accordance with standard Department policy given at FAC 17-297.620(4) for minor particulate sources equipped with baghouses. Therefore, the applicant requests that page 7 of the *Air Construction Permit* (permit condition 13) be revised to read as follows (added language underlined):

> 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 FAC 17-27.620(4), minor particulate sources equipped with baghouses with visible emissions which equal or exceed 5% opacity shall require the permittee to perform a stack test in accordance with approved methods to verify compliance with the 0.01 gr/dscm emission limit contained on Table I.

If standard Department policy as given at FAC 17-297.620(4) is not acceptable for the proposed minor particulate sources, then the applicant requests that the visibility limit be no more stringent than the recent BACT limit determined for Florida Rock Industries, namely 10% opacity. This would necessitate that the emission limits on Table I of the *Air Construction Permit* for the minor particulate sources be changed to 10 percent opacity.

NO_x Permit Limits

As discussed above, the applicant has accepted a change to the Table II allowable emissions for the main stack to 2.8 lbs/ton of clinker with compliance determined on a 24-hour basis.

Typographical Errors

The following typographical errors appear in the draft permit:

Page 5, Permit Condition 1: "...and operation of of the No. 2 kiln..."
Page 9, Permit Condition 27: "...for at least two (5) years..."

If you have any questions or need any additional information, please feel free to contact me at the above number.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

DFE/WEC/wec

cc: H. Oven/A. Linero/T. Heron/C. Holladay, DEP
L. Curtin, Esq., H&K
W. Corbin/M. Hober/M. Lewis/FCS Project File, RTP Env. Associates

CC: EPA
NPS
B. Thomas, SWD
L. Jennings, Hernando Co.
D. Beason, OGC

SUMMARY OF NOx STACK TEST DATA FOR FLORIDA CRUSHED STONE KILN 1

Date	Test Number	Clinker Production (ton/hr)	NOx Emissions (lb/hr)	NOx Emissions (lb/ton)	Notes
06/14/89	1		387.6	4.85	
	2		227.8	2.85	
	3		238.4	2.98	
	Avg	80.0	284.6	3.56	Coal= 9.6 tph
08/20/90	1		378.13	4.45	
	2		560.75	6.60	
	3		447.48	5.26	
	Avg	85	462.10	5.44	Coal= 8.5 tph
03/02/91	1		66.9	1.01	
	2		59.4	0.90	
	3		152.6	2.31	
	Avg	66	92.9	1.41	Coal= 9.2 tph
10/13/91	1		434	5.56	
	2		240	3.08	
	3		384	4.92	
	Avg	78	353	4.53	Coal= 9.1 tph
10/21/91	1		210.6	2.74	
	2		174.6	2.27	
	3		212.3	2.76	Coal= 8.2 tph
	Avg	77	199.1	2.59	Tires= 1.2 tph
03/16/93	1		222.9	2.91	
	2		212.3	2.78	
	3		207.8	2.72	Coal= 7.51 tph
	Avg	76.5	214.3	2.80	Tires= 1.33 tph
06/01/94	1		200.12	2.51	
	2		170.19	2.14	
	3		306.68	3.85	Coal= 7.3 tph
	Avg	79.6	225.66	2.83	Tires= 1.28 tph

Sources: Koogler & Associates, Environmental Services Stack Test Reports:
"Summary of Particulate Matter, Sulfur Dioxide and Nitrogen Oxides Emission Measurements (and Visible Emission Observations), Cement Plant, Central Power and Lime, Inc." June 14, 1989; August 20, 1990; March 2, 1991; March 16, 1993; and June 1, 1994.
"Summary of Particulate Matter, Benzene, Total Hydrocarbons, Carbon Monoxide and Nitrogen Oxides Emission Rates under Baseline and Whole-Tire TDF Firing Conditions, Florida Crushed Stone Company, Cement/Lime Plant" November 13-21, 1991.

SUMMARY OF NOx STACK TEST DATA FOR FLORIDA MINING & MATERIALS/SOUTHDOWN

Date	Test Number	Clinker[a] Production (ton/hr)	NOx Emissions (lb/hr)	NOx Emissions (lb/ton)	Notes	Kiln Feed (ton/hr)
Kiln #1	1		322.9	4.07		
02/28/92	2		307.8	3.88		
	3		334.6	4.22	Coal=	
	Avg	79.3	321.8	4.06	9.75 tph	130
Kiln #2	1		108.0	1.36		
03/24/92	2		99.3	1.25		
	3		97.0	1.22	Coal=	
	Avg	79.6	101.4	1.27	7.79 tph	
Kiln #1	1	88.3	205.95	2.33		144.7
05/05/93	2	87.0	236.35	2.72		142.7
	3	90.2	205.38	2.28		147.8
	4	84.8	193.97	2.29		139.0
	5	84.8	190.08	2.24		139.0
	6	84.8	166.42	1.96		139.0
05/06/93	7	63.9	134.01	2.10		104.8
	8	86.3	185.79	2.15		141.5
	9	89.5	200.64	2.24		146.7
	10	88.9	242.86	2.73		145.7
	11	88.9	212.71	2.39		145.7
	12	88.9	194.41	2.19	Coal=	145.7
	Avg	85.5	197.38	2.30	8.4 tph	140.2
Kiln #1	1	84.5	118.78	1.41		138.5
06/08/93	2	62.2	92.30	1.48		101.9
	3	87.0	133.55	1.54		142.6
	4	81.3	161.73	1.99		133.3
	5	81.3	227.33	2.80		133.3
	6	83.1	215.70	2.60		136.3
06/09/93	7	86.9	166.34	1.91		142.4
	8	86.9	189.05	2.18		142.4
	9	86.9	242.46	2.79		142.4
	10	85.5	265.64	3.11	Coal=	140.2
	11	85.5	243.96	2.85	7.5 tph	140.2
	12	85.5	201.78	2.36	TDF=	140.2
	Avg	83.1	188.22	2.25	1.57 tph	136.1
Kiln #1	1		143.2	1.80		
01/26/94	2		195.1	2.45		
	3		151.5	1.90	Coal=	
	Avg	79.6	163.0	2.05	11.3 tph	
Kiln #2	1		179.8	2.38		
02/10/95	2		204.1	2.70		
	3		180.9	2.40	Coal=	
	Avg	75.5	188.2	2.49	10.4 tph	123.7

[a]Clinker production calculated as 61% of kiln feed where kiln feed shown.

SUMMARY OF NOx STACK TEST DATA FOR FLORIDA MINING & MATERIALS/SOUTHDOWN
(Concluded)

Date	24-Hour Block Averaged CEM Data for FMM Kiln #2 NOx Emissions (lb/hr)	NOx (lbs/ton clinker)	Date	24-Hour Block Averaged CEM Data for FMM Kiln #2 NOx Emissions (lb/hr)	NOx (lbs/ton clinker)
03/26/93	176.3	2.38	04/15/93	155.0	2.00
03/27/93	145.8	1.93	04/16/93	132.9	1.70
03/28/93	173.4	2.27	04/17/93	165.2	2.07
03/29/93	165.7	2.20	04/18/93	131.5	1.67
03/30/93	171.7	2.29	04/19/93	177.9	2.27
03/31/93	196.7	2.55	04/20/93	240.2	3.11
04/01/93	118.8	1.57	04/21/93	183.6	2.78
04/02/93	98.4	1.31	04/22/93	150.2	1.95
04/03/93	104.4	1.42	04/23/93	128.0	1.66
04/04/93	109.4	1.44	04/24/93	123.0	1.59
04/05/93	138.6	1.83	04/25/93	175.0	2.28
04/08/93	184.0	2.28	04/26/93	185.6	2.42
04/09/93	164.9	2.07	04/27/93	162.5	2.09
04/10/93	119.8	1.54	04/28/93	183.1	2.38
04/11/93	124.7	1.54	04/29/93	163.8	2.05
04/12/93	152.4	1.90	04/30/93	177.9	2.32
04/13/93	136.0	1.69	05/01/93	167.1	2.18
04/14/93	174.1	2.24	05/02/93	138.3	1.82

Sources: Koogler & Associates, Environmental Services Stack Test Reports:
"Particulate Matter, Particulate Size, Total Hydrocarbons, Sulfur Dioxide, Nitrogen Oxides and Carbon Monoxide, Kiln No.1, Coal, Florida Mining and Materials, Inc." February 28, 1992;
"Comparison of Particulate Matter, Sulfur Dioxide, Total Hydrocarbons, Carbon Monoxide, Nitrogen Oxides, Hydrogen Chloride, Speciated Volatile Organics, Metals and Dioxins/Furans Emission Measurements and Opacities of Emissions under Baseline and Coal/TDF Firing Conditions, Kiln No.1, Florida Mining & Materials" May 4-5, 1993 and June 8-9, 1993; and
"Particulate Matter, Total Hydrocarbons, Sulfur Dioxide, Carbon Monoxide, Nitrogen Oxides and Visible Emission Measurements, No.2 Cement Kiln, Coal, Florida Mining and Materials, Inc." February 10, 1995.
and Dr. John Koogler (personal communication), October 19, 1995.

N

E = 250,000' E = 500,000' E = 750,000' E = 1000,000' E = 1250,000' E = 1500,000' E = 1750,000' E = 2000,000'

N = 250,000'

N = 0,000'

S = 250,000'

S = 350,000'
E = 85,4167'

S = 500,000'

S = 750,000'

DITCH

ROAD

SUB-STATION

COAL CONV. (EXISTING)

EXISTING TIRE FEED SYSTEM

ELEVATOR & STAIRS

E-ROOM (BELOW)

BY-PASS SYSTEM

COMPRESSOR ROOM (BELOW)

N= 118,0000'
E= 378,6667'

N= 52,0000'
E= 366,1667'

S= 115,4271'
E= 893,4167'

S= 55,0000'
E= 823,0000'

S= 100,0000'
E= 965,0000'

S= 90,4160'
E=1075,9630'

S= 100,3747'
E=1274,1300'

S= 89,5830'
E=1321,6300'

N= 130,0000'
E=1329,0625'

S= 76,5830'
E=1356,6300'

S= 2,4167'
E=1590,7500'

S= 69,0000'
E= 1790,0000'

S= 194,0000'
E= 617,1667'

S= 504,369'
E= 929.865'

S= 727,5000'
E= 366,16667'

S= 1117,0000'
E= 437,4167'

PREBLEND ZONE

LOW GRADE TAILINGS

SOFT LIMESTONE

GYPSUM

LIMEROCK FOR POWER PLANT

TAIL PULLEY

OIL STORAGE TANK

EMPLOYEE PARKING

POWER LINE

UNDERGROUND WATER PIPE

COAL BINS

DEASHER

FLUE GAS SYSTEM BUILDING

BOILER ROOM

OFFICE

SHOP

TURBINE ROOM

TRANSFORMER ELECTRICAL SWITCH YARD

COMPR. ROOM

E-ROOM

LEGEND (NEW PLANT)

50 RAW MATERIAL TRANSPORT CONV. TO NEW PLANT
51 BOTTOM ASH BIN
52 IRON ORE BIN
53 PREBLEND BIN
54 LOW GRADE TAILINGS BIN
55 SOFT LIMESTONE BIN
56 SHAFT DRYER
57 CYCLONES
58 RAW MILL
59 REVERSE AIR BAGHOUSE
60 EXHAUST FAN
61 MAIN STACK
62 RAW MEAL TRANSPORT TO SILOS
63 HOMOGENIZING SILO (8000 T)
64 KILN FEED SYSTEM
65 PREHEATER
66 ROTARY KILN
67 CLINKER COOLER BUILDING
68 CLINKER COOLER VENT SYSTEM
69 COAL STORAGE BIN
70 COAL MILL
71 CLINKER TRANSPORT
72 GYPSUM STORAGE BIN
73 FINISH MILL
74 CEMENT STORAGE SILOS (4 X 5000 T)
75 BOOSTER FAN
76 CLINKER STORAGE SILO (26000 T)
77 OPEN
78 OPEN
79 COAL MILL EXHAUST STACK

LEGEND (EXISTING PLANT)

1 LIMEROCK TRANSPORT CONVEYOR
2 WASTE FINES TRANSPORT CONVEYOR
3 RAW MATERIAL STORAGE BUILDING
4 RAW MATERIAL RECLAIMER
5 RAW MATERIAL TRANSPORT CONVEYOR TO CEMENT PLANT
6 WET LIMEROCK BIN
7 WASTE FINES BIN
8 FLUID BED DRYER
9 FLUID BED DRYER EXHAUST SYSTEM
10 IRON ORE BIN
11 DRY LIMEROCK BIN
12 CONTAMINATED FLYASH BIN
13 PURCHASED FLYASH BIN
14 FILTER DUST BIN
15 LIMEROCK TRANSPORT CONVEYOR TO POWER PLANT CALCINER
16 CALCINER LIMEROCK STORAGE BIN
17 CALCINER FEED SYSTEM
18 CALCINER DUST STORAGE BIN
19 RAW MATERIAL TRANSPORT CONVEYOR
20 RAW MATERIAL GRINDING BUILDING
21 REVERSE AIR BAGHOUSE
22 EXHAUST FAN
23 MAIN STACK
24 RAW MEAL TRANSPORT AIRSLIDE
25 RAW MEAL STORAGE AND HOMOGENIZING SILOS
26 KILN FEED SYSTEM
27 GEPOL PREHEATER
28 ROTARY KILN
29 CLINKER COOLER BUILDING
30 CLINKER UNLOADING HOPPER
31 CLINKER TRANSPORT CONVEYOR
32 CLINKER TRANSPORT CONVEYOR
33 CLINKER STORAGE SILO
34 LIME STORAGE SILO (CONVERTED TO CEMENT SILO FOR NEW PLANT -15000 T)
35 CEMENT STORAGE SILOS
36 SPECIAL CLINKER STORAGE BIN
37 GYPSUM AND LIMESTONE UNLOADING HOPPER
38 GYPSUM STORAGE BIN
39 LIMESTONE STORAGE BIN
40 CLINKER GRINDING BUILDING
41 CEMENT CONVEYING LINE
42 LIME CONVEYING LINE
43 SPECIALITY CEMENT SILO

ISSUE TO	A	B	C	D	E	F	G	H
CLIENT	9-5-96							
FIELD								

REV.	DESCRIPTION	BY	DATE
A	ORIGINAL RELEASE	EMV	9-5-96

FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND GENERAL TOLERANCES ACCORDING TO ISO2768-m OR EQUIVALENT

THIRD ANGLE PROJECTION

POLYSIUS
DIVISION OF KRUPP USA, INC.
ATLANTA, GA.

DRAWN	EMV	9-5-96
CHKD.	UR	9-5-96
APPRD.		

SCALE 1"=50'-0"

PROJECT 6840-2200

DRAWING TITLE **PLANT LAYOUT**

REFERENCE

DRAWING NO. E7-110.00.10-328342 SHT. 1 OF 1

REV. A

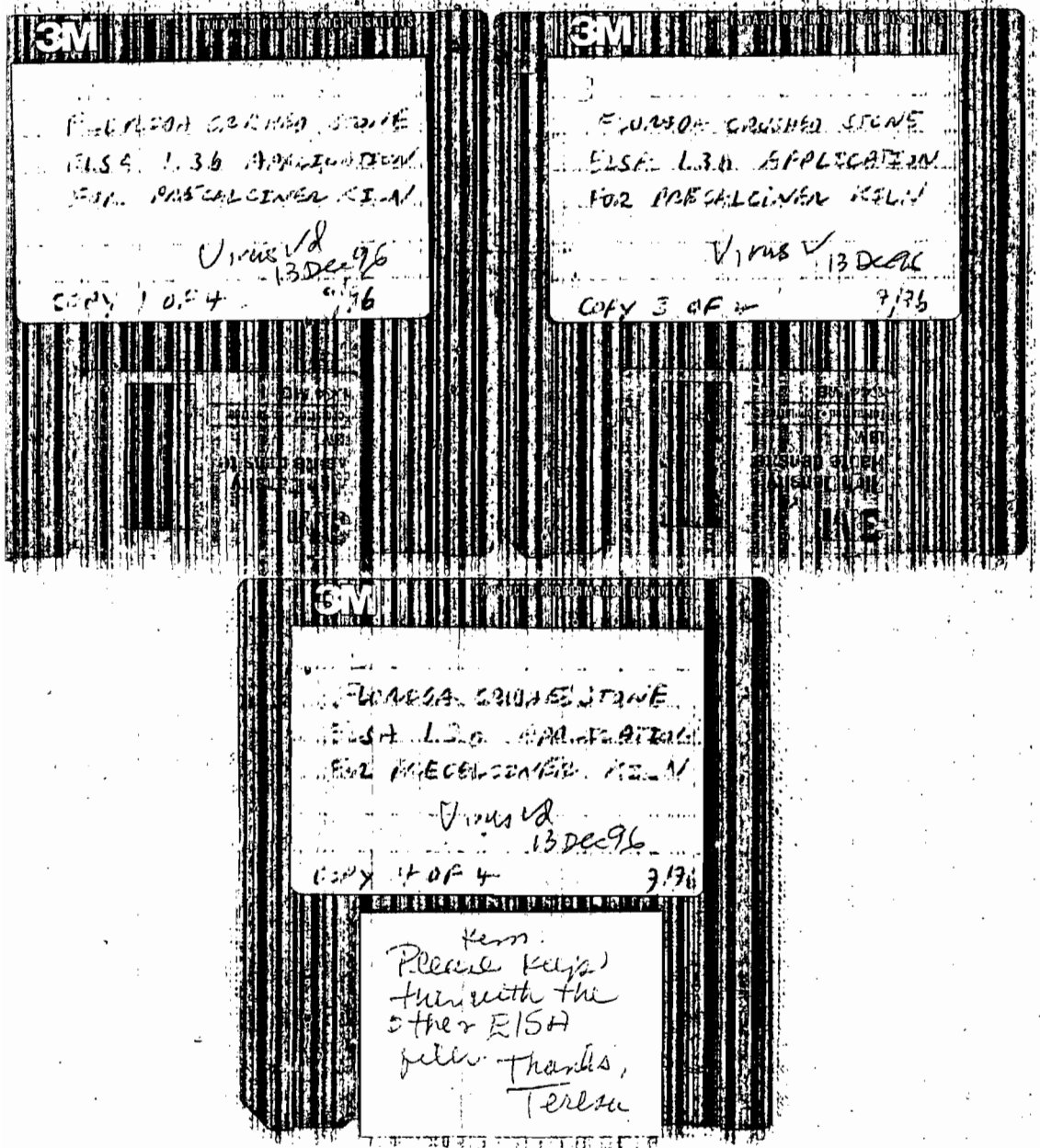
I:\ES\ACAD\6200\PLOT\PLOT.DWG

COMPUTER GENERATED DRAWING

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

Sta. Crushed Stone
2nd Cement Kiln
PSD-FL-227A AP 82-17

Elsa Disc


3M
FUSION CRUSHED STONE
ELSA L.3.6 APPLICATION
FOR PRECALCINER KILN
Virus V2
13Dec96
COPY 1 OF 4
3M
FUSION CRUSHED STONE
ELSA L.3.6 APPLICATION
FOR PRECALCINER KILN
Virus V
13Dec96
COPY 3 OF 4
3M
FUSION CRUSHED STONE
ELSA L.3.6 APPLICATION
FOR PRECALCINER KILN
Virus V2
13Dec96
COPY 4 OF 4
Kem
Please keep
this with the
other ELSA
files. Thanks,
Teresa

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. Piernatteo
Fla. Crushed Stone
10311 Cement Plant Rd
Brooksville, Fl 34601

4a. Article Number
Z 127 632 574

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

7. Date of Delivery
11/21/95

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.

Z 127 632 574

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to: Jo Piernatteo	
Street and No.: Fla Crushed Stone	
P.O., State and 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, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 11-17-95	
AE 27-274892	
PSD-Fl-227	

PS Form **3800**, March 1993

BEST AVAILABLE COPY

THE TAMPA TRIBUNE

Published Daily
Tampa, Hillsborough County, Florida

State of Florida
County of Hillsborough } ss.

Before the undersigned authority personally appeared R. Putney, who on oath says that he is Accounting Manager of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida; that the attached copy of advertisement being a

LEGAL NOTICE HERNANDO

in the matter of

STATE OF FLORIDA

was published in said newspaper in the issues of

OCTOBER 6, 1995

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he 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.

R Putney

Sworn to and subscribed before me, this 9 *day of* OCTOBER, *A.D.* 95

*Personally Known*_____ *or Produced Identification*_____

*Type of Identification Produced*_____

(SEAL) Ina S Kennedy

INA S. KENNEDY
Notary Public, State of Florida
My comm. expires Mar. 22, 1999
No. CC187731

D.E.R.

OCT 19 1995

SOUTHWEST DISTRICT
TAMPA

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

AC 27-274892
PSD-FL-227

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Florida Crushed Stone Company (FCS), 10311 Cement Plant Road, Brooksville, Florida, for a second 83 ton per hour cement plant. The plant will be located at the site of the existing FCS/Central Power and Lime facility, 3.5 miles northwest of Brooksville, Hernando County. The project includes a dry process kiln with a preheater, clinker cooler, crushers, raw mill, finish mill, material and fuel handling equipment, silos, and shipping facilities. Pollution control equipment include 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 carbon monoxide (CO), combustion controls for nitrogen oxides (NO_x), with additional controls to be specified as needed to meet permit limits, and baghouses for particulate emissions from other process emission units.

A Best Available Control Technology (BACT) determination was required for emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_x), particulate matter (PM), and carbon monoxide (CO) pursuant to 40 CRF 52.21, Prevention of Significant Deterioration (PSD).

Emissions of these pollutants will not exceed the following limits:

Pollutant	Maximum Emissions (Tons Per Year)
PM	250
SO_2	98
NO_x	909
CO	727
VOC	39.8
Sulfuric Acid Mist	5.1
Lead	0.2
Mercury	0.009
Beryllium	0.00036

An air quality impact analysis was conducted. SO_2 and NO_2 impacts from the project will not have a significant impact in the PSD Class II area; therefore, no Class II increment consumption was predicted for these two pollutants. The maximum PM_{10} PSD Class II increment and maximum percent of allowable PSD Class II increment consumed due to this project will be as follows:

PSD Class II Increment Consumed (ug/m³)		Allowable Increment (ug/m³)	Percent Increment Consumed
PM_{10}			
24-hour	27	30	90
Annual	3	17	18

The project, as amended by the Department BACT Determination, will not have a significant impact on the Chassahowitz ka PSD Class I area with respect to SO_2, PM_{10} and visibility; therefore, no increment consumption was determined for SO_2 and PM_{10} was determined. The maximum NO2 Class I increment and maximum percent of allowable increment due to this project will be as follows:

PSD Class I Increment Consumed (ug/m³)		Allowable Increment (ug/m³)	Percent Increment Consumed
NO_2	Annual 1.0	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.

Any person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (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 at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The petition shall contain the following information: (a) The name, address and telephone number of each petitioner, the applicant's name and address, the Department 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 facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative code.

The application 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

Department of Environmental Protection
Southwest District Branch Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Hernando County Planning Department
20 North Main Street, Room 262
Brooksville, Florida 34601-2807

Any person may send written comments on the proposed action to Administrator, New Source Review Section, at the Department of Environmental Protection, Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

BV;1861 10-6-95

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. Permatteo
PA Crushed Stone
10311 Cement Plant Rd
Brooksville, Fl 34601

4a. Article Number
Z 127 632 530

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

5. Signature (Addressee)

6. Signature (Agent)

7. Date of Delivery
10-5-95

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

PS Form

14

Thank you for using Return Receipt Service.

Z 127 632 530

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to
Joseph Permatteo
Street and No.
PA Crushed Stone
P.O., State and 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, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	PSD-FI-227 AC 27-274892 10-3-95 PA 8217

PS Form 3800, March 1993

Fold at line over top of envelope to the

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 AUG 14 1992 USPS

3. Article Addressed to:
Joseph Pernatteo
Fla. Crushed Stone
10311 Cement Plant Rd
Brooksville, Fl 34601

4a. Article Number
Z 392 979 022

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

7. Date of Delivery

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**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

Z 392 979 022

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

PS Form **3800**, March 1993

Sent to: Joseph Pernatteo	
Street and No.: FCS	
P.O., State and 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, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date AC 27-274892 PSD-Fl-227	

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:
Lawrence Jennings
Board of County Commissioners
Hernando Co. Planning Dept.
20 N. Main St. Rm 262
Brooksville, Fl 34601-2807

4a. Article Number
Z 392 979 016

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

7. Date of Delivery
8-9-95

5. Signature (Addressee)

6. Signature (Agent)
L Barnett

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

BROOKSVILLE, FL
AUG 7 1995
34601

Thank you for using Return Receipt Service.

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

Z 392 979 016

UNITED STATES POSTAL SERVICE

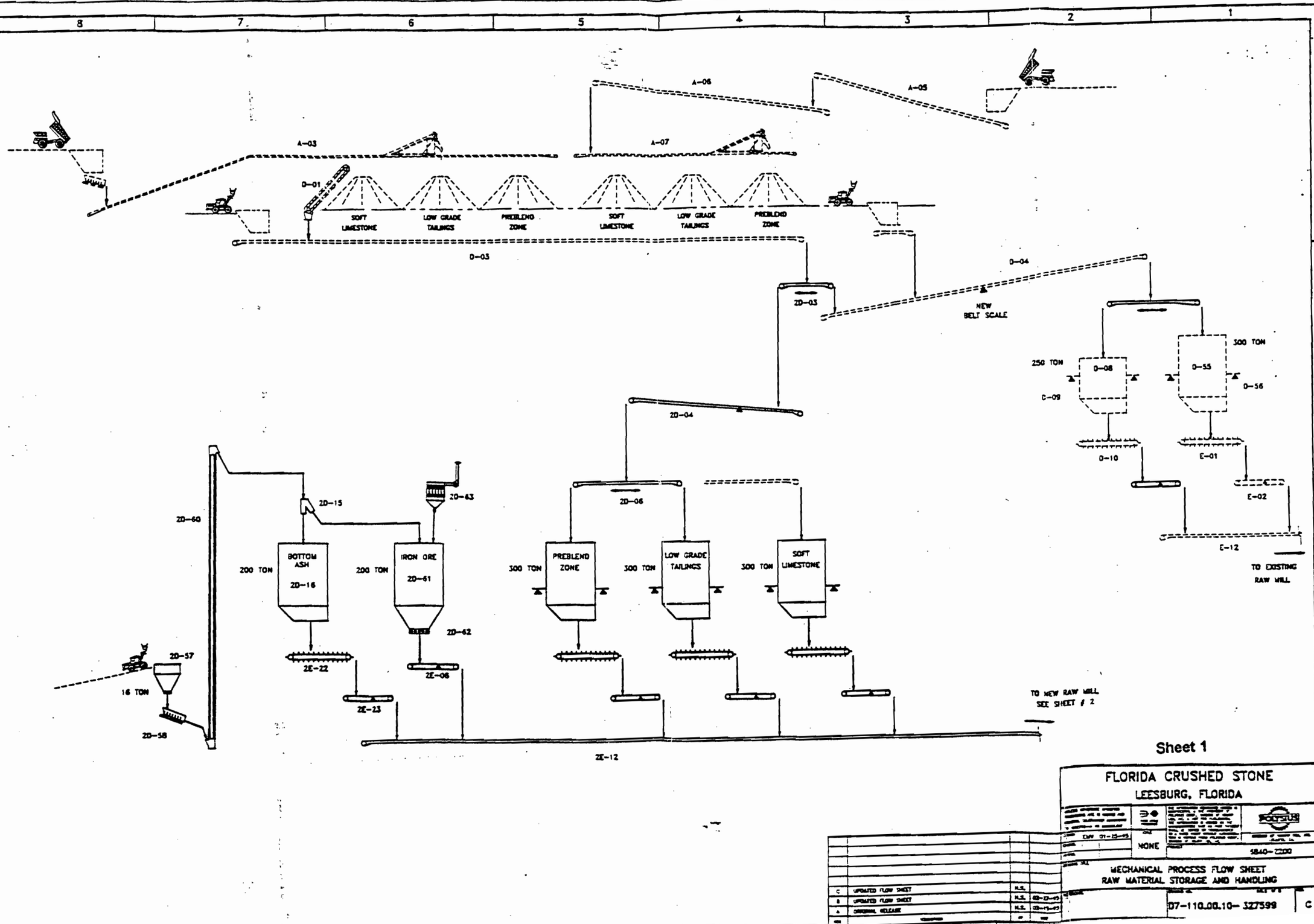
Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

PS Form **3800**, March 1993

Sent to: Lawrence Jennings	
Street and No. Hernando CB	
P.O., State and Zip Code For Crushed Stone	
Postage Brooksville	$ Fl
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 8-3-95	

PSD-Fl-227
PA-82-17



Sheet 1

FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

DWN 07-15-95	SCALE NONE		5840-2200

MECHANICAL PROCESS FLOW SHEET
RAW MATERIAL STORAGE AND HANDLING

07-110.00.10-327599 C

C	UPDATED FLOW SHEET	H.S.	
B	UPDATED FLOW SHEET	H.S.	02-12-95
A	ORIGINAL RELEASE	H.S.	03-15-95

VT	41 (AM&S)
TP	41 (100% RH)

G	147.5
H	10.5
T	40-90

VN	131,300
VB	176,600
T	205
TP	110

G	132
H	⊗
G	132.7
T	195
H	< 0.5
kR	1.0 > 210 m

G	530
T	195
H	⊗

Q	0.2
T	41
VN	22585

Q	61.6
T	217
VN	71,580

Q	61.8
T	570
VN	94465

2E-39 2E-49 2E-37 2E-37 2E-38 2E-38 2F-01 2E-36 2F-03 TO SHEET # 3

FROM CLINKER COOLER FROM SHEET #4

FROM KILN ID FAN 2K-13 FROM SHEET #4

2K-20 2E-49

FROM SHEET # 1 2E-12 2E-13 2E-35 2E-49 Raw Mill 2E-26 2E-27 2E-44

2E-40 2E-41 2E-42 Baghouse

2E-63 2E-64 TO 2E-09 OR 2D-72 TO 2H-05 SHEET #3

Sheet 2

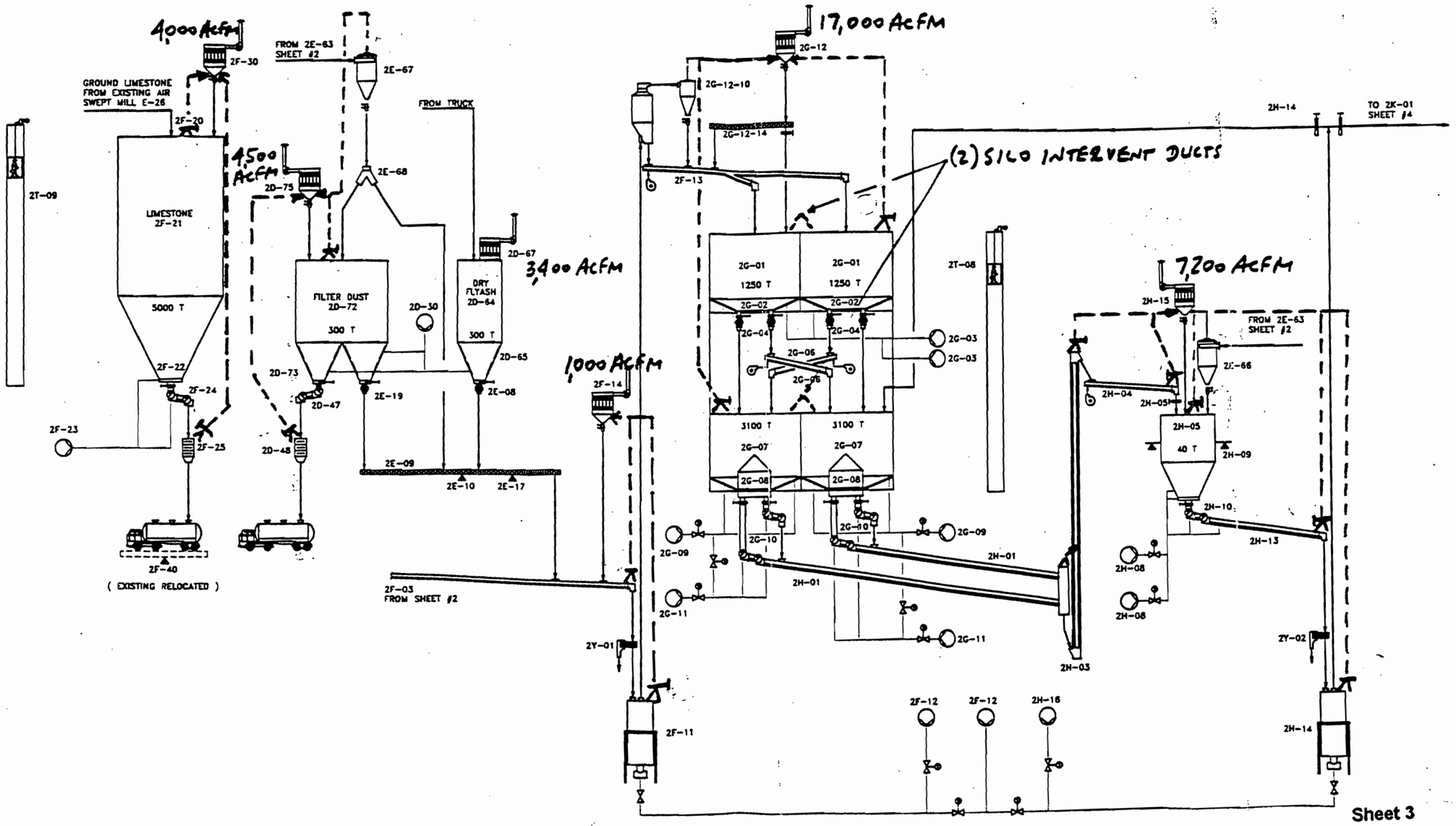
FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

C	UPDATED FLOW SHEET	M.S.	
B	UPDATED FLOW SHEET	M.S.	02-27-95
A	ORIGINAL RELEASE	M.S.	02-15-95

TMV 01-25-95 NONE POLYSIUS 6840-2200

MECHANICAL PROCESS FLOW SHEET
RAW MILL SYSTEM

07-150.00.10- 327599



Sheet 3

FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

C	UPDATED FLOW SHEET	H.S.	
B	UPDATED FLOW SHEET	H.S.	02-27-95
A	ORIGINAL RELEASE	H.S.	02-15-95

DRAWN EMV 01-25-95
SCALE NONE
PROJECT 5840-2200
DRAWING TITLE MECHANICAL PROCESS FLOW SHEET
RAW MATL. STORAGE, HOMOGENIZING SILO & KILN FEED
DRAWING NO. D7-150.00.10-327599 REV C

TO BAGHOUSE
2E-40
SHEET #2

FROM 2H-14
SHEET #3

TO BAGHOUSE
2E-40
SHEET #2

2K-01

Preheater

2K-13

2K-09

2K-12

2K-10

2S-28

2K-15

2K-16

2K-11

2K-03 COAL
OIL

2K-02 Kiln

2K-05

2K-06

2K-07

2K-07

2S-24

2S-25

2S-26

2L-06
(WAS Z-15)

2,000 AcFM

2L-16

2L-01

2L-02

2L-03

2S-20

2S-21

2S-19

2S-07

2S-08

2S-04

2S-05

2S-03

2S-01

2S-02

COAL
2S-10
150 T

2S-12

2S-13

2S-14

2L-22

2L-10

2L-11

2L-15

L-20

L-21

TO EXISTING
GYPSUM BIN
L-14

2,000 AcFM

2L-04

2L-08

CLINKER
(CONVERTED
EXISTING
LIME CaO
SILO Z-03)
2L-05
1.5 300 T

LOW
QUALITY
CLINKER
EXISTING
L-07
1500 T

GYPSUM
2L-14
900 T

2M-11

4500 AcFM

2M-01

2M-02

2M-08

2M-12

TO FINISH MILL
SHEET #5

2M-04

Sheet 4

C	UPDATED FLOW SHEET	M.S.	
B	UPDATED FLOW SHEET	M.S.	02-17-95
A	ORIGINAL RELEASE	M.S.	02-15-95

FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

CWV 01-13-95

NONE

5840-2200

MECHANICAL PROCESS FLOW SHEET
PREHEATER, KILN, COOLER AND COAL SYSTEM

07-150.00.10-327599 C

G	225
T	158

40,000 ACFM

P	-11
VB	36,000
T	201

G	120
T	185

G	48

G	96

T	68
VV	0.018

G	335
T	210

VB	98600
T	768
TP	111
VN	81,282
P	15

P	-21
VB	98,600
T	155
M	500
N	1200

115,000 ACFM

G	120
HP	3500
T	160

4,620 ACFM

4620 ACFM

3,000 ACFM

ZM-04
FROM SHEET #4

ZM-07 ZM-08 ZM-10 ZM-11 ZM-12 ZM-13 ZM-14 ZM-03 ZM-02 ZM-05 ZM-06 ZM-01 ZM-18

Finish Mill

ZM-20 ZM-21 ZM-22 ZM-23 ZM-15

ZP-03 ZP-07 ZP-05 ZP-06

ZT-07

FROM EXIST. PUMP POS

ZQ-15 ZQ-01 ZQ-20 ZQ-21 ZQ-02 ZQ-23 ZQ-22 ZQ-17 ZQ-05 ZQ-18 ZQ-07 ZQ-03 ZQ-09 ZQ-10

CEMENT ZQ-01 15000 T

CEMENT ZQ-20 4 X 3750 T (4X) ZQ-21

CEMENT ZQ-01 15000 T

Sheet 5

FLORIDA CRUSHED STONE
LEESBURG, FLORIDA

POLYSIUS

NONE

6840-2200

MECHANICAL PROCESS FLOW SHEET
FINISH GRINDING SYSTEM

C	UPDATED FLOW SHEET	K.S.	
B	UPDATED FLOW SHEET	K.S.	02-17-99
A	ORIGINAL RELEASE	K.S.	02-15-99