

Florida Department of
Environmental Protection

Memorandum

TO: John Brown

FROM: Buck Oven *HBO*

DATE: July 12, 1994

SUBJECT: Florida Crushed Stone, PA 82-17
Module 8025

Patty
PRESTON
John R - File
INFO
JRS

Attached please find the coal analysis as included the original Florida Crushed Stone application. As time permits, we will try to locate the hearing transcripts. The emission limits may have been set more by the intervention of Florida Mining & Materials and Florida Rock than by the BACT process. The competing lime companies were trying to preserve some air quality increment in the Chassahowitzka in case they wanted to build a cogeneration power plant.

cc: John Reynolds

3.2 FUEL

This is a coal fired facility. Coal with a sulfur content of 0.75 percent will be purchased in Kentucky and shipped to the Brooksville unloading site at an average rate of approximately one unit train every five or six days. Unloading time is expected to be one hour -- not to exceed four hours -- per train. The coal will be bottom dumped from a raised railroad trestle to the stockpile area. A water spraying system will be used when necessary to control dust. The coal will be transported to the cement and power plants by a belt conveyor system. The stockpile area will be designed in such a way as to allow run-off to be contained in a lined pond. Typical coal analysis is shown on Table 3.2-1.

469,000 Tons/Yr.

From: Interstate Coal Company, Inc.
 Route 9, Box 15
 London, Kentucky 40741



P. O. BOX 4187, 2323 SYCAMORE DR., KNOXVILLE, TENNESSEE 37921 / 615 546-1335

CERTIFICATE OF ANALYSIS

Mr. Darryl Moreland
 Page 4
 October 8, 1980

Your Sample No. Hazard #7 seam Our No. M-8443 gave the following results:

Ultimate Analysis,	As Received,	Dry Basis,	Mineral Analysis,	Ignited Basis,
% Moisture	4.38		% Phos. pentoxide, P ₂ O ₅	0.14
% Carbon	68.29	71.42	% Silica, SiO ₂	58.24
% Hydrogen	4.44	4.64	% Ferric Oxide, Fe ₂ O ₃	4.98
% Nitrogen	1.48	1.55	% Alumina, Al ₂ O ₃	27.41
% Chlorine	0.09	0.09	% Titania, TiO ₂	1.36
% Sulfur	0.78	0.82	% Lime, CaO	1.35
% Ash	12.27	12.83	% Magnesia, MgO	0.83
% Oxygen (by diff.)			% Sulfur Trioxide, SO ₃	0.45
			% Potassium Oxide, K ₂ O	1.80
			% Sodium Oxide, Na ₂ O	0.48
			% Undetermined	
Proximate Analysis,	As Received,	Dry Basis,		
% Moisture	4.38			
% Ash	12.27	12.83		
% Volatile Matter	30.71	32.12		
% Fixed Carbon	52.64	55.05		
			As Received	Dry Basis,
			BTU/lb.	
			12,329	12,894
Sulfur Forms,	As Received,	Dry Basis,		
% Pyritic Sulfur	0.14	0.15		
% Sulfate Sulfur	0.01	0.01		
% Organic Sulfur	0.63	0.66		
% Total Sulfur	0.78	0.82		

Corporate Offices
General Portland Inc. 

RECEIVED
SOUTH FLORIDA
TAMPA

TO
Jim M.

August 26, 1985

Mr. Jim Estler
Florida Department of Environmental Regulation
Highway 301 North
Tampa, FL 33610

Dear Mr. Estler:

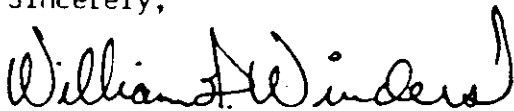
This is to confirm our telephone conversation of August 22, 1985 in which I asked that my name be placed on the mailing list for all public notices pertaining to Eastern Cement, Port Manatee; National Portland Cement, Port Manatee; Tampa Cement, Port Sutton; Gulf Portland Cement, Port Sutton; Florida Mining and Materials, Brooksville and Florida Crushed Stone, Hernando County.

Please mail notices to:

William H. Winders
Environmental Manager
General Portland Inc.
P. O. Box 324
Dallas, TX 75221

Your assistance in this matter is greatly appreciated.

Sincerely,



William H. Winders
Environmental Manager

WHW:lse

DER

SEP 27 1985

SAQM

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

~~BILL THOMAS~~ *Patty*

Initial

Date

2.

BAQM - TALLAHASSEE

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

For your files and information.

I thought you may be interested in this when processing Florida Crushed Stone

DER

APR 16 1986

BAQM

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

Jim McDonald

DATE

4-14-86

PHONE

8-570-8000

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: Hamilton Oven

THRU: Clair Fancy *CAF*
Bill Thomas *BT*

FROM: Edward Svec *ES*

DATE: December 19, 1984

SUBJECT: Florida Crushed Stone Company, Brooksville,
Florida, Modification to Proposed Cement Plant/
Power Plant - Permits AC 27-61016 and PA-82-17

The Bureau of Air Quality Management has reviewed all the information supplied by the applicant for the proposed Fluid-Bed Lime Plant. BAQM has no objections to the proposed modification, provided that the proposed particulate matter emission caps and the proposed reduction of fugitive particulate matter emissions are conditions of certification. Since there will be no emission rate increases greater than the significant emission rate increases of FAC Rule 17-2.500, Table 500-2, the modification proposed by Florida Crushed Stone Company will not be subject to PSD review.

The six material handling sources associated with this modification will be permitted under the provisions of FAC Rule 17-2. These sources, state construction permit numbers, and emission limits are as follows:

Hamilton Oven - Memorandum
Page Two
December 19, 1984

SOURCE	PERMIT NUMBER	EMISSION LIMIT PARTICULATE (TPY)
Limestone Screening Baghouse	AC27-091426	3.0
Limestone Storage Bin	AC27-091427	3.0
Limestone Storage Bin	AC27-091429	4.6
Limestone Storage Silo - B	AC27-091430	2.4
Limestone Silo Discharge & Baghouse	AC27-091432	3.4
Limestone Storage Silo - A	AC27-091433	2.4

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 20, 1984

Mr. Joseph L. Tessitore, P.E.
Cross/Tessitore and Associates, P.A.
4759 South Conway Road, Suite D
Orlando, Florida 32812

SUBJECT: Florida Crushed Stone Company, Brooksville, Florida,
Modification to Proposed Cement Plant/Power Plant
Permits AC 27-61016 and PA-82-17

Dear Mr. Tessitore:

In your letters of September 27, 1984, and October 26, 1984, you asked if Florida Crushed Stone's proposed lime kiln is considered a modification to the existing construction permits or will separate permits be required? The Department will process the proposed lime kiln as a modification to the Power Plant Siting Certification PA-8217. The Bureau of Air Quality Management will also recommend that EPA amend the federal permit for the power plant (PSD FL-090) to reflect the changes in emissions due to the proposed lime kiln. This project is not subject to PSD review nor is it subject to BACT. The six handling sources will be permitted separately. Only state permits will be issued for these sources since the projected emissions from these sources plus the lime kiln are less than federal de minimus levels for all pollutants.

We are enclosing a copy of all correspondence between us and Florida Crushed Stone which will include any technical data on proposed emissions and control systems for the modified source.

Sincerely,

C. H. Fancy
for C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/cgh/agh
Enclosure

cc: Fred Cohrs, w/o enclosure
Joe McGlothlin, w/o enclosure

PS Form 3811, Jan. 1978

SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)

- Show to whom and date delivered.....
- Show to whom, date and address of delivery.....
- RESTRICTED DELIVERY
Show to whom and date delivered.....
- RESTRICTED DELIVERY.
Show to whom, date, and address of delivery.\$ _____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mr. Browne Gregg
P. O. Box 317
Leesburg, FL 32748

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0156556	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

Shelley H

4. DATE OF DELIVERY POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

1984

LEESBURG, FL
SEP
1984

☆GPO : 1979-300-459

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

PS Form 3811, Jan. 1978

SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)

- Show to whom and date delivered.....
- Show to whom, date and address of delivery.....
- RESTRICTED DELIVERY
Show to whom and date delivered.....
- RESTRICTED DELIVERY.
Show to whom, date, and address of delivery.\$ _____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Richard C. ENTORF
Senior Vice-President
Florida Crushed Stone
P.O. Box 317, Leesburg, FL 32748

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157968	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

J. Palmer

4. DATE OF DELIVERY POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

1983

LEESBURG, FL
SEP
1983

☆GPO : 1979-300-459

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

No. 0156556

RECEIPT FOR CERTIFIED MAIL
NO RESURANCE COVERAGE PROVIDED--
ONLY FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO	Mr. Browne Gregg	
STREET AND NO.		
P.O., STATE AND ZIP CODE		
POSTAGE		\$
CERTIFIED FEE		\$
SPECIAL DELIVERY		\$
RESTRICTED DELIVERY		\$
OPTIONAL SERVICES		\$
RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	\$
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	\$
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	\$
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	\$
CONSULT POSTMASTER FOR FEES		\$
TOTAL POSTAGE AND FEES		\$
POSTMARK OR DATE		9/5/84



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JAN 24 1984

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

REF: 4AW-AM

DER

Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

JAN 30 1984

BAQM

Dear Mr. Fancy:

This is in response to your letter of November 22, 1983, concerning the Florida Crushed Stone PSD permit application.

After reviewing the responses to our comments, which you detailed in that letter, we find that all of our concerns have been satisfied except as described herein. We now have no objections to your issuing a Final Determination approving the application, providing adequate permit conditions are included. However, we do have several comments regarding some aspects of the Preliminary Determination, which you should note for use in future PSD reviews.

1. For TSP monitoring, there is insufficient justification for requiring only four months of data. The highest values did not always occur during the May-September period near the site. Your analysis also shows that most exceedances statewide occurred in other time periods. Also, when four months of data is allowed, it is our recommendation that monitoring be conducted every other day. For both SO₂ and TSP, modelling results should also be analyzed to see if the highest values are predicted to occur during the four month period.
2. Regarding establishment of background concentration, your letter does not demonstrate that the days of highest modelled impacts can not be matched to monitored days of similar meteorology. Stable, light wind conditions at night are not necessarily in conflict with neutral-moderate, strong wind conditions during the day. However, our own analysis indicates the background value you used is conservative, so we will accept it.

Sincerely yours,

James T. Wilbunn, Chief
Air Management Branch
Air and Waste Management Division



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30333

MAR 27 1984

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

REF: 4AW-AM

Mr. Richard C. Entorf
Senior Vice-President
Florida Crushed Stone Company
P. O. Box 317
Leesburg, Florida 32748

RE: PSD-FL-90 and 91

Dear Mr. Entorf:

Review of your March 30, 1983, application to construct a 600,000 ton per year cement plant and cogeneration facility near Brooksville, Hernando County, Florida, has been completed. The construction is subject to rules for the Prevention of Significant Deterioration (PSD) of air quality contained in 40 CFR §52.21. The Florida Department of Environmental Regulation (FDER) performed the preliminary determination concerning the proposed construction and published a request for public comment on May 27, 1983. In response to a request from Florida Mining and Materials, a hearing was held on November 30, 1983. On January 25, 1984, FDER performed a final determination recommending issuance of the PSD permit by EPA. The final determination contains responses to issues raised during the hearing and the public comment period.

The Environmental Protection Agency (EPA) has determined that the construction as described in the application meets all the applicable requirements of 40 CFR §52.21. Accordingly, pursuant to 40 CFR §124.15, the Regional Administrator has made a final decision to issue the enclosed Permit to Construct-Part I Specific Conditions and Part II General Conditions. This authority to construct, granted as of the effective date of the permit, is based solely on the requirements of 40 CFR §52.21, the federal regulations governing significant deterioration of air quality. It does not apply to other permits issued by this Agency or by other agencies. Please be advised that a violation of any permit condition, as well as any construction which proceeds in material variance with information submitted in your application, will be subject to enforcement action.

This final permit decision is subject to appeal under 40 CFR §124.19 by petitioning the Administrator of the EPA within thirty (30) days after receipt thereof. The petitioner must submit a statement of reasons for the appeal and the Administrator must decide on the petition within a reasonable time period. If the petition is denied, the permit shall become effective upon notice of such action to the parties to the appeal. If the petition is granted, any applicable effective date shall be determined by the results of the appeal proceedings. If no appeal is filed with the Administrator, the permit shall become effective thirty (30) days after receipt of this letter. Upon the expiration of the thirty (30) day period, EPA will notify you of the status of the permit's effective date.

Receipt of this letter does not constitute authority to construct. Approval to construct this facility shall be granted as of the effective date of the permit. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Mr. Jesse Baskerville, Acting Chief, Air Engineering Section, Air and Waste Management Division at 404/881-4253.

Sincerely yours,

George L. Harlow

for Thomas W. Devine, Director
Air and Waste Management Division

Enclosure

cc: Mr. Steve Smallwood, P.E., Chief
Bureau of Air Quality Management
Florida Department of Environmental
Regulation

PERMIT TO CONSTRUCT UNDER THE RULES FOR THE
PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Pursuant to and in accordance with the provisions of Part C, Subpart I of the Clean Air Act, as amended, 42 U.S.C. §7470 et seq., and the regulations promulgated thereunder at 40 CFR §52.21 (1983),

Florida Crushed Stone Company
Leesburg, Florida

is, as of the effective date of this permit (PSD-FL-90 and 91) authorized to modify a stationary source at the following location:

Intersection of Cobb Road and Yontz Rd.
3.5 Miles Northwest of Brooksville, Florida

UTM Coordinates: 360.0-360.1 km East, 3162.1-3162.5 km North

Upon completion of authorized construction and commencement of operation/production, this stationary source shall be operated in accordance with the emission limitations, sampling requirements, monitoring requirements and other conditions set forth in the attached Specific Conditions (Part I) and General Conditions (Part II).

This permit is hereby issued on MAR 27 1984 and shall become effective thirty (30) days after receipt thereof unless a petition for administrative review is filed with the Administrator during that time. If a petition is filed any applicable effective date shall be determined in accordance with 40 CFR §124.19(f)(1).

If construction does not commence within 18 months after the effective date of this permit, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time, this permit shall expire and authorization to construct shall become invalid.

This authorization to construct/modify shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of Federal, State, and local law.

March 27, 1984
Date Signed

[Signature]
Regional Administrator

PART I

Specific Conditions

The construction and operation of the Florida Crushed Stone Company (FCS) steam electric power plant and cement plant shall be in accordance with the attached general conditions and all applicable provisions of 40 CFR 52.21. In addition to the foregoing, the permittee shall comply with the following specific conditions of approval:

A. Emission Limitations

1. Stack emissions from the power plant boiler only shall not exceed the following site specific limitations when burning coal:
 - a. SO₂ - 0.9 lb. per million Btu heat input, maximum three-hour average (not to exceed 915 lb. per hour, maximum three-hour average). *790 ← Govt & CABINET decision*
775, NOT 750
 - b. NO_x - 0.7 lb. per million Btu heat input, averaging time per 40 CFR 60.46.
 - c. Particulates - 0.03 lb. per million Btu heat input, averaging time per 40 CFR 60.46.
 - d. Visible emissions - 20% opacity, 6-minute average, except for one 6-minute period per hour of not more than 27% opacity.
2. Stack emissions from the combined cement plant *lime plant* and power plant boiler shall not exceed the following site specific limits:
 - a. SO₂ - 50 lb. per hour plus 0.74 lb. per million Btu boiler heat input, maximum three-hour average (not to exceed *965* lb/hr maximum three-hour average). *781*
 - b. NO_x - 0.7 lb. per million Btu heat input plus 2.9 lb. per ton of kiln feed (dry basis), averaging time per 40 CFR 60.46.
 - c. Particulates - 0.03 lb. per million Btu heat input plus 0.3 lb. from the cement kiln and 0.1 lb from the clinker cooler per ton of kiln feed (dry basis), averaging time per 40 CFR 60.46.

- d. Visible emissions - less than 10 percent opacity, 6-minute average, except for one 6-minute period per hour of not more than 17% opacity.
- e. Total Fluorides: 0.7 lb/hr.
- f. Sulfuric Acid Mist: 1.7 lb/hr.
- g. Beryllium: 0.0005 lb/hr.
- h. Mercury: 0.03 lb/hr.

3. The emission rates from the main baghouse when only the cement plant is operating shall not exceed the emission limits and maximum allowable emissions listed below:

<u>Pollutant</u>	<u>Emission Limits</u> <u>lb/ton of kiln feed</u>	<u>Maximum Allowable Emissions</u> <u>lb/hr</u>	<u>tons/yr</u>
PM	0.4	49.5	216
SO ₂	0.6	50.0	325
NO _x	2.9	359.0	1572

- 4. Visible emissions from the kiln, cooler, dryer and raw mill shall be less than 10 percent opacity.
- 5. Particulate emissions from the coal and fly ash handling facilities.
 - a. All conveyors and conveyor transfer points will be enclosed to preclude particulate emissions (except those directly associated with the coal stacker/reclaimer, emergency stockout stacker/reclaimer, emergency stockout, and deep bucket conveyor).
 - b. Inactive coal storage piles will be shaped, compacted and oriented to minimize wind erosion.
 - c. Water sprays or chemical wetting coal agents and stabilizers will be applied to coal storage piles, handling equipment, etc. during dry periods and as necessary to all coal handling facilities to maintain an opacity of less than or equal to 5 percent, except when adding, moving or removing coal from the coal pile, during which the opacity shall be no more than 20%.

- d. The fly ash handling system (including transfer and silo storage) will be totally enclosed and vented (including pneumatic system exhaust) through fabric filters.
6. Particulate emissions from bag filter exhausts from the coal and fly ash handling systems (excluding those facilities covered by Specific Condition A.5.c.) shall be limited to 0.02 gr/acf. A visible emission reading of 5% opacity or less may be used to establish compliance with this emission limit. A visible emission reading greater than 5% opacity will not create a presumption that the 0.02 gr/acf emission limit is being violated. However, a visible emission reading greater than 5% opacity will require the permittee to perform a stack test, as set forth in Specific Condition B.
7. Emissions of particulate matter from all other baghouse-equipped sources associated with the cement plant shall not exceed the maximum allowable emission limits listed below:

BAGHOUSE INVENTORY

Florida
Permit No.
(AC 27-)

	<u>Source Name</u>	<u>Allowable PM Emissions</u>	
		<u>lb/hr</u>	<u>TPY</u>
61019 118676	Raw Materials Bin	0.8	3.5
61012 118672	Pre Mix Bin	0.6	2.6
61013 118673	Fly Ash Bin	0.6	2.6
61017 118675	Raw Meal Transfer	0.3	1.3
61020 118677	Blending Silo	3.3	14.5
61021 118678	Kiln Feed	0.8	3.5
61030 118685	Clinker Silo	0.6	2.6
61032 118686	Clinker Silo	0.6	2.6
61027 118684	Cooler Discharge	0.8	3.5
61033 118687	Silo Discharges	1.8	7.9
61037 118688	Finish Mill	6.4	28.0
61038 118689	Cement Silo Discharge	0.6	2.6
61040 118690	Cement Silo	0.6	2.6
61041 118681	Cement Silo	0.6	2.6
61042 118683	Cement Silo	0.6	2.6
61026 118680	Coal Handling	0.8	3.5

8. Visible emissions from all sources listed in Specific Condition 7 shall not be greater than 5 percent opacity.
9. Compliance with the opacity limits of Specific Conditions A.1.d., A.2.d., A.4., A.5.c., A.6., and A.8. will be determined by EPA reference method 9 (including alternate method 1, Appendix A, 40 CFR Part 60).

B. Stack Testing

1. Within 60 calendar days after achieving the maximum capacity at which each unit will be operated (but no later than 180 operating days after initial startup) and annually thereafter, the permittee shall conduct: (a) performance tests on the main stack for particulates, SO₂, NO_x, and visible emissions (1) during normal operations near (\pm 3%) 1,234 million Btu per hour heat input when the power plant and cement plant are operating in combination, (2) at or near 1,000 million Btu per hour when the power plant is operating alone, and (3) at or near maximum production when the cement plant is operating alone; and (b) visible emissions tests on all baghouses. The Department shall be furnished a written report of the results of such performance tests within 45 days of completion of the test.
2. Performance tests shall be conducted under such conditions as the Department shall specify based on representative performance of the facility. The permittee shall make available to the Department such records as may be necessary to determine the conditions of the performance tests.
3. The permittee shall provide 30 days notice of the performance tests or 10 working days for stack tests in order to afford the Department the opportunity to have an observer present.
4. Stack tests for particulates, NO_x, and SO₂ and visible emissions tests shall be performed annually from the date of the first performance test(s) in accordance with Specific Conditions B.2. and 3. above.
5. Performance tests for Specific Condition B.1.(a)(1) and (2) shall be conducted in accordance with the provisions of 40 CFR Part 60 including Appendix A and 40 CFR 60.46.
6. Performance tests for particulate for Specific Condition B.1.(a)(3) shall be conducted in accordance with 40 CFR Part 60, including Appendix A and 40 CFR 60.64.

7. Compliance with the SO₂ and NO_x emission limits in Specific Condition A.3. shall be demonstrated in accordance with EPA Methods 6 and 7, respectively, in 40 CFR 60, Appendix A.
8. Compliance with the particulate emission limits for all sources listed in Specific Condition Nos. A.6. and A.7. shall be demonstrated by EPA Method 5 or 17 (Appendix A, 40 CFR 60).
9. Compliance with total fluoride emission limits in Specific Condition A.2.e. shall be demonstrated, if required by EPA, in accordance with EPA Method 13A or 13B, and 40 CFR 60.8.
10. Compliance with sulfuric acid mist limits in Specific Condition A.2.f. shall be demonstrated, if required by EPA, in accordance with EPA Method 8, and 40 CFR 60.8.
11. Compliance with beryllium limits in Specific Condition A.2.g. shall be demonstrated, if required by EPA, in accordance with EPA Method 104, and 40 CFR 60.8.
12. Compliance with mercury limits in Specific Condition A.2.h. shall be demonstrated, if required by EPA, in accordance with EPA Method 101A, and 40 CFR 60.8.
13. EPA Methods 1 and 2 shall be used for determining stack gas velocity when required in Specific Conditions B.7., B.8., B.9., B.10., B.11., and B.12.

C. Monitoring Program

1. A flue gas oxygen meter shall be installed for the unit to continuously monitor a representative sample of the boiler 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 a continuous opacity monitoring device for the baghouse exhaust. The monitoring devices shall meet the applicable requirements of 40 CFR 60.45 and 40 CFR 60.13 including certification of each device. The Department shall be provided 30 days notice on each certification.

2. The permittee shall operate two ambient monitoring devices for suspended particulates in accordance with EPA quality assurance procedures and reference methods in 40 CFR 53. The monitoring devices shall be operated at a location approved by the Department of Environmental Regulation. The frequency of operation of the particulate monitors shall be every six days commencing as specified by the Department. In addition, the permittee shall operate a meteorological station, which includes wind measuring equipment, at a location approved by the Department. These data will be reported with the ambient data.
3. The ambient monitoring program shall begin at least one year prior to initial start up of the boiler and shall continue for at least one year of commercial operation. The Department and the permittee shall review the results of the monitoring program annually and determine the necessity for the continuation of or modifications to the monitoring program.
4. Samples of all fuel oil and coal fired shall be taken and an ultimate analysis obtained including the heating value on a moisture free basis. Accordingly, samples shall be taken of each fuel shipment received. Coal sulfur content shall be determined and recorded on a daily basis. Records of all the analyses shall be kept for public inspection for a minimum of two years after the data are recorded.
5. Prior to operation of the source, the permittee shall submit to the Department a plan or procedure that will allow the permittee to monitor emission control equipment efficiency and enable the permittee to return malfunctioning equipment to proper operation as expeditiously as possible.
6. Instruments shall be installed, calibrated, and maintained to continuously measure the amounts of coal used, material fed to the kiln, and clinker produced. The records of fuel usage with the fuel analysis, daily kiln feed and clinker produced shall be reported quarterly to the Florida Department of Environmental Regulation 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 commercial operation in accordance with 40 CFR 60.7.

2. Utilizing the SAROAD or other format approved in writing by the Department, ambient air monitoring data shall be reported to the Bureau of Air Quality Management of the Department quarterly. Commencing on the date of certification, such reports shall be due within 45 days following the quarterly reporting period. Reporting and monitoring shall be in conformance with 40 CFR, Parts 53 and 58.
3. Beginning one month after approval, the permittee shall submit to the Department a monthly status report briefly outlining progress made on engineering design and purchase of major pieces of air pollution control equipment. All reports and information required to be submitted under this condition shall be submitted to the Administrator of Power Plant Siting, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida, 32301.

E. Coal Characteristics and Contracts

Before approval can be granted by EPA for use of control devices, characteristics of the coal to be fired must be known. Therefore, before these approvals are granted, the permittee must submit to the Department of Environmental Regulation copies of coal contracts which should include the expected sulfur content, ash content, and heat content of the coal to be fired. These data will be used by the Department and EPA in evaluating the adequacy of the control devices. Also, the applicant must demonstrate the ability to acquire a low sulfur coal supply of sufficient length to enable the installation of sulfur removal equipment if the supplies of low sulfur coal should not become available or be discontinued. Therefore, the coal contracts must be for a period of at least five (5) years from the date of start-up of the boiler.

F. Coal Information

As an alternative to the submittal of contracts for purchase of coal under Specific Condition E above, the permittee may submit the following information:

1. The name of the coal supplier;
2. The sulfur content, ash content, and heat content of the coal as specified in the purchase contracts;

3. The location of the coal deposits covered by the contract (including mine name and seam);
4. The date by which the first delivery of coal will be made;
5. The duration of the contract; and
6. An opinion of counsel for the permittee that the contracts are legally binding.

G. Additional Conditions

1. When the power plant boiler is operating alone and the cement plant 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.
2. The maximum coal consumption in the kiln shall not exceed 10.3 tons per hour.
3. Construction shall reasonably conform to the plans and schedule given in the application.
4. The permittee shall report any delays in construction and completion of the project which would delay commercial operation by more than 90 days to EPA.
5. Reasonable precautions to prevent fugitive particulate emissions during construction and operation, such as coating or paving of roads and construction sites, wetting roads, and regrassing or watering areas of disturbed soils and storage areas, will be taken by the permittee. In addition, the main access road(s) within FCS's property will be paved.
6. Any fuel oil to be fired in the boiler shall be "new oil", which means an oil which has been refined from crude oil and has not been used. The quality of the fuel oil used by the boiler shall not cause the allowable emission limits listed in the table below to be exceeded. Such emissions may be calculated in accordance with AP-42, third edition.

Allowable Emission Limits

<u>Pollutant</u>	<u>lb/MMBtu</u>
PM	0.015
SO ₂	0.31
NO _x	0.16
Visible emissions	Maximum 20% Opacity

Factor limits

7. The height of the boiler exhaust stack for the plant shall not be less than 320 ft. above grade.
8. Particulate emissions from the following sources of Chemical Lime Company (wholly owned subsidiary of Florida Crushed Stone Company) shall not exceed the following limits:

<u>Source</u>	<u>DER Permit No.</u>	<u>Emissions (lb/hr)</u>
Kiln	AO 27-55581	16.0
Hydrator	AO 27-25269	12.5
Dryer	AO 27-50400	14.5
Bagging	AO 27-17352	5.0

9. The permittee must submit to the Florida Department of Environmental Regulation within thirty (30) days after it becomes available a copy of the technical data pertaining to the selected particulate and SO₂ emissions controls. These data should include, but not be limited to, projected or guaranteed efficiency and emission rates, and major design parameters such as injection rates, injection points, air/cloth ratio and flow rate. EPA may, upon review of these data, disapprove the use of any such device if it determines the selected control device to be inadequate to meet the required emission limits. Such disapproval shall be issued within 30 days of receipt of the technical data.

PART II
GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of startup of operation.
2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitting source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the compliance testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years for the date of recording.
5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall provide the permitting authority with the following information in writing within five (5) days of such conditions:
 - (a) description of noncomplying emission(s),
 - (b) cause of noncompliance,
 - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,
 - (d) steps taken by the permittee to reduce and eliminate the noncomplying emission, and

- (e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit and the permitting authority.
8. The permittee shall allow representatives of the state environmental control agency or representatives of the Environmental Protection Agency upon the presentation of credentials:
 - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
 - (b) to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
 - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;
 - (d) to sample at reasonable times any emission of pollutants; and
 - (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.

9. All correspondence required to be submitted by this permit to the permitting agency shall be mailed to the:

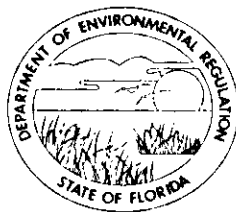
Chief, Air Management Branch
Air and Waste Management Division
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30365

10. The conditions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 22, 1983

Mr. James T. Wilburn, Chief
Air Management Branch
U. S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

RE: Florida Crushed Stone - PSD-FL-090 and PSD-FL-091

Dear Mr. Wilburn:

This letter contains our responses to the 18 comments your office made after reviewing the above referenced PSD application and preliminary determination for the Florida Crushed Stone (FCS) facility in Brooksville, Florida. In addition, Clair Fancy and Cleve Holladay of DER, Dick Entorf of Florida Crushed Stone and John Koogler of Sholtes and Koogler, Environmental Consultants, met with your staff in Atlanta on October 11, 1983, to discuss these comments. We have incorporated John Koogler's responses to most of these comments in our responses to them. His responses are contained in an October 28, 1983, letter to Clair Fancy, which is attached. Our responses will refer to his responses when appropriate. Both his letter and our letter use the same system of enumeration as was used in your letter.

1. See John Koogler's response to #1.
2. These specifications are legible and are adequate to meet BACT.
3. No PSD requirements were avoided because of the way the sources were categorized. See John Koogler's response to #3.
- 4-6. See John Koogler's response to #'s4-6.

7. EPA commented that a full year of monitoring data is required unless it can be shown that the maximum impact of a pollutant or pollutants can be expected to occur during the period of time represented by the monitoring data.

We reviewed TSP data collected during calendar year 1982 at monitoring sites in counties adjacent to Hernando County, since

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there were no other TSP monitors in this county besides the FCS monitors. We reviewed data from five Crystal River sites in Citrus County and the Inglis site in Levy County. These sites are approximately 40-55 kilometers north-northwest of the proposed FCS facility and are the closest sites available for comparison. The data from these sites showed that either the highest or second-highest measured values during calendar year 1982 occurred during the May-September time period when FCS data were being collected. In addition to this data set, we reviewed the 1982 TSP exceedances of the 24-hour standards from sites all across the state. Out of 38 exceedances for the year, 17 of these, or nearly 50%, occurred during the four-month period FCS collected their data. Based on a review of these two data sets, we are satisfied that FCS monitored during the expected maximum period in 1982.

EPA commented that normally four months of monitoring for TSP is acceptable provided monitoring is done on an every other day basis. DER has normally required monitoring be done on every third day when only four months of data are collected.

Regarding sulfur dioxide impacts, please refer to John Koogler's response.

8. In order to establish a background air quality concentration for PM, we wanted to identify the meteorological conditions for the day and similar days when the highest, second-highest estimated concentration due to the modeled sources in the vicinity of FCS occur. Then, the average background concentration on days with similar meteorological conditions would be determined from the air quality data collected by FCS monitors. This average background value would be added to the highest, second highest modeled value. This method is consistent with the procedure for determining the average background value in the Guideline on Air Quality Models (EPA-450/2-78-027, p. 35).

However, when we analyzed the meteorological conditions associated with the day when the model predicts the highest, second-highest concentration to occur and other days when the model predicts similarly high concentrations, we found a variety of meteorological conditions associated with those days. These conditions ranged from strong stability and light winds at night, with only two to three hours of winds from the same direction, to neutral stability or slight instability and moderate to strong winds during the daytime with many hours of winds from nearly the same direction. Because of this variety of conditions, we found it difficult to characterize the meteorological conditions

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associated with the days the model predicts high concentrations. We also looked at the meteorological conditions associated with the days on which high concentrations were measured by one or both of FCS's PM monitors to see if we could readily identify a set of meteorological conditions associated with these days. (Since hourly speed and wind direction data were not measured by FCS, DER used hourly data for the May-September 1982 time period collected at Tampa, Florida.) Again, we couldn't.

Because we couldn't readily characterize the meteorological conditions associated with high modeled concentrations or high monitored concentrations, we devised an alternate method to estimate the average background concentration from the monitoring data. This method involved averaging the elevated concentrations attributable to unmodeled sources impacting the FCS monitors, especially those in the vicinity of the monitors. Mining activity already existing on the FCS property and heavy trucks associated with this activity, which travel over unpaved roads on the property and in the vicinity of it, create a large amount of fugitive PM emissions. The areas in which the monitors are located can become quite dusty because of these emissions. We believe it is these fugitive emissions that are responsible for most of the higher concentrations measured by the FCS monitors. Since fugitive emissions typically have little impact in strongly stable and calm to light wind situations, we believe the average background concentration will be much less on days when modeled concentrations are predicted to be high because of these conditions than on days when modeling predicts high concentrations due to neutral or unstable and moderate to strong wind conditions in the daytime with strong wind direction persistence. Most of the high monitored values occurred when the wind was blowing persistently from the fugitive sources on the FCS property toward one of the two monitors. Since the two monitors are located only several kilometers apart, we also assumed that fugitive emissions were impacting a monitor when one monitor measured a concentration much larger than the other. Additionally, we assumed that fugitive sources had little impact on either monitor when measured values were less than 40 ug/m^3 , since it is commonly assumed that the annual mean background concentration of PM due to natural sources and distant, unidentified man-made sources is 30 to 40 ug/m^3 . (Guideline on Air Quality Models, EPA 450/2-78-027, p. 34). Therefore our estimated background concentration was based on an average of the concentration values at the higher of the two monitors for days characterized by:

1. A monitored value of 40 ug/m^3 or greater at one or both monitors; and

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2. Either wind direction persistence toward the higher of the two monitors during daylight hours of 0800-1900 LST. (Winds must be blowing from the FCS property for 60% or more of these hours at speeds of 6 knots or greater. Winds blowing from 240°-330° are assumed to cause fugitive emissions to impact the east monitor, while winds from 20°-110° are assumed to cause them to impact the west monitor); or

3. A spread of 30 ug/m³ or greater between the two monitors.

Based on these criteria, the values used in determining our estimated background concentration are the following: 140 (July 31), 139 (June 10), 117 (July 1), 92 (August 3), 69 (August 12), 58 (August 30), and 50 (June 1). Our estimated background concentration based on an average of these values is 95 ug/m³. This background concentration is added to the highest, second highest modeled value of 34 ug/m³ to give a projected maximum 24-hour PM impact of 129 ug/m³. The actual impact may be less since FCS will be reducing the impact of fugitive emissions coming from their property by paving most of their roads.

9. See John Koogler's response to #9.

10. See John Koogler's response to #10.

11. The only change to John Koogler's response to #11 is that in response #8 we established the background for PM to be 95 ug/m³ instead of 112 ug/m³. The modeling results show the maximum impact to be 129 ug/m³ instead of 146 ug/m³.

12. See John Koogler's response to #12.

13. See John Koogler's response to #13.

14. The department has made a BACT determination utilizing a 50 lb/hr limit on SO₂ emissions for the following reasons:

(1) The SO_x removal efficiency in a cement plant process is affected by the type of process and particulate emission control equipment. There are two types of processes used in cement plants: dry and wet processes. Due to the differing nature of the two types of cement plant processes, the gas stream contact with dry lime and limestone is greater in the dry process plant than in the wet process plant. This results in a greater potential for SO₂ absorption in the

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dry process (such as the FCS plant) than in the wet process (such as the Lonestar cement plant in Dade County). The more important reason for Lonestar's low SO₂ reduction is that the installed control equipment is an electrostatic precipitator which has no ability to remove any SO₂ emissions. However, the filter cake on the bags in a baghouse can absorb SO₂ emissions from the flue gas. Therefore, the SO₂ removal efficiency in Florida Crushed Stone's new plant will be much greater than that in Lonestar's old plant.

(2) Due to the alkali/sulfur balance incurred in cement processing, the use of low sulfur content coal will further reduce SO₂ emissions.

(3) The SO₂ emission factor as listed in AP-42 is 75% or above. AP-42 does not actually limit the emission factor to 75%.

15. EPA commented about DER's statement that the SO₂ increment was expanded due to a 2173 g/s reduction in emissions from the FPC Crystal River Plant, Units 1 and 2, and asked us to explain it. Our explanation follows. When FPC applied for a PSD permit to construct Crystal River Units 4 and 5 in 1977, EPA assumed that emission increases resulting from the conversion of Units 1 and 2 from oil to coal consumed increment. At that time, as a matter of policy, EPA used 1974 as the baseline date in its determination that the increases in emissions from the coal conversion of Units 1 and 2 consumed increment. EPA determined that increases from Units 1, 2, 4, and 5 would lead to potential SO₂ increment violations in the Chassahowitzka National Wilderness Area. As a result, the PSD permit issued required FPC to effect reductions in SO₂ emissions from Units 1 and 2 on a timetable keyed to the operational dates of Units 4 and 5. Prior to the start-up of Unit 5, both Units 1 and 2 were to meet the emission limit of 2.1 lb SO₂/10⁶ BTU.

However in 1981, EPA determined that the actual sulfur dioxide emissions from Crystal River Unit 2, as such existed on December 27, 1977, should be included in the baseline for purposes of determining PSD increment consumption for Units 4 and 5. Unit 2 was burning coal at that time and was determined to have a baseline SO₂ emission rate of 5.23 lb/10⁶ BTU. Unit 1 was determined to be burning oil during the baseline period with an SO₂ emission rate of 2.74 lb/10⁶ BTU. Based on these new baseline emissions, FPC requested that EPA modify the federal PSD permit to less stringent emissions limits on Units 1 and 2 prior to the start-ups of Unit 4 and 5. EPA granted this request. FPC

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also requested that the state site certification be modified to these less stringent emissions limits. However the modification of the state site certification was never accomplished, so the emission limitations on Units 1 and 2 of 2.1 lb SO₂/10⁶ BTU still stands. With these emission limits there is a 2173 g/s reduction in emissions from Units 1 and 2 as shown below:

Unit 1 Baseline is 2.74 lb/10⁶ BTU x (3890 x 10⁶ BTU)
= 1343 g/s
Unit 2 Baseline is 5.23 lb/10⁶ BTU x (4715 x 10⁶ BTU)
= 3107 g/s
Unit 1 Baseline + Unit 2 Baseline = 4450 g/s
Unit 1 Projected is 2.10 lb/10⁶ BTU x (3890 x 10⁶ BTU)
= 1029 g/s
Unit 2 Projected is 2.10 lb/10⁶ BTU x (4715 x 10⁶ BTU)
= 1248 g/s
Unit 1 Projected + Unit 2 Projected = 2277 g/s
Baseline minus Projected = 4450 g/s - 2277 g/s = 2173 g/s


16. DER will make the necessary changes when we prepare the final permits.

17. See John Koogler's response to #17.

18. See John Koogler's response to #18.

If you have questions regarding these responses or feel additional information is warranted, please contact Clair Fancy or Cleve Holladay at 904-488-1344.

Sincerely,


C. H. Fancy, P. E.
Deputy Chief
Bureau of Air Quality
Management

CHF/CH/BK/bjm

Attachments

Dr. John Koogler's October 28, 1983, letter to Mr. Clair Fancy,
Subject: PSD-FL-090 and PSD-FL-091.

Dr. John Koogler's October 3, 1983, letter to Mr. Cleve Holladay,
Subject: Annual average particulate matter impacts.