

P 062 921 963



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PS Form 3800, June 1991

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2-1-93
AC 27-212252
PSD-FI-188

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Don Kelly, Plant Mgr.
Smythdown, Inc.
P O BOX 6
Brooksville, FL 34605-0006

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DOMESTIC RETURN RECEIPT

Final Determination

Southdown, Inc./dba Florida Mining & Materials
Hernando County
Brooksville, Florida

Construction Permit No.
AC 27-212252
PSD-FL-188

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

January 12, 1993

Final Determination

Southdown, Inc./dba Florida Mining & Materials

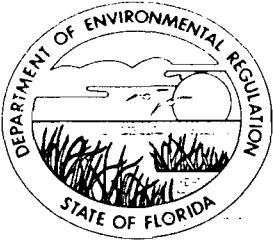
Hernando County

AC 27-212252

PSD-FL-188

The construction permit application package has been reviewed by the Department. Public Notice of the Department's Intent to Issue was published in The Tampa Tribune on November 26, 1992. The Technical Evaluation and Preliminary Determination of the construction permits was distributed on November 12, 1992, and available for public inspection at the Department's Southwest District office and Bureau of Air Regulation office and the Hernando County Government Center Planning office.

There were no comments received during the public notice period. Therefore, it is recommended that the construction permit be issued as drafted.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:
Southdown, Inc. dba
Florida Mining & Materials
P. O. Box 6
Brooksville, Florida
34605-0006

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993
County: Hernando
Latitude/Longitude: 28°38'34"N
82°28'25"W
Project: No. 2 Cement Kiln
Modification

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.); Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297 and 17-4; and, 40 CFR (July, 1991 version). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of the No. 2 cement kiln to allow a significant increase in nitrogen oxides (NOx) above the previous actuals (625.4 TPY vs. 1025 TPY). The kiln's primary fuel is coal having a maximum allowable sulfur content of 1%, by weight. Flolite, a re-refined oil blend, is used as a backup fuel and during startups, shutdowns, and malfunctions. The kiln has a maximum process input rate of 130 tons per hour (clinker product weight of 79.6 tons per hour), 30-day rolling average, and a maximum heat input rate of 300.0 MMBtu/hr. A Fuller Reverse Air baghouse control system is used to control particulate matter and visible emissions. The facility is located in Brooksville, Hernando County, Florida. The UTM coordinates are Zone 17, 356.0 km East and 3169.9 km North.

The Source Industrial Code: 3241 Cement Manufacturing

The Source Classification Code numbers are:

- o 3-05-006-06 Cement Mfg-Dry Process Tons Cement Produced
- o 3-90-002-01 Bitum. Coal-Cement Kiln Tons Burned
- o 3-90-013-89 Liquid Waste-General 1000 Gals Burned

The source shall be modified 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. Southdown, Inc. dba Florida Mining & Materials application received on April 22, 1992.
2. DER's transmittal letter of April 23, 1992.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

Attachments cont.:

3. Dr. John B. Koogler's letter with enclosure received May 5, 1992.
4. Mr. James W. Pulliam, Jr.'s letter received via the FAX on May 15, 1992.
5. Mr. Charles B. Hetrick's letter received May 20, 1992.
6. Mr. C. H. Fancy's incompleteness letter with attachments mailed May 22, 1992.
7. Mr. Howard L. Rhodes's letter with enclosure mailed June 2, 1992.
8. Dr. John B. Koogler's letter with enclosures received June 24, 1992.
9. FAX received July 24, 1992, from Mr. Pradeep Raval.
10. FAX received July 24, 1992, from Mr. Gary Maier.
11. Mr. Charles B. Hetrick's letter received July 27, 1992.
12. Mr. James W. Pulliam, Jr.'s letter received August 20, 1992.
13. Technical Evaluation and Preliminary Determination dated September 21, 1992.
14. Dr. John B. Koogler's letter received October 14, 1992.
15. Dr. John B. Koogler's received October 19, 1992.
16. Response from the National Park Service received via the phone on October 20, 1992, by Mr. Preston Lewis.
17. Mr. Brian L. Beals's letter received October 21, 1992.
18. Revised Technical Evaluation and Preliminary Evaluation dated October 28, 1992.
19. Public Notice received December 18, 1992.
20. Mr. Brian L. Beals's letter received January 8, 1993.
21. Final Determination dated January 12, 1993.

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, F.S. 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), F.S., 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.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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 acknowledgement 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 F.S. and Department rules, unless specifically authorized by an order from the Department.

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

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

- a. Have access to and copy 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.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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 F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. 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 F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.

11. This permit is transferable only upon Department approval in accordance with F.A.C. Rules 17-4.120 and 17-30.300, 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 constitutes compliance with:

- a. New Source Performance Standards (NSPS), 40 CFR 60.60, Subpart F, Portland Cement Plants;
- b. Prevention of Significant Deterioration; and,
- c. Best Available Control Technology (BACT).

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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;
- 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 annual hours of operation of the No. 2 cement kiln shall not exceed 8200.

2. The No. 2 kiln's total process feed rate shall not exceed 130 tons per hour (wet basis), yielding a maximum clinker product weight of 79.6 tons per hour (dry basis), averaged on a rolling 30-day production period.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

SPECIFIC CONDITIONS:

3. The No. 2 kiln's fuel input rate shall not exceed 300.0 MMBtu per hour. The sulfur content of the coal shall not exceed 1.0 percent, by weight, using ASTM D3177-75. Coals with heating values lower than 12,500 Btu per pound shall be fired only if the sulfur content to heat value ratio of the coal does not exceed 0.83 pounds of sulfur per MMBtu of heat input.

4. The total combined times when using Flolite, a re-refined oil blend, during startup periods (no coal used), idle times (maximum allowable process heat input of 300.0 MMBtu maintained but no process feed input), and as a limited supplemental fuel with coal (coal unable to sustain maximum allowable process heat input requirement), shall not exceed 250 hours per year. The Flolite shall not contain more than 1 percent sulfur, by weight. The maximum allowable Flolite usage rate is 2069 gals/hr (@ 145,000 Btu/gal). At all times, the Flolite shall contain no higher concentration of metals or toxics than the following:

Cadmium - 0.3 ppm; Lead - 5.0 ppm; and, Arsenic - 1.0 ppm.

5. Emissions from the No. 2 cement kiln shall not exceed the following:

Pollutant	Maximum Allowable Emissions	
	lbs/hr	tons per year
PM	13.5	55.35
SO ₂	11.5	47.15
NO _x	250.0, 30-day avg.	1025.0
VOC	7.4	30.34
CO	64.0	262.4
VE	< 10% opacity	

Note: Except for NO_x, the emission limitations were established in construction permit No. AC 27-173474 (PSD-FL-124A), issued July 20, 1990.

6. Annual compliance shall be demonstrated, in accordance with F.A.C. Rule 17-297 and 40 CFR 60, Appendix A (July, 1991 version), using the following:

- EPA Method 5 for PM (particulate matter)
- EPA Method 6 or 6C for SO₂ (sulfur dioxide)
- EPA Method 7E for NO_x (nitrogen oxides; continuous 30-day period average)
- EPA Method 9 for VE (visible emissions)
- EPA Method 10 for CO (carbon monoxide)
- EPA Method 25A for VOC (volatile organic compounds)

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

SPECIFIC CONDITIONS:

7. The No. 2 kiln's total process input rate and clinker production rate shall be monitored and recorded daily in accordance with 40 CFR 60.63. The coal feed rate to the kiln and the average coal sulfur content and heating value (Btu/lb) of each coal shipment shall be determined and recorded. If coal of sulfur content exceeding 1.0 percent, by weight, is fired in the kiln, (due to variability in the sulfur content of coal within a shipment) samples will be taken of coal entering the kiln at a minimum frequency of once per hour and analyzed for sulfur content. The average sulfur content of samples taken within each 3-hour period shall not exceed 1.0 percent, by weight.

8. The permittee shall comply with all of the applicable provisions and requirements of F.A.C. Chapters 17-210 thru 17-297 and 17-4; and, 40 CFR (July, 1991 version).

9. The DER's Southwest District office shall be notified in writing at least 15 days prior to compliance testing. Test reports shall be submitted to the DER's Southwest District office within 45 days of compliance test completion.

10. A continuous kiln exhaust gas oxygen monitor and data recorder shall be operated, calibrated and maintained. Data from the recorder shall be kept on file for the previous two years of operation and made available upon request.

11. The permittee shall apply reasonable work practices to minimize fugitive PM emissions, including the following:

- a. All permanent haul roads shall be paved;
- b. Temporary haul roads shall be watered or treated with chemical dust suppressants at regular intervals;
- c. All non-covered raw materials storage areas shall be maintained so as to minimize PM fugitive emissions;
- d. Coal stored at or above natural grade shall be compacted, turned and/or watered as necessary to minimize fugitive PM emissions from the pile, and aligned with the predominant wind direction to minimize wind erosion;
- e. Abandoned haul roads and other disturbed areas shall be revegetated within 60 days of the date active service ends; and,
- f. All cement products shall be transferred to transport trucks through a loading spout.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

SPECIFIC CONDITIONS:

12. Any change in the method of operation, fuels, equipment, startup, or operating hours, pursuant to the F.A.C Rule 17-296.200, Definitions-Modification, shall be submitted for evaluation and approval to the DER's Bureau of Air Regulation (BAR) office.

13. The No. 2 kiln and its associated equipment are subject to the applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; and, 17-4.130: Plant Operations-Problems.

14. Specific conditions of this permit supercedes those of the current permit No. AC 27-173474.


15. An annual operation report (AOR) shall be submitted to the Department's Southwest District office by March 1 reporting the kiln's averaged process input rate and clinker production of each month of the previous year. The AOR shall contain the total time that the kiln was firing Flolite during the previous year.

16. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the BAR prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

17. An application for an operation permit must be submitted to the DER'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 applicant shall submit the appropriate application form, fee, certification that construction was completed and noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-2.220).

Issued this 26th day
of January, 1993

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



Carol M. Browner, Secretary

Best Available Control Technology (BACT) Determination
Southdown, Inc. dba Florida Mining & Materials
Hernando County

The applicant proposes an increase in the allowable nitrogen oxide (NOx) emission limitation to 250 lbs/hr (8200 hrs/yr), which results in a significant increase in emissions. The purpose for the increase is to adjust the cement kiln's allowable limit upward to compensate for potential peaks in NOx emissions that would be in violation with the current allowable limitation of 162.3 lbs/hr (8200 hrs/yr). Due to source obligation, the base limitation used for evaluation purposes was 158.4 lbs/hr (7896 hrs/yr). The facility is located in an area designated attainment for all of the criteria pollutants.

The applicant has indicated the maximum net change in pollutant emissions is as follows:

Pollutant	Max. Net Increase in Emissions (TPY)	PSD Significant Emission Rate (TPY)
NOx	399.6	40

Rule 17-2.500(2)(f)(3) of the Florida Administrative Code (F.A.C.) requires a BACT review of all regulated pollutants emitted in an amount equal to or greater than the significant rates listed in Table 500-2, F.A.C. Chapter 17-2.

BACT Determination Requested by the Applicant:

No. 2 Cement Kiln

NOx 250 lbs/hr, 30-day average

Date of Receipt of a BACT Application:

April 22, 1992

Review Group Members:

This determination was based on comments received from the applicant and the Permitting and Standards Section.

BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology 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 determinations 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 source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source 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.

BACT Analysis:

A. No. 2 Cement Kiln

NOx emissions potentially can be controlled by post-combustion reduction systems (i.e., selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR). Such add-on systems have been proposed or recommended for such source categories as municipal

BACT Determination
Southdown Inc., dba FM&M
AC 27-212252 & PSD-FL-188
Page 4

Details of the Analysis May be Obtained by Contacting:

Bruce Mitchell, Permitting Engineer
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400


Recommended by:



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

January 14, 1993
Date

Approved by:



Carol M. Browner, Secretary
Dept. of Environmental Regulation

Jan 26, 1993
Date



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Carol Browner
FROM: Howard L. Rhodes *HLR*
DATE: January 11, 1993
SUBJ: Approval of Construction Permit No. AC 27-212252
PSD-FL-188
Southdown, Inc./dba Florida Mining & Materials

Attached for your approval and signature is a construction permit prepared by the Bureau of Air Regulation for the above referenced company to allow an increase in the NOx allowable emissions for the No. 2 cement kiln.

Southdown, Inc./dba FM&M is a major existing facility that produces cement from raw materials. The facility is located off U.S. Highway 98 northwest of Brooksville, Hernando County, Florida.

On November 7, 1988, FM&M received a construction permit (AC 27-138850 and PSD-FL-124) for the No. 2 cement kiln, which included a PSD-BACT determination. The BACT established a NOx emission limitation of 250 lbs/hr. In 1989, FM&M applied for a modification to the No. 2 cement kiln, which required an evaluation of previous actual emissions to future allowable emissions. Based on tests, the NOx level established as actuals was 158.4 lbs/hr and the new allowable emission limitation was established at 162.3 lbs/hr (i.e., 39.9 TPY increase; AC 27-173474: July 25, 1990). Continuous monitoring and subsequent tests have revealed that there are some fluctuations in NOx emissions under steady state operations which, at times, have placed the source in potential violation with the limitation. Consequently, FM&M has requested that the NOx emission limitation be reestablished at the previous PSD-BACT level of 250 lbs/hr, which is the purpose of this permitting activity. Modeling has shown that the 250 lbs/hr level does not violate standards or increment.

There were no comments received during the public notice period.

I recommend your approval and signature.

HLR/BM/rbm



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

JAN 5 1993

4APT-AEB

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

RE: Southdown Inc., Florida Mining and Materials
PSD Permit Modification (PSD-FL-188)

Dear Mr. Fancy:

This is to acknowledge receipt of the revised preliminary determination and draft Prevention of Significant Deterioration (PSD) permit for the proposed modification to the above referenced facility, by your letter dated October 28, 1992. The proposed modification will increase the nitrogen oxides emission limit of the No. 2 cement kiln at the facility.

The proposed emission limits for NO_x for the No. 2 cement kiln will be 250.0 pounds per hour (30-day average) and 1025.0 tons per year (maximum of 8200 annual operating hours). Presently, the kiln is permitted at 162.3 pounds per hour (30-day average). Southdown proposes to limit NO_x emissions through the use of proper operation practices and by controlling the excess combustion air.

We have reviewed the package as submitted and have no adverse comments. Thank you for the opportunity to review and comment on this package. If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

Brian L. Beals, Chief
Source Evaluation Unit
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

cc: B. Mitchell
C. Holladay
B. Thomas, SW Dist.
J. Koopler, D.E., R-#
G. Burch, NPS
C. Metcalf, HCBCE
D. Lee, CFWESAC

RECEIVED

JAN 08 1993

Division of Air
Resources Management



Brooksville Cement

A Southdown Company

December 2, 1992

Dr. Richard D. Garrity
FL Department of Environmental Regulation
4520 Oak Fair Boulevard
Tampa, Florida 33610-5561

RE: Southdown, Inc. d/b/a Florida Mining & Materials
Publication of Notice of Intent to Issue Permit
#AC27-212252

Dear Dr. Garrity:

Florida's Department of Environmental Regulation's Notice to Issue Permit to allow modification to the Number 2 Cement Kiln, has been published in the Hernando County section of the Tampa Tribune. Notice of Intent was received on November 14, 1992 and published on November 26, 1992. This fulfills the thirty (30) day requirement of the Notice of Intent to Issue Permit.

A copy of this Notice and a receipt are attached.

If further action is required in regards to issuance of this Permit, please do not hesitate to contact me.

Sincerely,

Don B. Kelly,
Plant Manager

DBK/sd

Attachment

RR# P 237 527 236

cc: B. Mitchell

C. Halladay

B. Thomas, SW Dept

J. Harper, EPA

J. Runyon, NPS

Southdown, Inc.

P.O. Box 6 • Brooksville, Florida 34605-0006

(904) 796-7241 • Fax: (904) 754-9836

Recycled paper

C. Mitchell, H&B&C

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DEC 18 1992

Division of Air
Resources Management

P 062 921 920



Receipt for Certified Mail

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Do not use for International Mail
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PS Form 3800, June 1991

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Don Kelly	
Street and No.	
Southdown, Inc	
City, State and ZIP Code	
Brooksville, FL	
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AC 27-212252	
PSD-FI-188	

aka EM & M

PS Form 3811, July 1983 447-845

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Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to:

Mr. Don Kelly, PH MS8.
Southdown, Inc
PO Box 6
Brooksville, FL 34605-0006

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	PO62 921 920

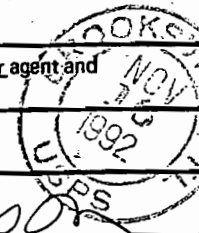
Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee
X

6. Signature - Agent
X *B. Swenson*

7. Date of Delivery
11-16-92

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



THE TAMPA TRIBUNE

Published Daily
Tampa, Hillsborough County, Florida

D.E.R.

State of Florida }
County of Hillsborough } ss.

DEC 04 1992

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, Flori-
da; that the attached copy of advertisement being a

LEGAL NOTICE PASCO, HERNANDO, CITRUS

in the matter of

STATE OF FLORIDA

was published in said newspaper in the issues of

NOVEMBER 26, 1992

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 here-
tofore 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 pub-
lication 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, com-
mission or refund for the purpose of securing this advertisement for publication in the
said newspaper.

Sworn to and subscribed before me, this.....30.....day
of NOVEMBER A.D. 19 92.

(SEAL)

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

AC 27-21252
PSO-FL-188

The Department of Environ-
mental Regulation gives notice
of its intent to issue a
permit to Southdown, Inc. dba
Florida Mining & Materials,
Post Office Box 6, Brooksville,
Florida 34605-0006, for a modifi-
cation to the No. 2 cement
kiln. The modification will al-
low a significant increase in
the allowable emissions of
NOx, nitrogen oxides, as an
adjustment upward to com-
pensate for any potential
peaks in NOx emissions that
would put the kiln in violation
with its current allowable lim-
it. The proposed modification
will occur at the existing facility
located off U.S. Highway 98
northwest of Brooksville, Her-
nando County, Florida. A de-
termination of Best Available
Control Technology (BACT)
was required. The Class I ni-
trogen dioxide increment con-
sumed is 0.32 vs. 2.5 allowable
annual average, in micro-
grams per cubic meter. The
maximum predicted increase
in ambient concentration for
nitrogen dioxide is less than
significant in the Class II area
surrounding the plant, thus no
increment consumption was
calculated. The Department is
issuing this intent to issue for
the reasons stated in the Re-
vised Technical Evaluation and
Preliminary Determination.

A person whose substantial
interests are affected by the
Department's proposed per-
mitting decision may petition
for an administrative pro-
ceeding (hearing) in accor-
dance with Section 120.57,
Florida Statutes (F.S.). The pe-
tition must contain the infor-
mation set forth below and
must be filed (received) in the
Office of General Counsel of

the Department at 2600 Blair
Stone Road, Tallahassee, Flori-
da 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 ad-
ministrative determination
(hearing) under Section
120.57, F.S.

The petitioner shall contain
the following information:
(a) The name, address,
and telephone number
of each petitioner;
(b) The name and
address, the Depart-
ment Permit File Num-
ber and the county in
which the project is pro-
posed;

- (b) A statement of how
and when each petition-
er received notice of the
Department's action or
proposed action;
- (c) A statement of how
each petitioner's sub-
stantial interests are af-
fected by the Depart-
ment's action or pro-
posed action;
- (d) A statement of the
material facts disputed
by Petitioner, if any;
- (e) A statement of facts
which petitioner con-
tends warrant reversal
or modification of the
Department's action or
proposed action;
- (f) A statement of which
rules or statutes peti-
tioner contends require
reversal or modification
of the Department's ac-
tion or proposed action;
and,
- (g) A statement of the
relief sought by peti-
tioner, stating precisely the
action petitioner wants
the Department to take
with respect to the De-
partment's action or
proposed action.

If a petition is filed, the admin-
istrative 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 sub-
stantial interests will be af-
fected 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 Depart-
ment. 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.

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 Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida
32399-2400

Department of
Environmental Regulation
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Hernando County
Government Center
Administration Building
20 N. Main Street, Rm. 461
Brooksville, Florida 34601

Any person may send written
comments on the proposed
action to Mr. Preston Lewis
at the Department's Tal-
lahassee address. All com-
ments received within 30
days of the publication of
this notice will be considered
in the Department's final de-
termination. Further, a pub-
lic hearing can be requested
by any person. Such re-
quests must be submitted
within 30 days of this notice.
BV1270 11/26/92

P 062 921 963



Receipt for Certified Mail

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

Sent to	Don Kelly
Street and No.	Southdown, Inc
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	7-1-93 AC 27-212252 PSD-FL-188

PS Form 3800, June 1991

PS Form 3811, July 1983 447-845

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to:
 Don Kelly, Plant Mgr.
 Southdown, Inc.
 P O BOX 6
 Brooksville, FL 34605-0006

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input checked="" type="checkbox"/> Express Mail	P062 921 96

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee	X
6. Signature - Agent	X <i>H. Stevenson</i>
7. Date of Delivery	2/3/93
8. Addressee's Address (ONLY if requested and fee paid)	

DOMESTIC RETURN RECEIPT

THE TAMPA TRIBUNE

Published Daily
Tampa, Hillsborough County, Florida

D.E.R.

State of Florida
County of Hillsborough } ss.

DEC 04 1992

Before the undersigned authority personally appeared SOUTHWEST 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 PASCO, HERNANDO, CITRUS

in the matter of

STATE OF FLORIDA

was published in said newspaper in the issues of

NOVEMBER 26, 1992

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.

Sworn to and subscribed before me, this.....30.....day
ofNOVEMBER....., A.D. 19 92.

(SEAL)

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

AC 27-212252
PSD-FL-188

The Department of Environmental Regulation gives notice of its intent to issue a permit to Southdown, Inc. dba Florida Mining & Materials, Post Office Box 6, Brooksville, Florida 34605-0006, for a modification to the No. 2 cement kiln. The modification will allow a significant increase in the allowable emissions of NOx, nitrogen oxides, as an adjustment upward to compensate for any potential peaks in NOx emissions that would put the kiln in violation with its current allowable limit. The proposed modification will occur at the existing facility located off U.S. Highway 98 northwest of Brooksville, Hernando County, Florida. A determination of Best Available Control Technology (BACT) was required. The Class I nitrogen dioxide increment consumed is 0.32 vs. 2.5 allowable annual average, in micrograms per cubic meter. The maximum predicted increase in ambient concentration for nitrogen dioxide is less than significant in the Class II area surrounding the plant, thus no increment consumption was calculated. The Department is issuing this intent to issue for the reasons stated in the Revised Technical Evaluation and Preliminary Determination.

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, 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 person 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;
- (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, F.A.C.

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 Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida
32399-2400

Department of Environmental Regulation
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Hernando County
Government Center
Administration Building
20 N. Main Street, Rm. 461
Brooksville, Florida 34601

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. 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. Such requests must be submitted within 30 days of this notice.
BV1270 11/26/92

P 062 921 920



Receipt for Certified Mail

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

PS Form 3800, June 1991

Sent To <i>Don Kelley</i>	
Street and No. <i>Southdown, Inc</i>	
City, State, and ZIP Code <i>Brooksville, FL</i>	
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 <i>11-12-92</i> <i>AC: 27-212252</i> <i>PSD-FI-188</i>	

aka FM4M

PS Form 3811, July 1983 447/845

DOMESTIC RETURN RECEIPT

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to:
Mr. Don Kelley, PH Mgr.
Southdown, Inc
PO Box 6
Brooksville, FL 34605-0006

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail	<input type="checkbox"/> Insured <input type="checkbox"/> COD <i>PO62 921 920</i>

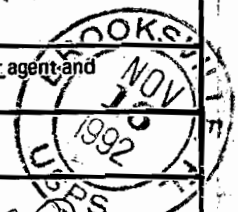
Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee
X

6. Signature - Agent
X B. Stevenson

7. Date of Delivery
11-16-92

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



P 062 921 998



Receipt for Certified Mail

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

PS Form 3800, June 1991

Sent to Mr. Don Kelly, Southdown	
Street and No. P. O. Box 6	
P.O., State and ZIP Code Brooksville, FL 34605-0006	
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 Mailed: 9-21-92 Permit: AC 27-212252 PSD-FL-188	

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 Fee will provide you the signature of the person delivered to and the date of delivery.

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

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Don Kelly
Plant Manager
Southdown, Inc. dba FM&M
Post Office Box 6
Brooksville, FL 34605-0006

4a. Article Number

P 062 921 998

4b. Service Type

- | | |
|---|---|
| <input type="checkbox"/> Registered | <input type="checkbox"/> Insured |
| <input checked="" type="checkbox"/> Certified | <input type="checkbox"/> COD |
| <input type="checkbox"/> Express Mail | <input type="checkbox"/> Return Receipt for Merchandise |

7. Date of Delivery

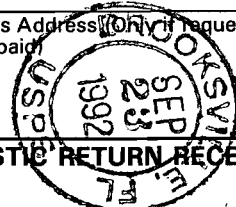
9-22-92

5. Signature (Addressee)

6. Signature (Agent)

D. Stevenson

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



Board of County Commissioners

Hernando County

PLANNING DEPARTMENT

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



RECEIVED

AUG 06 1992

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

Division of Air
Resources Management

July 30, 1992

Mr. Cleve Halliday
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

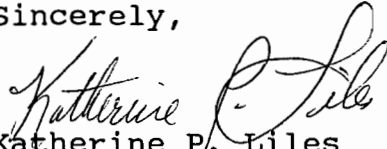
Dear Mr. Halliday:

RE: Permit Modification Request for Kiln No. 2, Southdown, Inc.,
dba Florida Mining and Materials, Permit File No. AC27-212252
and PSD-FL-188

In review of the materials provided as a result of DER's May 22, 1992 letter of incompleteness by Koogler and Associates, County staff noted that the NO2 emission source inventory used in the air dispersion modeling was provided by your office. The County would appreciate receiving a copy of the inventory for our records.

Your assistance in providing this information is greatly appreciated.

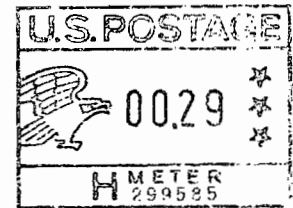
Sincerely,


Katherine P. Liles
Environmental Planner

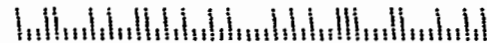
KPL/mfs

Board of County Commissioners

PLANNING DEPARTMENT
Government Center / Administration Building
20 North Main Street, Room 262
Brooksville, Florida 34601



Mr. Cleve Halliday
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400



P 710 058 486



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

Sender's Name <i>Charles Hetrick</i>	
Street & No. <i>Hernando Cty Board of CCs</i>	
PO, State & ZIP Code <i>Brooksville, FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date <i>6-5-92</i>	
<i>AC 27-212252</i>	
<i>PSD-FL-188</i>	

PS Form 3800, June 1990

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 Fee will provide you the signature of the person delivered to and the date of delivery.

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

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Charles B. Hetrick
Hernando Cty Board of CCs
20 N main St - Rm 460
Brooksville, FL 34601

4a. Article Number
P 710 058 486

4b. Service Type

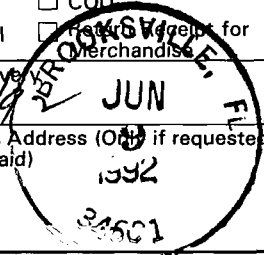
<input type="checkbox"/> Registered	<input type="checkbox"/> Insured
<input checked="" type="checkbox"/> Certified	<input type="checkbox"/> COD
<input type="checkbox"/> Express Mail	<input type="checkbox"/> Return Receipt for Merchandise

7. Date of Delivery
6/9/92 JUN

5. Signature (Addressee)
PAKang

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)
1392
34601



HETRIK

Department of Environmental Regulation

Mail Response — Action Slip

Date out: 5.21

Action Item No. 5.050

DATE DUE: 6.4.92

TO:

Mark Latch

Richard Harvey

Dan Thompson

Mike Peyton

Steve Smallwood

John Ruddell

Mimi Drew

Gil Bergquist

Dana Minerva

Other _____

RECEIVED

MAY 22 1992

ACTION:

Handle

Draft Resp. CMB

Draft for Gov.

Respond, Your Signature

Other _____

Division of Air Resources Management

(ITEMS for Secretary's Signature **MUST** be reviewed by Division and Secretary's Staff)

Draft Reviewed by (Div.) _____ Date _____ Reviewed by (O.Sec.) _____ Date _____

Return to Doris Hayes **NO LATER THAN:** 6.4.92

Department of Environmental Regulation
Routing and Transmittal Slip

To: (Name, Office, Location)

1. ~~Clay~~ AI: DARM 577
2. Due: 6-2-92
3. Preston 5/27
- 4.

Remarks:

Draft response for Howard's
signature.

pls have Bruce
draft response

Clay

From:

Judy

Date

5-26

Phone

P 710 058 535



Certified Mail Receipt

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

PS Form 3800, June 1990

Sent to	
Mr. Don Kelly, Plant Mgr.	
Street & No. FM&M	
P.O. Box 6	
P.O. State & ZIP Code Brooksville, FL 34605-0006	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date mailed: 5/22/92 AC 27-212252 and PSD-FL-188	

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 next to the article number.

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

1. Addressee's Address
 2. Restricted Delivery
- Consult postmaster for fee.

3. Article Addressed to: Mr. Don Kelly, Plant Mgr. FM&M P.O. Box 6 Brooksville, FL 34605-0006	4a. Article Number P 710 058 535
	4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
	7. Date of Delivery 5-26-92
5. Signature (Addressee)	8. Addressee's Address (Only if requested and fee is paid)
6. Signature (Agent) 	

Check Sheet

Company Name: *Pl. Mining & Materials*

Permit Number: *AC 27212 252*

PSD Number: *PSDFL-188*

County:

Permit Engineer:

Others involved:

Application:

- Initial Application
- Incompleteness Letters
- Responses
- Final Application (if applicable)
- Waiver of Department Action
- Department Response
- Other

Intent:

- Intent to Issue
- Notice to Public
- Technical Evaluation
- BACT Determination
- Unsigned Permit
- Correspondence with:
 - EPA
 - Park Services
 - County
 - Other
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)
- Other

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination
- Other

Post Permit Correspondence:

- Extensions
- Amendments/Modifications
- Response from EPA
- Response from County
- Response from Park Services
- Other



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

RECEIVED

4APT-AEB

FEB 18 1993

FEB 22 1993

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

Division of Air
Resources Management

RE: Southdown Inc., Florida Mining and Materials
PSD Permit Modification (PSD-FL-188)

Dear Mr. Fancy:

This is to acknowledge receipt of the final determination and Prevention of Significant Deterioration (PSD) permit for the proposed modification to the above referenced facility, dated February 1, 1993. The proposed modification will increase the nitrogen oxides emission limit of the No. 2 cement kiln at the facility.

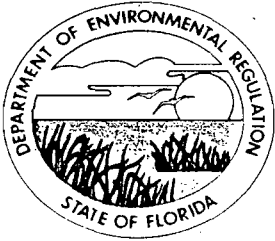
The proposed emission limits for NO_x for the No. 2 cement kiln will be 250.0 pounds per hour (30-day average) and 1025.0 tons per year (maximum of 8200 annual operating hours). Presently, the kiln is permitted at 162.3 pounds per hour (30-day average). Southdown proposes to limit NO_x emissions through the use of proper operation practices and by controlling the excess combustion air.

We have reviewed the package as submitted and have no adverse comments. Thank you for the opportunity to review and comment on this package. If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

Brian L. Beals, Chief
Source Evaluation Unit
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

- cc: B. Mitchell*
- C. Holladay*
- B. Thomas, SW Dist.*
- J. Bunsyak, NPS*
- J. Kogler, K+A*
- C. Nethel, HCBCE*



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

October 28, 1992

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Don Kelly
Plant Manager
Southdown, Inc. dba FM&M
Post Office Box 6
Brooksville, Florida 34605-0006

Dear Mr. Kelly:

Attached is one copy of the Revised Technical Evaluation and Preliminary Determination and proposed permit for the modification to the No. 2 cement kiln. The modification will allow a significant increase in the allowable emissions of NOx, nitrogen oxides.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Preston Lewis of the Bureau of Air Regulation.

Sincerely,

C. H. Fancy, P.E.
Chief

Bureau of Air Regulation

CHF/BM/rbm

Attachments

cc: B. Thomas, SWD
J. Koogler, Ph.D., P.E., K&A
J. Harper, EPA
B. Mitchell, NPS
C. Hetrick, HCBCC
D. Beason, Esq., DER
D. Dee, Esq., CFWES&C

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CERTIFIED MAIL

In the Matter of an
Application for Permit by:

DER File-No. AC 27-212252
PSD-FL-188
Hernando County

Southdown, Inc. dba
Florida Mining & Materials
Post Office Box 6
Brooksville, Florida 34605-0006

INTENT TO ISSUE

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

The applicant, Southdown, Inc. dba Florida Mining & Materials, applied on April 22, 1992, to the Department of Environmental Regulation for a permit to modify the No. 2 cement kiln. The modification will allow a significant increase in the allowable emissions of NOx, nitrogen oxides, as an adjustment upward to compensate for any potential peaks in NOx emissions that would put the kiln in violation with its current allowable limit. The proposed action will occur at the existing facility located off U.S. Highway 98 northwest of Brooksville, Hernando County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.) and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that a construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S., and Rule 17-103.150, 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. Where there is more than one newspaper of general circulation in the county, the newspaper used must be the one with significant circulation in the area that may be affected by the permitting action. If you are

uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 (904-488-1344), 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.

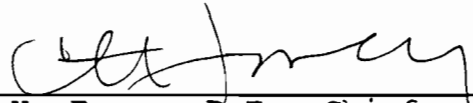
The Petition shall contain the following information;

- (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 REGULATION



C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399
904-488-1344

c: B. Thomas, SWD
J. Koogler, Ph.D., P.E., K&A
J. Harper, EPA
B. Mitchell, NPS
C. Hetrick, HCBCC
D. Beason, Esq., DER
D. Dee, Esq., CFWES&C

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 11-12-92 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.

Keri Ober 11-12-92
Clerk Date

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

AC 27-212252
PSD-FL-188

The Department of Environmental Regulation gives notice of its intent to issue a permit to Southdown, Inc. dba Florida Mining & Materials, Post Office Box 6, Brooksville, Florida 34605-0006, for a modification to the No. 2 cement kiln. The modification will allow a significant increase in the allowable emissions of NOx, nitrogen oxides, as an adjustment upward to compensate for any potential peaks in NOx emissions that would put the kiln in violation with its current allowable limit. The proposed modification will occur at the existing facility located off U.S. Highway 98 northwest of Brooksville, Hernando County, Florida. A determination of Best Available Control Technology (BACT) was required. The Class I nitrogen dioxide increment consumed is 0.32 vs. 2.5 allowable annual average, in micrograms per cubic meter. The maximum predicted increase in ambient concentration for nitrogen dioxide is less than significant in the Class II area surrounding the plant, thus no increment consumption was calculated. The Department is issuing this Intent to Issue for the reasons stated in the Revised Technical Evaluation and Preliminary Determination.

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, 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, F.A.C.

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 Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Hernando County Government Center
Administration Building
20 N. Main Street, Rm. 461
Brooksville, Florida 34601

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. 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. Such requests must be submitted within 30 days of this notice.

Revised
Technical Evaluation
and
Preliminary Determination

Southdown, Inc. dba Florida Mining & Materials
Hernando County
Brooksville, Florida

Construction Permit Number
AC 27-212252
PSD-FL-188

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

October 28, 1992

I. Application

A. Applicant

Southdown, Inc. dba
Florida Mining & Materials
Post Office Box 6
Brooksville, Florida 34605-0006

B. Project and Location

Southdown, Inc. dba Florida Mining & Materials (FM&M) submitted an application package for a construction permit to increase the No. 2 cement kiln's emissions of NOx (nitrogen oxides) above the significant level (> 40 TPY). An Intent to Issue package, which included a Technical Evaluation and Preliminary Determination, proposed construction permit, and proposed BACT (Best Available Control Technology) determination, was issued on September 21, 1992, establishing a NOx emission limitation and compliance methodology. Based on a review of the proposed Intent package, comments were received from the applicant requesting changes that affect the original Intent package significantly enough to warrant issuing a revised Intent package. The project will occur at FM&M's portland cement facility located approximately nine miles northwest of Brooksville, off U.S. Highway 98, in Hernando County.

The UTM coordinates are Zone 17, 356.0 km East and 3,169.2 km North.

C. Source Description and Controls

The kiln is used to produce clinker. The maximum kiln input feed rate of raw materials and recycle is 130 tons per hour, which is based on a measured preheater feed rate of 145 tons per hour, producing 79.6 tons per hour of clinker.

The No. 2 cement kiln's (kiln) primary fuel is coal, with a maximum heat input rate of 300 MMBtu/hr, which is based on a maximum coal feed rate of 24,000 lbs/hr. Flolite, a re-refined oil blend, is used as a start-up and a secondary fuel; and, the maximum feed rate is 2,069 gals/hr.

A baghouse is used to control the emissions of particulate matter (PM/PM₁₀).

Low excess air firing and proper operation practices are used to minimize the emissions of NOx. The kiln will have a continuous oxygen monitor to analyze the oxygen in the kiln inlet, which is the exit point of the process combustion gases.

D. The Source Industrial Classification code is 3241: Cement Manufacturing.

E. The Source Classification Code numbers are:

- o 3-05-006-06 Cement Mfg-Dry Process Tons Cement Produced
- o 3-90-002-01 Bitum. Coal-Cement Kiln Tons Burned
- o 3-90-013-89 Liquid Waste-General 1000 Gals Burned

II. Rule Applicability

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July, 1991 version).

The application package was deemed complete on June 24, 1992.

The facility is located an area designated as attainment for all criteria pollutants pursuant to Part IV, F.A.C. Chapter 17-2.

The facility is a major emitting facility for the pollutant NOx, in accordance with F.A.C. Rule 17-2.100, Definitions.

The proposed significant increase of NOx emissions is subject to the Prevention of Significant Deterioration (PSD) preconstruction review requirements pursuant to F.A.C. Rule 17-2.500(5), which includes the determination of Best Available Control Technology (BACT). BACT determination guidance is found in F.A.C. Rule 17-2.630.

In a previous PSD evaluation (PSD-FL-124), the kiln was permitted at 1025 TPY (250 lbs/hr @ 8200 hrs/yr) for NOx, which is the allowable level that the applicant is now seeking. A subsequent modification to the kiln (AC 27-173474 and PSD-FL-124A) resulted in an allowable NOx emissions level of 665.3 TPY (162.3 lbs/hr @ 8200 hrs/yr), which was a 39.9 TPY increase above the actual emissions level of 625.4 TPY (158.4 lbs/hr @ 7896 hrs/yr). The previous BACT determination required that low excess air firing be used to minimize NOx emissions.

The kiln is subject to the applicable provisions of F.A.C. Rules 17-2.600(7), Portland Cement Plants, and 17-2.660, Standards of Performance for New Stationary Sources, Section 60.60, Subpart F, Portland Cement Plants. Also, the kiln is subject to the applicable provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-2.700: Stationary Point Source Emission Test Procedures. All applicable provisions of the 40 CFR shall be in accordance with the July, 1991 version.

The kiln inlet exhaust gas continuous emissions monitor for analyzing oxygen shall be calibrated, operated, recorded, and maintained in proper operating order.

When the kiln is switched to firing 100% Flolite for emergency purposes, the Department's Southwest District office shall be notified. In general, a log book shall be maintained recording, at a minimum, the date(s) and the beginning and ending "clock time(s)" of operation while firing 100% Flolite.

III. Best Available Control Technology Determination

Because of the significant increase in emissions of NO_x, a determination of BACT is required.

NO_x emissions potentially can be controlled by post-combustion reduction systems (i.e., selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR)). Such add-on systems have been proposed or recommended for such source categories as municipal waste combustors, industrial and utility boilers, glass furnaces, and gas turbines, but currently not for portland cement kilns. Due to the optimum operational temperature requirements, the siting of a SCR or SNCR system in this existing cement kiln's configuration would be difficult and could lead to such problems as catalytic poisoning, additional NO_x formation, inoperable conditions and adverse chemical reactions. As such, these add-on control systems are not considered technically proven and feasible at this time.

Another NO_x reduction technique that was considered was the use of a low-NO_x burner system. An evaluation was conducted for the potential availability of a low-NO_x burner system for this type of source and it appears that this technology is not currently available.

Previous NO_x BACT determinations have justified emissions limits of 240 - 1158 lbs/hr, of which the proposed limit of 250 lbs/hr is on the lower end. Another comparison is in "lbs NO_x/ton clinker", and the range is 3.5 - 5.6, of which the No. 2 cement kiln will be at 3.2; also, on the lower side of the range for affected sources. Therefore, the NO_x BACT limit recommended by the applicant is within the range of the previously issued BACT determinations; also, the control of excess combustion air and proper operation is currently being used to minimize NO_x emissions.

In conclusion, the NO_x emission rate requested by the applicant of 250 lbs/hr, 30-day average, is representative of BACT. For verification purposes, an annual test shall be conducted over a continuous 30-day period using EPA Reference Method 7E in accordance with 40 CFR 60, Appendix A (July, 1991 version).

IV. Emission Limitations and Air Quality Analysis

A. Emission Limitations

Except for NO_x, all other pollutants will remain at their presently permitted limits/standards. For NO_x, the allowable emission limit shall be 250 lbs/hr, 30-day average; and, 1025 TPY (8200 hrs/yr).

B. Air Quality Analysis

1. Introduction

The proposed project will result in emissions increases which are projected to be greater than the PSD significant emission rate for NO_x. Therefore, the project is subject to the PSD NSR (new source review) requirements contained in F.A.C. Rule 17-2.500(5) for this pollutant. Part of these requirements is an air quality impact analysis for these pollutants, which includes:

- A PSD increment analysis;
- An analysis of existing air quality;
- An ambient Air Quality Standards analysis (AAQS);
- An analysis of impacts on soils, vegetation, visibility and growth-related air quality impacts; and,
- A Good Engineering Practice (GEP) stack height determination.

The analysis of existing air quality generally relies on preconstruction monitoring data collected in accordance with EPA-approved methods. The AAQS analyses are based on air quality dispersion modeling completed in accordance with EPA guidelines.

Based on these 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 PSD increment or ambient air quality standard. A brief description of the modeling methods used and results of the required analyses follow. A more complete description is contained in the permit application on file.

2. Analysis of the Existing Air Quality

Preconstruction ambient air quality monitoring may be required for 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 through air quality modeling, is less than a pollutant-specific de minimus concentration. The

predicted maximum concentration increase for NOx is 0.53 ug/m³, annual average, which is less than the PSD de minimus concentration for NOx of 14 ug/m³, annual average. Therefore, this project is not subject to preconstruction ambient air quality monitoring.

3. Modeling Method

The EPA-approved Industrial Source Complex Short-Term (ISC-ST2) dispersion model was used by the applicant to predict the impact of the proposed project on the surrounding ambient air. All recommended EPA default options were used. Downwash parameters were used because the stacks were less than the good engineering practice (GEP) stack height. Five years of sequential hourly surface and mixing depth data from the Tampa, Florida National Weather Service (NWS) station collected during 1982 through 1986 were used in the model.

4. Modeling Results

The applicant first evaluated the potential increase in ambient ground-level concentrations associated with the project to determine if these predicted ambient concentration increase would be greater than the specified PSD significant impact levels for NO₂. Dispersion modeling was performed with receptors placed along the 36 standard radial directions (10 degrees apart) surrounding the proposed units at the following downwind distances: 0.9, 1.0, 1.25, 1.5, 1.75, 2.0, 2.5, 3.0, 4.0, and 5.0 km. The results of this modeling presented below show that the increase in ambient ground-level concentration is less than the PSD significant impact level for NO₂. Therefore, further dispersion modeling for comparison with AAQS and PSD Class II increment consumption was not required for NO₂.

	<u>NO₂</u>
Avg. Time	Annual
PSD Significant Level (ug/m ³)	1.0
Ambient Concentration Increase (ug/m ³)	0.53

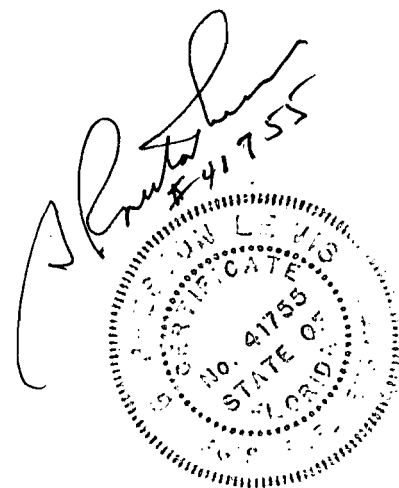
The nearest PSD Class I area is the Chassahowitzka National Wilderness Area located about 14 km west of the facility. The Class I area modeling results show that the maximum predicted cumulative PSD increment consumption is 0.32 ug/m³ or about 13 percent of the allowable Class I NO₂ increment of 2.5 ug/m³.

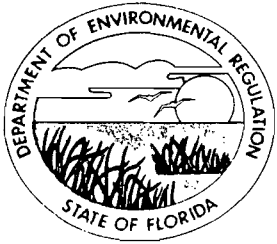
5. Additional Impacts Analysis

A Level-2 screening analysis using the EPA model VISCREEN showed that the requested increase in allowable NO_x emissions is not expected to result in adverse visibility impacts in the Chassahowitzka Class I area. The Level-2 analysis was performed because the proposed project had exceeded the Level-1 visibility screening test criteria. No other significant air quality related values (AQRV) impacts on the Class I area are expected. In addition, the maximum predicted concentrations from NO_x emissions are predicted to be less than the AAQS, including the national secondary standards designed to protect public welfare-related values. Therefore, no harmful effects on soils and vegetation are expected in the area of the project. Also, the proposed modification will not significantly change employment, population, housing or commercial/industrial development in the area to the extent that a significant air quality impact will result.

V. Conclusion

Based on the information provided by FM&M, the Department has reasonable assurance that the proposed project, to allow an increase in the NO_x emissions of the No. 2 cement kiln to 250 lbs/hr, 30-day average, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.





Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:
Southdown, Inc. dba
Florida Mining & Materials
P. O. Box 6
Brooksville, Florida
34605-0006

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993
County: Hernando
Latitude/Longitude: 28°38'34"N
82°28'25"W
Project: No. 2 Cement Kiln
Modification

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July, 1991 version). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of the No. 2 cement kiln to allow a significant increase in nitrogen oxides (NOx) above the previous actuals (625.4 TPY vs. 1025 TPY). The kiln's primary fuel is coal having a maximum allowable sulfur content of 1%, by weight. Flolite, a re-refined oil blend, is used as a backup fuel and during startups, shutdowns, and malfunctions. The kiln has a maximum process input rate of 130 tons per hour (clinker product weight of 79.6 tons per hour), 30-day rolling average, and a maximum heat input rate of 300.0 MMBtu/hr. A Fuller Reverse Air baghouse control system is used to control particulate matter and visible emissions. The facility is located in Brooksville, Hernando County, Florida. The UTM coordinates are Zone 17, 356.0 km East and 3169.9 km North.

The Source Industrial Code: 3241 Cement Manufacturing

The Source Classification Code numbers are:

- o 3-05-006-06 Cement Mfg-Dry Process Tons Cement Produced
- o 3-90-002-01 Bitum. Coal-Cement Kiln Tons Burned
- o 3-90-013-89 Liquid Waste-General 1000 Gals Burned

The source shall be modified 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. Southdown, Inc. dba Florida Mining & Materials application received on April 22, 1992.
2. DER's transmittal letter of April 23, 1992.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

Attachments cont.:

3. Dr. John B. Koogler's letter with enclosure received May 5, 1992.
4. Mr. James W. Pulliam, Jr.'s letter received via the FAX on May 15, 1992.
5. Mr. Charles B. Hetrick's letter received May 20, 1992.
6. Mr. C. H. Fancy's incompleteness letter with attachments mailed May 22, 1992.
7. Mr. Howard L. Rhodes's letter with enclosure mailed June 2, 1992.
8. Dr. John B. Koogler's letter with enclosures received June 24, 1992.
9. FAX received July 24, 1992, from Mr. Pradeep Raval.
10. FAX received July 24, 1992, from Mr. Gary Maier.
11. Mr. Charles B. Hetrick's letter received July 27, 1992.
12. Mr. James W. Pulliam, Jr.'s letter received August 20, 1992.
13. Technical Evaluation and Preliminary Determination dated September 21, 1992.
14. Dr. John B. Koogler's letter received October 14, 1992.
15. Dr. John B. Koogler's received October 19, 1992.
16. Response from the National Park Service received via the phone on October 20, 1992, by Mr. Preston Lewis.
17. Mr. Brian L. Beals's letter received October 21, 1992.
18. Revised Technical Evaluation and Preliminary Evaluation dated October 28, 1992.

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, F.S. 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), F.S., 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.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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 acknowledgement 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 F.S. and Department rules, unless specifically authorized by an order from the Department.

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

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

- a. Have access to and copy 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.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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 F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. 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 F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.

11. This permit is transferable only upon Department approval in accordance with F.A.C. Rules 17-4.120 and 17-30.300, 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 constitutes compliance with:

- a. New Source Performance Standards (NSPS), 40 CFR 60.60, Subpart F, Portland Cement Plants;
- b. Prevention of Significant Deterioration; and,
- c. Best Available Control Technology (BACT).

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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;
 - 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 annual hours of operation of the No. 2 cement kiln shall not exceed 8200.

2. The No. 2 kiln's total process feed rate shall not exceed 130 tons per hour (wet basis), yielding a maximum clinker product weight of 79.6 tons per hour (dry basis), averaged on a rolling 30-day production period.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

SPECIFIC CONDITIONS:

3. The No. 2 kiln's fuel input rate shall not exceed 300.0 MMBtu per hour. The sulfur content of the coal shall not exceed 1.0 percent, by weight, using ASTM D3177-75. Coals with heating values lower than 12,500 Btu per pound shall be fired only if the sulfur content to heat value ratio of the coal does not exceed 0.83 pounds of sulfur per MMBtu of heat input.

4. The total combined times when using Flolite, a re-refined oil blend, during startup periods (no coal used), idle times (maximum allowable process heat input of 300.0 MMBtu maintained but no process feed input), and as a limited supplemental fuel with coal (coal unable to sustain maximum allowable process heat input requirement), shall not exceed 250 hours per year. The Flolite shall not contain more than 1 percent sulfur, by weight. The maximum allowable Flolite usage rate is 2069 gals/hr (@ 145,000 Btu/gal). At all times, the Flolite shall contain no higher concentration of metals or toxics than the following:

Cadmium - 0.3 ppm; Lead - 5.0 ppm; and, Arsenic - 1.0 ppm.

5. Emissions from the No. 2 cement kiln shall not exceed the following:

Pollutant	Maximum Allowable Emissions	
	lbs/hr	tons per year
PM	13.5	55.35
SO ₂	11.5	47.15
NO _x	250.0, 30-day avg.	1025.0
VOC	7.4	30.34
CO	64.0	262.4
VE	< 10% opacity	

Note: Except for NO_x, the emission limitations were established in construction permit No. AC 27-173474 (PSD-FL-124A), issued July 20, 1990.

6. Annual compliance shall be demonstrated, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A (July, 1991 version), using the following:

- EPA Method 5 for PM (particulate matter)
- EPA Method 6 or 6C for SO₂ (sulfur dioxide)
- EPA Method 7E for NO_x (nitrogen oxides; continuous 30-day period average)
- EPA Method 9 for VE (visible emissions)
- EPA Method 10 for CO (carbon monoxide)
- EPA Method 25A for VOC (volatile organic compounds)

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

SPECIFIC CONDITIONS:

7. The No. 2 kiln's total process input rate and clinker production rate shall be monitored and recorded daily in accordance with 40 CFR 60.63. The coal feed rate to the kiln and the average coal sulfur content and heating value (Btu/lb) of each coal shipment shall be determined and recorded. If coal of sulfur content exceeding 1.0 percent, by weight, is fired in the kiln, (due to variability in the sulfur content of coal within a shipment) samples will be taken of coal entering the kiln at a minimum frequency of once per hour and analyzed for sulfur content. The average sulfur content of samples taken within each 3-hour period shall not exceed 1.0 percent, by weight.

8. The permittee shall comply with all of the applicable provisions and requirements of F.A.C. Chapters 17-2 and 17-4, and 40 CFR (July, 1991 version).

9. The DER's Southwest District office shall be notified in writing at least 15 days prior to compliance testing. Test reports shall be submitted to the DER's Southwest District office within 45 days of compliance test completion.

10. A continuous kiln exhaust gas oxygen monitor and data recorder shall be operated, calibrated and maintained. Data from the recorder shall be kept on file for the previous two years of operation and made available upon request.

11. The permittee shall apply reasonable work practices to minimize fugitive PM emissions, including the following:

- a. All permanent haul roads shall be paved;
- b. Temporary haul roads shall be watered or treated with chemical dust suppressants at regular intervals;
- c. All non-covered raw materials storage areas shall be maintained so as to minimize PM fugitive emissions;
- d. Coal stored at or above natural grade shall be compacted, turned and/or watered as necessary to minimize fugitive PM emissions from the pile, and aligned with the predominant wind direction to minimize wind erosion;
- e. Abandoned haul roads and other disturbed areas shall be revegetated within 60 days of the date active service ends; and,
- f. All cement products shall be transferred to transport trucks through a loading spout.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

SPECIFIC CONDITIONS:

12. Any change in the method of operation, fuels, equipment, startup, or operating hours, pursuant to the F.A.C Rule 19-2.100, Definitions-Modification, shall be submitted for evaluation and approval to the DER's Bureau of Air Regulation (BAR) office.

13. The No. 2 kiln and its associated equipment are subject to the applicable provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operations-Problems.

14. Specific conditions of this permit supercedes those of the current permit No. AC 27-173474.

15. An annual operation report (AOR) shall be submitted to the Department's Southwest District office by March 1 reporting the kiln's averaged process input rate and clinker production of each month of the previous year. The AOR shall contain the total time that the kiln was firing Flolite during the previous year.

16. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the BAR prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

17. An application for an operation permit must be submitted to the DER'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 applicant shall submit the appropriate application form, fee, certification that construction was completed and noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-2.220).

Issued this _____ day
of _____, 1992

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Carol M. Browner, Secretary

Best Available Control Technology (BACT) Determination
Southdown, Inc. dba Florida Mining & Materials
Hernando County

The applicant proposes an increase in the allowable nitrogen oxide (NOx) emission limitation to 250 lbs/hr (8200 hrs/yr), which results in a significant increase in emissions. The purpose for the increase is to adjust the cement kiln's allowable limit upward to compensate for potential peaks in NOx emissions that would be in violation with the current allowable limitation of 162.3 lbs/hr (8200 hrs/yr). Due to source obligation, the base limitation used for evaluation purposes was 158.4 lbs/hr (7896 hrs/yr). The facility is located in an area designated attainment for all of the criteria pollutants.

The applicant has indicated the maximum net change in pollutant emissions is as follows:

<u>Pollutant</u>	<u>Max. Net Increase in Emissions (TPY)</u>	<u>PSD Significant Emission Rate (TPY)</u>
NOx	399.6	40

Rule 17-2.500(2)(f)(3) of the Florida Administrative Code (F.A.C.) requires a BACT review of all regulated pollutants emitted in an amount equal to or greater than the significant rates listed in Table 500-2, F.A.C. Chapter 17-2.

BACT Determination Requested by the Applicant:

No. 2 Cement Kiln

NOx 250 lbs/hr, 30-day average

Date of Receipt of a BACT Application:

April 22, 1992

Review Group Members:

This determination was based on comments received from the applicant and the Permitting and Standards Section.

BACT Determination
Southdown, Inc. dba FM&M
AC 27-212252 & PSD-FL-188
Page 2

BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology 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 determinations 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 source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source 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.

BACT Analysis:

A. No. 2 Cement Kiln

NOx emissions potentially can be controlled by post-combustion reduction systems (i.e., selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR). Such add-on systems have been proposed or recommended for such source categories as municipal

BACT Determination
Southdown Inc., dba FM&M
AC 27-212252 & PSD-FL-188
Page 4

Details of the Analysis May be Obtained by Contacting:

Bruce Mitchell, Permitting Engineer
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

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

Carol M. Browner, Secretary
Dept. of Environmental Regulation

_____, 1992
Date

_____, 1992
Date

ATTACHMENT 14



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 521-92-04

October 13, 1992

RECEIVED

OCT 14 1992

Division of Air
Resources Management

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

Subject: Southdown, Inc. (dba Florida Mining & Materials)
Proposed Permit Modification No. 2 Kiln
AC27-212252, PSD-FL-188

Dear Mr. Fancy:

Southdown has received the Technical Evaluation and Preliminary Determination and proposed permit modification for No. 2 cement kiln at the FM&M facility located in Brooksville, Florida.

Upon reviewing the proposed permit and technical evaluation a few items, for which changes are needed or requested, were identified. These items are noted below.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. Section I.C.

Southdown would like to clarify that the actual feed rate to the kiln is 130 tons/hr, based on a measured preheater feed rate of 145 tons/hr.

2. Section I.C.

The kiln heat input rate, stated as "300,000 MMBTU/hr", should be corrected to "300 MMBTU/hr".

3. Section I.C. - Paragraph 3

The kiln oxygen analyzer, stated as being located in the kiln exhaust, is actually located at the kiln feed inlet. The oxygen analyzer is calibrated but it is not a certified oxygen monitor. Records of the instrument calibration will be maintained and logs of the oxygen concentration data will be maintained as required by the existing and proposed permits for this source. It is assumed that FDER was referring to the system presently in place and that a new analyzer is not being required by the permit. Use of the existing oxygen analyzer would be accurately reflected by modifying the phrase "in the stack" to "in the kiln inlet." It should be noted that the combustion gases from the process leave the kiln at the kiln inlet.

4. Section II - Paragraph 8A

The oxygen analyzer is incorrectly referred to as a CEM (see Item 3). Please modify the paragraph to read:

"The kiln exhaust gas oxygen analyzer located at the kiln inlet shall be calibrated, operated"

5. Section III - Paragraph 5

The cost of installing and maintaining a NOx CEM on a year-round basis does not seem to be justified. It is requested that FDER allow demonstration of compliance with the NOx emission limit by the use of a NOx analyzer to determine the NOx emissions based on a 30-day average. This would allow FDER to ensure that the kiln operation is in compliance with the permit limit while avoiding the expenditure of purchasing a NOx CEM system for the kiln. Thus, it is requested that this paragraph be modified as follows:

"... For compliance verification purposes, a 30-day test for NOx emissions shall be conducted within 30 days of the issuance of this permit and annually thereafter. Testing shall be in accordance with the requirements of the permit."

PERMIT NO. AC27-212252, PSD-FL-188

6. Specific Condition No. 3

The basis for the kiln maximum fuel input rate is listed in this condition. It is preferred that this basis ("24,000 lbs/hr of coal with a heating value of 12,500 BTU/lb") be deleted from this permit condition. This would serve to prevent confusion in the future, since these numbers may be mistakenly applied as additional permit limits on the kiln heat input.

7. Specific Condition No. 5

The tons per year of allowable SO₂ emissions were stated as 47.0 tons/year SO₂ in the existing permit instead of 47.15 tons/year. A correction of this error in the proposed permit at this time seems appropriate.

8. Specific Condition No. 6

It is requested that the permit limit for NO_x of 250.0 lbs/hr be based on a 30-day average and that the averaging period be stated in Specific Condition No. 6.

9. Specific Condition No. 6

It is requested that EPA Method 7E be required, in place of Method 7, to allow the use of a continuous NO_x analyzer for compliance testing. Method 7E is capable of more reliable results than Method 7. We are also requesting that a 30-day average of the NO_x CEM data be used for the annual compliance test provided that the CEM calibration and maintenance during the 30-day period meet the applicable standards of 40CFR60.

10. Specific Condition No. 6

It is requested that EPA Method 6C be required, in place of Method 6, for annual SO₂ compliance testing.



11. Specific Condition No. 10

This condition refers to a CEM for oxygen and NOx concentration determination. A modification of this section is requested to reflect the present monitoring system. The following language is suggested:

"Emissions of NOx will be minimized through proper operation practices. A continuous kiln exhaust gas oxygen monitor and data recorder shall be operated, calibrated and maintained. Data for the recorder shall be kept for the most recent two year period and made available upon request."

12. Specific Condition No. 11(d)

A deletion of the minimum moisture content required to the coal storage pile is requested. The "8 percent" moisture, referred to in this condition, is based on the moisture content of the delivered coal rather than the stored coal. If an 8% surface moisture content were to be maintained, the facility would be required to add quantities of moisture to the coal which would lead to operational problems such as handling and low coal heating values. This issue has previously been discussed with FDER on the existing permit for Kiln No. 2 and the following changes were agreed to with FDER:

"Coal stored at or above natural grade shall be compacted, turned and/or watered as necessary to minimize fugitive PM emissions from the pile, and shall be aligned with the predominant wind direction to minimize wind erosion."

13. Specific Condition 11(c)

For the reasons stated above, condition 11(c), which requires the storage of all materials with less than 14% moisture to be "stored below natural grade in silos or enclosed structures;" is requested to be modified as follows:

"All non-covered raw materials storage areas shall be maintained so as to minimize particulate matter fugitive emissions."

Mr. Clair Fancy
Florida Department of
Environmental Regulation

October 13, 1992
Page 5

14. Specific Condition No. 11(f)

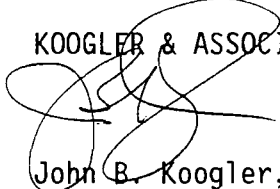
Condition 11(f) refers to a "pneumatic conveying system" for loading cement products to transport trucks. A pneumatic conveying system has never been used at this facility for truck loading. The cement is released into the truck by gravity feed through a loading spout at the base of the storage units. Emissions from the unloading operation are controlled by use of a baghouse (Permit No. A027-194633). Therefore, please modify this condition as follows:

"All cement products shall be transferred to transport trucks through a loading spout."

Please note that the requested amendments will not reduce the operational requirements for compliance with the proposed permit emission limits.

Very truly yours,

KOUGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:PAR:wa

c: Mr. Don Kelly, FM&M
Mr. Amarjit S. Gill, Southdown
Ms. Anetha Lue, Southdown

B. Mitchell
B. Khan, Sr. or Sr.
W. Mitchell, Jr.
J. Murphy, EPP
W. Mitchell, Jr.



ATTACHMENT 15



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 521-92-04

October 16, 1992

RECEIVED

OCT 19 1992

Division of Air
Resources Management

Mr. Bruce Mitchell
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Southdown, Inc. (dba Florida Mining & Materials)
Proposed Permit Modification No. 2 Kiln
Permit File No. AC27-212252, PSD-FL-188
Hernando County, Florida

Dear Mr. Mitchell:

This is a follow up to our meeting on October 14, 1992, concerning the FDER Intent to Issue for the above project. The information provided below will supplement the comments submitted by Southdown on October 14.

Southdown, Inc. requests a revision to the BACT originally proposed to FDER to reflect a nitrogen oxides (NOx) emission limit of 250.0 pounds per hour, based on a 30-day average rather than the originally requested 30-day rolling average. The revised emission limit is in line with our recent comments regarding the cost associated with demonstrating compliance with a 30-day rolling average emission limit and the absence of specific state and federal regulations requiring continuous nitrogen oxides monitoring at cement plants. Southdown will conduct an annual NOx compliance test using EPA Method 7E for a 30-day period to demonstrate compliance with the above stated NOx emission limit.

The following information is submitted in support of our comments dated October 14, 1992, that FDER not require the installation and operation of a NOx Continuous Emission Monitor (CEM).

Southdown obtained cost estimates, from vendor information, for a NOx CEM. Although the following costs may vary somewhat depending on the vendor, they provide a reasonable estimate of the costs involved.

Best Available Copy

Mr. Bruce Mitchell
Florida Department of
Environmental Regulation

October 16, 1992
Page 2

NOx CEM Cost	=	\$150,000
Flowmeter Cost	=	\$ 40,000
Annual Calibration and Certification Costs	=	<u>\$ 20,000</u>
TOTAL COST (1)	=	\$210,000

(1) This total does not include annual repair and maintenance related costs, which are difficult to predict.

In comparison, the costs associated with a 30-day compliance test using EPA Method 7E is about \$10,000.

In addition to the high cost, as a reason for not requiring a NOx CEM, please note that a NOx CEM is not required by the federal regulations in 40CFR60, Subpart F or the state of Florida regulations under Florida Administrative Code Rule 17-2.600(7), applicable to cement kilns.

If additional information is required by FDER to support the NOx emission limit and compliance test procedure proposed above, please do not hesitate to give me a call.

Very truly yours,

KOGLER & ASSOCIATES


John B. Koogler, Ph.D., P.E.

JBK:PAR:wa

c: Mr. Don Kelly, FM&M
Mr. Amarjit S. Gill, Southdown
Ms. Anetha Lue, Southdown

Faint handwritten notes and stamps, including "EPA" and "10/16/92".



ATTACHMENT 17



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

OCT 21 1992

4APT-AEB

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

RE: Southdown Inc., Florida Mining and Materials
PSD Permit Modification (PSD-FL-188)

Dear Mr. Fancy:

This is to acknowledge receipt of the preliminary determination and draft Prevention of Significant Deterioration (PSD) permit for the proposed modification to the above referenced facility, by your letter dated September 21, 1992. The proposed modification will increase the nitrogen oxides emission limit of the No. 2 cement kiln at the facility.

The proposed emission limit for the No. 2 cement kiln will be 250.0 pounds per hour (30-day rolling average); presently the kiln is permitted at 162.3 pounds per hour (30-day average). Southdown proposes to limit NO_x emissions through the use of proper operation practices and by controlling the excess combustion air.

We have reviewed the package as submitted and have no adverse comments. Thank you for the opportunity to review and comment on this package. If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

Brian L. Beals, Chief
Source Evaluation Unit
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

*cc. to Mitchell
S. Delaney
B. Shoup
D. ...
B. Mitchell, DPE
C. Petrick, ACLEC
JE/PL*

RECEIVED

OCT 23 1992

Division of Air
Resources Management



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

OCT 21 1992

4APT-AEB

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

RE: Southdown Inc., Florida Mining and Materials
PSD Permit Modification (PSD-FL-188)

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We have reviewed the package as submitted and have no adverse comments. Thank you for the opportunity to review and comment on this package. If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,

Brian L. Beals, Chief
Source Evaluation Unit
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

cc: B. Mitchell
C. Halladay
B. Thomas, SW Dist.
G. Koogler, P.E.
B. Mitchell, NPS
C. Petrick, HC BCC
JB/PL

RECEIVED

OCT 23 1992

Division of Air
Resources Management

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHDOWN, INC. d\b\a FLORIDA
MINING AND MATERIALS,

Petitioner,

vs.

OGC CASE NO. 92-1834

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Respondent.

ORDER GRANTING REQUEST FOR EXTENSION
OF TIME TO FILE PETITION FOR HEARING

This cause has come before me upon receipt of a request made by Petitioner, Southdown, Inc. d\b\a Florida Mining and Materials, pursuant to Florida Administrative Code Rule 17-103.070, to grant an extension of time to file a petition for administrative hearing concerning the Department's Application No. AC27-212252. See Exhibit 1 attached.

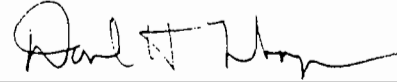
Counsel for Petitioner has discussed this request with counsel for Respondent, State of Florida Department of Environmental Regulation (DER), and the DER has no objection to it. Therefore,

IT IS ORDERED:

The request for an extension of time to file a petition for administrative proceeding is granted. Petitioner shall have until December 14, 1992, to file a petition in this matter. Filing shall be complete upon receipt by the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

DONE AND ORDERED on this 19th day of October, 1992, in
Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



DANIEL H. THOMPSON
General Counsel

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Telephone: (904) 488-9730

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing
has been furnished by U.S. Mail to:

John B. Koogler
4014 N.W. 13th St.
Gainesville, FL 32609

on this 21st day of October, 1992.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



W. DOUGLAS BEASON
Assistant General Counsel

2600 Blair Stone Road
Tallahassee, FL 32399-2400
Telephone: (904) 488-9730

RECEIVED

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

OCT 5 1992
by fax 10-2-92
Dept. of Environmental
Office of General Coun

In the Matter of an Application
for Air Permit by

Southdown, Inc. dba
Florida Mining & Materials
P.O. Box 6
Brooksville, FL 34605-0006

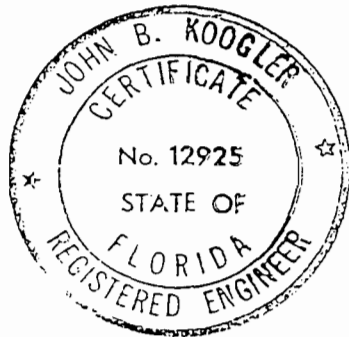
DER File No. AC27-212252
Hernando County - AP

MOTION FOR EXTENSION OF TIME

The Applicant, Southdown, Inc. by and through its undersigned Engineer of Record and pursuant to Rule 17-103.070, FAC, requests the Secretary of DER to grant a 60-day extension of time in which to file a petition. The additional time will allow Southdown to submit additional information to FDER on the No. 2 Cement Kiln permit application review.

Ms. Patty Adams of the FDER Permitting staff has indicated that she has no objection to such an extension.

Dated the 2nd day of October 1992 in Gainesville, Alachua County, Florida.



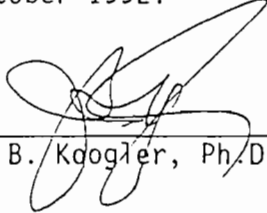
Koogler & Associates
Environmental Services

A handwritten signature in black ink, appearing to be "J. Koogler", written over a horizontal line.

John B. Koogler, Ph.D., P.E.
Florida Registration No. 12925
4014 N.W. 13th Street
Gainesville, FL 32609
(904) 377-5822
Engineer of Record for
Southdown, Inc.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing has been furnished to Mr. Douglas Beason, OGC, DER, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and Mr. Bruce Mitchell, FDER Tallahassee Office, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and Mr. Don Kelly, Southdown, Inc., P.O. Box 6, Brooksville, Florida 34605-0006 and Ms. Anetha Lue, Southdown, Inc., 1200 Smith Street, Suite 2400, Houston, Texas 77002 by FAX and by U.S. Mail, this 2nd day of October 1992.



John B. Koogler, Ph.D., P.E.

State of Florida
Department of Environmental Regulation

District Routing Slip

To: Bill Thomas Date: 10-19-92

C.C. To:

	Pensacola	Northwest District	
	Panama City	Northwest District Branch Office	
	Tallahassee	Northwest District Branch Office	
	Apalachicola	Northwest District Satellite Office	
X	Tampa	Southwest District	
	Punta Gorda	Southwest District Branch Office	
	Bartow	Southwest District Satellite Office	
	Orlando	Central District	
	Melbourne	Central District Satellite Office	
	Jacksonville	Northeast District	
	Gainesville	Northeast District Branch Office	
	Fort Myers	South District	
	Marathon	South District Branch Office	
	West Palm Beach	Southeast District	
	Port St. Lucie	Southeast District Branch Office	

Reply Optional Reply Required Info Only
Date Due _____ Date Due _____

Comments:

Comments being considered as a basis to revise and reissue the Intent package mailed out 9/21/92

R. Bunn Mitchell

From: C. H. Fancy

Tel.: 278-1344

10-31-90

RECEIVED

OCT 19 1992

Division of Air Resources Management

Materials)
In
88

4, 1992, concerning the information provided Southdown on October 14.

originally proposed to limit of 250.0 pounds per originally requested 30- it is in line with our ed with demonstrating n limit and the absence ing continuous nitrogen 11 conduct an annual NOx / period to demonstrate it.

t of our comments dated lation and operation of

Southdown obtained cost estimates, from vendor information, for a NOx CEM. Although the following costs may vary somewhat depending on the vendor, they provide a reasonable estimate of the costs involved.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

FAX TRANSMITTAL SHEET

NAME(S): Kathy Hiles

DEPARTMENT/COMPANY: HCBC-Planning Dept.

DATE: 10-19-92

PHONE: 904-754-4420

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 3

FROM: Bruce Mitchell

DIVISION OF AIR RESOURCES MANAGEMENT

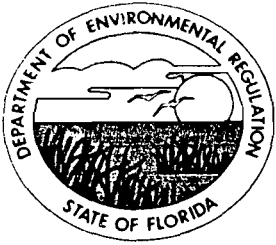
BUREAU: of Air Regulation

OFFICE PHONE: 904-488-1344 FAX PHONE: (904)922-6979

SENDER: Same

COMMENTS: Comments being considered as a basis to
revise and reissue the Intent package mailed-out
September 21, 1992

HAVE A NICE DAY!



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

FAX TRANSMITTAL SHEET

NAME(S): Brian Mitchell

DEPARTMENT/COMPANY: NPS - Air

DATE: October 19, 1992

PHONE: 303-969-2822

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 3

FROM: Bruce Mitchell

DIVISION OF AIR RESOURCES MANAGEMENT

BUREAU: of Air Regulation

OFFICE PHONE: 904-488-1344 FAX PHONE: (904)922-6979

SENDER: Sam

COMMENTS: Comments being considered as a basis to
revise and reissue the Intent package mailed-out
September 21, 1992

HAVE A NICE DAY!



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

FAX TRANSMITTAL SHEET

NAME(S): Jewell Hanger

Gregg Worley

DEPARTMENT/COMPANY: US EPA, Region IV

DATE: 10-19-92

PHONE: 404-347-3059

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 3

FROM: Bruce Mitchell

DIVISION OF AIR RESOURCES MANAGEMENT

BUREAU: of Air Regulation

OFFICE PHONE: 904-481-1344 FAX PHONE: (904)922-6979

SENDER: Sam

COMMENTS: Comments being considered as a basis to
revise and reissue the Intent package mailed-out
September 21, 1992

HAVE A NICE DAY!



KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 521-92-04

October 16, 1992

RECEIVED

OCT 19 1992

Division of Air
Resources Management

Mr. Bruce Mitchell
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Southdown, Inc. (dba Florida Mining & Materials)
Proposed Permit Modification No. 2 Kiln
Permit File No. AC27-212252, PSD-FL-188
Hernando County, Florida

Dear Mr. Mitchell:

This is a follow up to our meeting on October 14, 1992, concerning the FDER Intent to Issue for the above project. The information provided below will supplement the comments submitted by Southdown on October 14.

Southdown, Inc. requests a revision to the BACT originally proposed to FDER to reflect a nitrogen oxides (NOx) emission limit of 250.0 pounds per hour, based on a 30-day average rather than the originally requested 30-day rolling average. The revised emission limit is in line with our recent comments regarding the cost associated with demonstrating compliance with a 30-day rolling average emission limit and the absence of specific state and federal regulations requiring continuous nitrogen oxides monitoring at cement plants. Southdown will conduct an annual NOx compliance test using EPA Method 7E for a 30-day period to demonstrate compliance with the above stated NOx emission limit.

The following information is submitted in support of our comments dated October 14, 1992, that FDER not require the installation and operation of a NOx Continuous Emission Monitor (CEM).

Southdown obtained cost estimates, from vendor information, for a NOx CEM. Although the following costs may vary somewhat depending on the vendor, they provide a reasonable estimate of the costs involved.

Mr. Bruce Mitchell
Florida Department of
Environmental Regulation

October 16, 1992
Page 2

NOx CEM Cost	=	\$150,000
Flowmeter Cost	=	\$ 40,000
Annual Calibration and Certification Costs	=	<u>\$ 20,000</u>
TOTAL COST (1)	=	\$210,000

(1) This total does not include annual repair and maintenance related costs, which are difficult to predict.

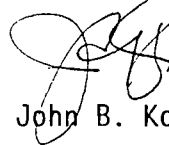
In comparison, the costs associated with a 30-day compliance test using EPA Method 7E is about \$10,000.

In addition to the high cost, as a reason for not requiring a NOx CEM, please note that a NOx CEM is not required by the federal regulations in 40CFR60, Subpart F or the state of Florida regulations under Florida Administrative Code Rule 17-2.600(7), applicable to cement kilns.

If additional information is required by FDER to support the NOx emission limit and compliance test procedure proposed above, please do not hesitate to give me a call.

Very truly yours,

KOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:PAR:wa

c: Mr. Don Kelly, FM&M
Mr. Amarjit S. Gill, Southdown
Ms. Anetha Lue, Southdown



MESSAGE CONFIRMATION

OCT-19-'92 MON 14:57

TERM ID: DIV OF AIR RES MGMT P-9999

TEL NO: 904-922-6979

NO.	DATE	ST. TIME	TOTAL TIME	ID	DEPT CODE	OK	NG
804	10-19	14:54	00°02'08	1 904 754 4420		03	00

MESSAGE CONFIRMATION

OCT-19-'92 MON 15:00

TERM ID: DIV OF AIR RES MGMT P-9999

TEL NO: 904-922-6979

NO.	DATE	ST. TIME	TOTAL TIME	ID	DEPT CODE	OK	NG
805	10-19	14:58	00°01'57	303 969 2822		03	00

MESSAGE CONFIRMATION

OCT-19-'92 MON 15:03

TERM ID: DIV OF AIR RES MGMT P-9999

TEL NO: 904-922-6979

NO.	DATE	ST. TIME	TOTAL TIME	ID	DEPT CODE	OK	NG
806	10-19	15:01	00°01'58	64043473059		03	00

File Copy



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 521-92-04

October 16, 1992

RECEIVED

OCT 19 1992

Division of Air
Resources Management

Mr. Bruce Mitchell
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Southdown, Inc. (dba Florida Mining & Materials)
Proposed Permit Modification No. 2 Kiln
Permit File No. AC27-212252, PSD-FL-188
Hernando County, Florida

Dear Mr. Mitchell:

This is a follow up to our meeting on October 14, 1992, concerning the FDER Intent to Issue for the above project. The information provided below will supplement the comments submitted by Southdown on October 14.

Southdown, Inc. requests a revision to the BACT originally proposed to FDER to reflect a nitrogen oxides (NOx) emission limit of 250.0 pounds per hour, based on a 30-day average rather than the originally requested 30-day rolling average. The revised emission limit is in line with our recent comments regarding the cost associated with demonstrating compliance with a 30-day rolling average emission limit and the absence of specific state and federal regulations requiring continuous nitrogen oxides monitoring at cement plants. Southdown will conduct an annual NOx compliance test using EPA Method 7E for a 30-day period to demonstrate compliance with the above stated NOx emission limit.

The following information is submitted in support of our comments dated October 14, 1992, that FDER not require the installation and operation of a NOx Continuous Emission Monitor (CEM).

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Mr. Bruce Mitchell
Florida Department of
Environmental Regulation

October 16, 1992
Page 2

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In comparison, the costs associated with a 30-day compliance test using EPA Method 7E is about \$10,000.

In addition to the high cost, as a reason for not requiring a NOx CEM, please note that a NOx CEM is not required by the federal regulations in 40CFR60, Subpart F or the state of Florida regulations under Florida Administrative Code Rule 17-2.600(7), applicable to cement kilns.

If additional information is required by FDER to support the NOx emission limit and compliance test procedure proposed above, please do not hesitate to give me a call.

Very truly yours,

KOOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:PAR:wa

c: Mr. Don Kelly, FM&M
Mr. Amarjit S. Gill, Southdown
Ms. Anetha Lue, Southdown

Fewell Hanger / Miss Worley, EPA } FAX'd 10/19/92 PAR
Brian Mitchell, NPS }
Kathy Liles, HCBCC }
Bill Thomas, SWD mailed 10/19/92 PAR





KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ■ FAX 377-7158

KA 521-92-04

October 13, 1992

RECEIVED

OCT 14 1992

Division of Air
Resources Management

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

Subject: Southdown, Inc. (dba Florida Mining & Materials)
Proposed Permit Modification No. 2 Kiln
AC27-212252, PSD-FL-188

Dear Mr. Fancy:

Southdown has received the Technical Evaluation and Preliminary Determination and proposed permit modification for No. 2 cement kiln at the FM&M facility located in Brooksville, Florida.

Upon reviewing the proposed permit and technical evaluation a few items, for which changes are needed or requested, were identified. These items are noted below.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. Section I.C.

Southdown would like to clarify that the actual feed rate to the kiln is 130 tons/hr, based on a measured preheater feed rate of 145 tons/hr.

2. Section I.C.

The kiln heat input rate, stated as "300,000 MMBTU/hr", should be corrected to "300 MMBTU/hr".

3. Section I.C. - Paragraph 3

The kiln oxygen analyzer, stated as being located in the kiln exhaust, is actually located at the kiln feed inlet. The oxygen analyzer is calibrated but it is not a certified oxygen monitor. Records of the instrument calibration will be maintained and logs of the oxygen concentration data will be maintained as required by the existing and proposed permits for this source. It is assumed that FDER was referring to the system presently in place and that a new analyzer is not being required by the permit. Use of the existing oxygen analyzer would be accurately reflected by modifying the phrase "in the stack" to "in the kiln inlet." It should be noted that the combustion gases from the process leave the kiln at the kiln inlet.

4. Section II - Paragraph 8A

The oxygen analyzer is incorrectly referred to as a CEM (see Item 3). Please modify the paragraph to read:

"The kiln exhaust gas oxygen analyzer located at the kiln inlet shall be calibrated, operated"

5. Section III - Paragraph 5

The cost of installing and maintaining a NOx CEM on a year-round basis does not seem to be justified. It is requested that FDER allow demonstration of compliance with the NOx emission limit by the use of a NOx analyzer to determine the NOx emissions based on a 30-day average. This would allow FDER to ensure that the kiln operation is in compliance with the permit limit while avoiding the expenditure of purchasing a NOx CEM system for the kiln. Thus, it is requested that this paragraph be modified as follows:

"... For compliance verification purposes, a 30-day test for NOx emissions shall be conducted within 30 days of the issuance of this permit and annually thereafter. Testing shall be in accordance with the requirements of the permit."

PERMIT NO. AC27-212252, PSD-FL-188

6. Specific Condition No. 3

The basis for the kiln maximum fuel input rate is listed in this condition. It is preferred that this basis ("24,000 lbs/hr of coal with a heating value of 12,500 BTU/lb") be deleted from this permit condition. This would serve to prevent confusion in the future, since these numbers may be mistakenly applied as additional permit limits on the kiln heat input.

7. Specific Condition No. 5

The tons per year of allowable SO₂ emissions were stated as 47.0 tons/year SO₂ in the existing permit instead of 47.15 tons/year. A correction of this error in the proposed permit at this time seems appropriate.

8. Specific Condition No. 6

It is requested that the permit limit for NO_x of 250.0 lbs/hr be based on a 30-day average and that the averaging period be stated in Specific Condition No. 6.

9. Specific Condition No. 6

It is requested that EPA Method 7E be required, in place of Method 7, to allow the use of a continuous NO_x analyzer for compliance testing. Method 7E is capable of more reliable results than Method 7. We are also requesting that a 30-day average of the NO_x CEM data be used for the annual compliance test provided that the CEM calibration and maintenance during the 30-day period meet the applicable standards of 40CFR60.

10. Specific Condition No. 6

It is requested that EPA Method 6C be required, in place of Method 6, for annual SO₂ compliance testing.



11. Specific Condition No. 10

This condition refers to a CEM for oxygen and NOx concentration determination. A modification of this section is requested to reflect the present monitoring system. The following language is suggested:

"Emissions of NOx will be minimized through proper operation practices. A continuous kiln exhaust gas oxygen monitor and data recorder shall be operated, calibrated and maintained. Data for the recorder shall be kept for the most recent two year period and made available upon request."

12. Specific Condition No. 11(d)

A deletion of the minimum moisture content required to the coal storage pile is requested. The "8 percent" moisture, referred to in this condition, is based on the moisture content of the delivered coal rather than the stored coal. If an 8% surface moisture content were to be maintained, the facility would be required to add quantities of moisture to the coal which would lead to operational problems such as handling and low coal heating values. This issue has previously been discussed with FDER on the existing permit for Kiln No. 2 and the following changes were agreed to with FDER:

"Coal stored at or above natural grade shall be compacted, turned and/or watered as necessary to minimize fugitive PM emissions from the pile, and shall be aligned with the predominant wind direction to minimize wind erosion."

13. Specific Condition 11(c)

For the reasons stated above, condition 11(c), which requires the storage of all materials with less than 14% moisture to be "stored below natural grade in silos or enclosed structures;" is requested to be modified as follows:

"All non-covered raw materials storage areas shall be maintained so as to minimize particulate matter fugitive emissions."

14. Specific Condition No. 11(f)

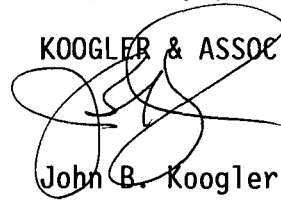
Condition 11(f) refers to a "pneumatic conveying system" for loading cement products to transport trucks. A pneumatic conveying system has never been used at this facility for truck loading. The cement is released into the truck by gravity feed through a loading spout at the base of the storage units. Emissions from the unloading operation are controlled by use of a baghouse (Permit No. A027-194633). Therefore, please modify this condition as follows:

"All cement products shall be transferred to transport trucks through a loading spout."

Please note that the requested amendments will not reduce the operational requirements for compliance with the proposed permit emission limits.

Very truly yours,

KOOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:PAR:wa

- c: Mr. Don Kelly, FM&M
Mr. Amarjit S. Gill, Southdown
Ms. Anetha Lue, Southdown
B. Mitchell
B. Shomer, SW Dist
C. Netrick, HC
J. Harper, EPA
B. Mitchell, NPS



P 062 921 998



Receipt for Certified Mail

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

PS Form 3800, June 1991

Sent to Mr. Don Kelly, Southdown	
Street and No. P. O. Box 6	
P. O. State and ZIP Code Brooksville, FL 34605-0006	
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 Mailed: 9-21-92 Permit: AC 27-212252 PSD-FL-188	

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 Fee will provide you the signature of the person delivered to and the date of delivery.

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

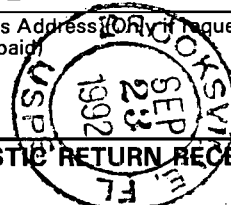
- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to: Mr. Don Kelly Plant Manager Southdown, Inc. dba FM&M Post Office Box 6 Brooksville, FL 34605-0006		4a. Article Number P 062 921 998
		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
		7. Date of Delivery 9-22-92
5. Signature (Addressee)		8. Addressee's Address (Only if requested and fee is paid)
6. Signature (Agent) <i>D. Stevenson</i>		

PS/Form 3811, November 1990 ☆ U.S. GPO: 1991-287-066

DOMESTIC RETURN RECEIPT





Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

September 21, 1992

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Don Kelly
Plant Manager
Southdown, Inc. dba FM&M
Post Office Box 6
Brooksville, Florida 34605-0006

Dear Mr. Kelly:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for the modification to the No. 2 cement kiln. The modification will allow a significant increase in the allowable emissions of NOx, nitrogen oxides.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Preston Lewis of the Bureau of Air Regulation.

Sincerely,

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

CHF/BM/rbm

Attachments

cc: B. Thomas, SWD
J. Koogler, Ph.D., P.E., K&A
J. Harper, EPA
B. Mitchell, NPS
C. Hetrick, HCBCC
D. Beason, Esq., DER
D. Dee, Esq., CFWES&C

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CERTIFIED MAIL

In the Matter of an
Application for Permit by:

DER File No. AC 27-212252
PSD-FL-188
Hernando County

Southdown, Inc. dba
Florida Mining & Materials
Post Office Box 6
Brooksville, Florida 34605-0006

INTENT TO ISSUE

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

The applicant, Southdown, Inc. dba Florida Mining & Materials, applied on April 22, 1992, to the Department of Environmental Regulation for a permit to modify the No. 2 cement kiln. The modification will allow a significant increase in the allowable emissions of NOx, nitrogen oxides, as an adjustment upward to compensate for any potential peaks in NOx emissions that would put the kiln in violation with its current allowable limit. The proposed action will occur at the existing facility located off U.S. Highway 98 northwest of Brooksville, Hernando County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.) and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that a construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S., and Rule 17-103.150, 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. Where there is more than one newspaper of general circulation in the county, the newspaper used must be the one with significant circulation in the area that may be affected by the permitting action. If you are

uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 (904-488-1344), 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 REGULATION



C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399
904-488-1344

c: B. Thomas, SWD
J. Koogler, Ph.D., P.E., K&A
J. Harper, EPA
B. Mitchell, NPS
C. Hetrick, HCBCC
D. Beason, Esq., DER
D. Dee, Esq., CFWES&C

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 9/21/92 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.

[Handwritten Signature] 9/21/92
Clerk Date

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

AC 27-212252
PSD-FL-188

The Department of Environmental Regulation gives notice of its intent to issue a permit to Southdown, Inc. dba Florida Mining & Materials, Post Office Box 6, Brooksville, Florida 34605-0006, for a modification to the No. 2 cement kiln. The modification will allow a significant increase in the allowable emissions of NOx, nitrogen oxides, as an adjustment upward to compensate for any potential peaks in NOx emissions that would put the kiln in violation with its current allowable limit. The proposed modification will occur at the existing facility located off U.S. Highway 98 northwest of Brooksville, Hernando County, Florida. A determination of Best Available Control Technology (BACT) was required. The Class I nitrogen dioxide increment consumed is 0.32 vs. 2.5 allowable annual average, in micrograms per cubic meter. The maximum predicted increase in ambient concentration for nitrogen dioxide is less than significant in the Class II area surrounding the plant, thus no increment consumption was calculated. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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, 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, F.A.C.

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 Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Southwest District
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

Hernando County Government Center
Administration Building
20 N. Main Street, Rm. 461
Brooksville, Florida 34601

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. 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. Such requests must be submitted within 30 days of this notice.

Technical Evaluation
and
Preliminary Determination

Southdown, Inc. dba Florida Mining & Materials
Hernando County
Brooksville, Florida

Construction Permit Number
AC 27-212252
PSD-FL-188

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

September 21, 1992

I. Application

A. Applicant

Southdown, Inc. dba
Florida Mining & Materials
Post Office Box 6
Brooksville, Florida 34605-0006

B. Project and Location

Southdown, Inc. dba Florida Mining & Materials (FM&M) submitted an application package for a construction permit to increase the No. 2 cement kiln's emissions of NOx (nitrogen oxides) above the significant level (> 40 TPY). The project will occur at FM&M's portland cement facility located approximately nine miles northwest of Brooksville, off U.S. Highway 98, in Hernando County.

The UTM coordinates are Zone 17, 356.0 km East and 3,169.2 km North.

C. Source Description and Controls

The kiln is used to produce clinker. The maximum kiln input feed rate of raw materials and recycle is 130 tons per hour producing about 80 tons per hour of clinker.

The No. 2 cement kiln's (kiln) primary fuel is coal, with a maximum heat input rate of 300,000 MMBtu/hr; and, maximum coal feed rate is 24,000 lbs/hr. Flolite, a re-refined oil blend, is used as a start-up and a secondary fuel; and, maximum feed rate is 2,069 gals/hr.

A baghouse is used to control the emissions of particulate matter (PM/PM₁₀). Low excess air firing and proper operation practices are used to minimize the emissions of NOx. The kiln will have a CEM (continuous emission monitor) for monitoring oxygen in the stack.

D. The Source Industrial Classification code is 3241: Cement Manufacturing.

E. The Source Classification Code numbers are:

o 3-05-006-06	Cement Mfg-Dry Process	Tons Cement Produced
o 3-90-002-01	Bitum. Coal-Cement Kiln	Tons Burned
o 3-90-013-89	Liquid Waste-General	1000 Gals Burned

II. Rule Applicability

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July, 1991 version).

The application package was deemed complete on June 24, 1992.

The facility is located an area designated as attainment for all criteria pollutants pursuant to Part IV, F.A.C. Chapter 17-2.

The facility is a major emitting facility for the pollutant NOx, in accordance with F.A.C. Rule 17-2.100, Definitions.

The proposed significant increase of NOx emissions is subject to the Prevention of Significant Deterioration (PSD) preconstruction review requirements pursuant to F.A.C. Rule 17-2.500(5), which includes the determination of Best Available Control Technology (BACT). BACT determination guidance is found in F.A.C. Rule 17-2.630.

In a previous PSD evaluation (PSD-FL-124), the kiln was permitted at 1025 TPY (250 lbs/hr @ 8200 hrs/yr) for NOx, which is the allowable level that the applicant is now seeking. A subsequent modification to the kiln (AC 27-173474 and PSD-FL-124A) resulted in an allowable NOx emissions level of 665.3 TPY (162.3 lbs/hr @ 8200 hrs/yr), which was a 39.9 TPY increase above the actual emissions level of 625.4 TPY (158.4 lbs/hr @ 7896 hrs/yr). The previous BACT determination required that low excess air firing be used to minimize NOx emissions.

The kiln is subject to the applicable provisions of F.A.C. Rules 17-2.600(7), Portland Cement Plants, and 17-2.660, Standards of Performance for New Stationary Sources, Section 60.60, Subpart F, Portland Cement Plants. Also, the kiln is subject to the applicable provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-2.700: Stationary Point Source Emission Test Procedures. All applicable provisions of the 40 CFR shall be in accordance with the July, 1991 version.

The exhaust gas continuous emissions monitor for oxygen shall be calibrated, operated, recorded, and maintained in proper operating order.

When the kiln is switched to firing 100% Flolite for emergency purposes, the Department's Southwest District office shall be notified. In general, a log book shall be maintained recording, at a minimum, the date(s) and the beginning and ending "clock time(s)" of operation while firing 100% Flolite.

III. Best Available Control Technology Determination

Because of the significant increase in emissions of NO_x, a determination of BACT is required.

NO_x emissions potentially can be controlled by post-combustion reduction systems (i.e., selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR)). Such add-on systems have been proposed or recommended for such source categories as municipal waste combustors, industrial and utility boilers, glass furnaces, and gas turbines, but currently not for portland cement kilns. Due to the optimum operational temperature requirements, the siting of a SCR or SNCR system in this existing cement kiln's configuration would be difficult and could lead to such problems as catalytic poisoning, additional NO_x formation, inoperable conditions and adverse chemical reactions. As such, these add-on control systems are not considered technically proven and feasible at this time.

Another NO_x reduction technique that was considered was the use of a low-NO_x burner system. An evaluation was conducted for the potential availability of a low-NO_x burner system for this type of source and it appears that this technology is not currently available.

Previous NO_x BACT determinations have justified emissions limits of 240 - 1158 lbs/hr, of which the proposed limit of 250 lbs/hr is on the lower end. Another comparison is in "lbs NO_x/ton clinker", and the range is 3.5 - 5.6, of which the No. 2 cement kiln will be at 3.2; also, on the lower side of the range for affected sources. Therefore, the NO_x BACT limit recommended by the applicant is within the range of the previously issued BACT determinations; also, the control of excess combustion air and proper operation is currently being used to minimize NO_x emissions.

In conclusion, the NO_x emission rate requested by the applicant of 250 lbs/hr, 30-day rolling average, is representative of BACT. For verification purposes, a continuous emission monitor/recorder for NO_x shall be installed, calibrated, maintained, and operated in accordance with 40 CFR 60.13, Monitoring Requirements.

IV. Emission Limitations and Air Quality Analysis

A. Emission Limitations

Except for NO_x, all other pollutants will remain at their presently permitted limits/standards. For NO_x, the allowable emission limit shall be 250 lbs/hr, 30-day rolling average; and, 1025 TPY (8200 hrs/yr).

B. Air Quality Analysis

1. Introduction

The proposed project will result in emissions increases which are projected to be greater than the PSD significant emission rate for NO_x. Therefore, the project is subject to the PSD NSR (new source review) requirements contained in F.A.C. Rule 17-2.500(5) for this pollutant. Part of these requirements is an air quality impact analysis for these pollutants, which includes:

- A PSD increment analysis;
- An analysis of existing air quality;
- An ambient Air Quality Standards analysis (AAQS);
- An analysis of impacts on soils, vegetation, visibility and growth-related air quality impacts; and,
- A Good Engineering Practice (GEP) stack height determination.

The analysis of existing air quality generally relies on preconstruction monitoring data collected in accordance with EPA-approved methods. The AAQS analyses are based on air quality dispersion modeling completed in accordance with EPA guidelines.

Based on these 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 PSD increment or ambient air quality standard. A brief description of the modeling methods used and results of the required analyses follow. A more complete description is contained in the permit application on file.

2. Analysis of the Existing Air Quality

Preconstruction ambient air quality monitoring may be required for 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 through air quality modeling, is less than a pollutant-specific de minimus concentration. The predicted maximum concentration increase for NO_x is 0.53 ug/m³, annual average, which is less than the PSD de minimus concentration for NO_x of 14 ug/m³, annual average. Therefore, this project is not subject to preconstruction ambient air quality monitoring.

3. Modeling Method

The EPA-approved Industrial Source Complex Short-Term (ISC-ST2) dispersion model was used by the applicant to predict the impact of the proposed project on the surrounding ambient air. All recommended EPA default options were used. Downwash parameters were used because the stacks were less than the good engineering practice (GEP) stack height. Five years of sequential hourly surface and mixing depth data from the Tampa, Florida National Weather Service (NWS) station collected during 1982 through 1986 were used in the model.

4. Modeling Results

The applicant first evaluated the potential increase in ambient ground-level concentrations associated with the project to determine if these predicted ambient concentration increase would be greater than the specified PSD significant impact levels for NO₂. Dispersion modeling was performed with receptors placed along the 36 standard radial directions (10 degrees apart) surrounding the proposed units at the following downwind distances: 0.9, 1.0, 1.25, 1.5, 1.75, 2.0, 2.5, 3.0, 4.0, and 5.0 km. The results of this modeling presented below show that the increase in ambient ground-level concentration is less than the PSD significant impact level for NO₂. Therefore, further dispersion modeling for comparison with AAQS and PSD Class II increment consumption was not required for NO₂.

	<u>NO₂</u>
Avg. Time	Annual
PSD Significant Level (ug/m ³)	1.0
Ambient Concentration Increase (ug/m ³)	0.53

The nearest PSD Class I area is the Chassahowitzka National Wilderness Area located about 14 km west of the facility. The Class I area modeling results show that the maximum predicted cumulative PSD increment consumption is 0.32 ug/m³ or about 13 percent of the allowable Class I NO₂ increment of 2.5 ug/m³.

5. Additional Impacts Analysis

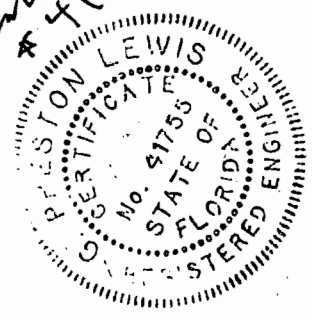
A Level-2 screening analysis using the EPA model VISCREEN showed that the requested increase in allowable NO_x emissions is not expected to result in adverse visibility impacts in the Chassahowitzka Class I area. The Level-2 analysis was

performed because the proposed project had exceeded the Level-1 visibility screening test criteria. No other significant air quality related values (AQRV) impacts on the Class I area are expected. In addition, the maximum predicted concentrations from NO_x emissions are predicted to be less than the AAQS, including the national secondary standards designed to protect public welfare-related values. Therefore, no harmful effects on soils and vegetation are expected in the area of the project. Also, the proposed modification will not significantly change employment, population, housing or commercial/industrial development in the area to the extent that a significant air quality impact will result.

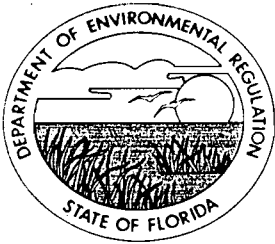
V. Conclusion

Based on the information provided by FM&M, the Department has reasonable assurance that the proposed project, to allow an increase in the NO_x emissions of the No. 2 cement kiln to 250 lbs/hr, 30-day rolling average, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.

Alton Lewis
41757



A circular professional seal for Alton Lewis, a Registered Engineer in the State of Florida. The seal contains the text: "ALTON LEWIS", "REGISTERED ENGINEER", "STATE OF FLORIDA", and "No. 41755". The seal is stamped in black ink.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:
Southdown, Inc. dba
Florida Mining & Materials
P. O. Box 6
Brooksville, Florida
34605-0006

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993
County: Hernando
Latitude/Longitude: 28°38'34"N
82°28'25"W
Project: No. 2 Cement Kiln
Modification

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July, 1991 version). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of the No. 2 cement kiln to allow a significant increase in nitrogen oxides (NO_x) above the previous actuals (625.4 TPY vs. 1025 TPY). The kiln's primary fuel is coal having a maximum allowable sulfur content of 1%, by weight. Flolite, a re-refined oil blend, is used as a backup fuel and during startups, shutdowns, and malfunctions. The kiln has a maximum process input rate of 130 tons per hour (clinker product weight of 79.6 tons per hour), 30-day rolling average, and a maximum heat input rate of 300.0 MMBtu/hr. A Fuller Reverse Air baghouse control system is used to control particulate matter and visible emissions. The facility is located in Brooksville, Hernando County, Florida. The UTM coordinates are Zone 17, 356.0 km East and 3169.9 km North.

The Source Industrial Code: 3241 Cement Manufacturing

The Source Classification Code numbers are:

o 3-05-006-06	Cement Mfg-Dry Process	Tons Cement Produced
o 3-90-002-01	Bitum. Coal-Cement Kiln	Tons Burned
o 3-90-013-89	Liquid Waste-General	1000 Gals Burned

The source shall be modified 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. Southdown, Inc. dba Florida Mining & Materials application received on April 22, 1992.
2. DER's transmittal letter of April 23, 1992.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

Attachments cont.:

3. Dr. John B. Koogler's letter with enclosure received May 5, 1992.
4. Mr. James W. Pulliam, Jr.'s letter received via the FAX on May 15, 1992.
5. Mr. Charles B. Hetrick's letter received May 20, 1992.
6. Mr. C. H. Fancy's incompleteness letter with attachments mailed May 22, 1992.
7. Mr. Howard L. Rhodes's letter with enclosure mailed June 2, 1992.
8. Dr. John B. Koogler's letter with enclosures received June 24, 1992.
9. FAX received July 24, 1992, from Mr. Pradeep Raval.
10. FAX received July 24, 1992, from Mr. Gary Maier.
11. Mr. Charles B. Hetrick's letter received July 27, 1992.
12. Mr. James W. Pulliam, Jr.'s letter received August 20, 1992.
13. Technical Evaluation and Preliminary Determination dated September 21, 1992.

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, F.S. 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), F.S., 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 acknowledgement 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.

PERMITTEE: Southdown, Inc. dba Florida Mining and Materials Permit Number: AC 27-212252 PSD-FL-188 Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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 F.S. and Department rules, unless specifically authorized by an order from the Department.

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

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

- a. Have access to and copy 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.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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 F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. 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 F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.

11. This permit is transferable only upon Department approval in accordance with F.A.C. Rules 17-4.120 and 17-30.300, 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 constitutes compliance with:
a. New Source Performance Standards (NSPS), 40 CFR 60.60, Subpart F, Portland Cement Plants;
b. Prevention of Significant Deterioration; and,
c. Best Available Control Technology (BACT).

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

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
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Expiration Date: December 31, 1993

GENERAL CONDITIONS:

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;
- 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 annual hours of operation of the No. 2 cement kiln shall not exceed 8200.

2. The No. 2 kiln's total process feed rate shall not exceed 130 tons per hour (wet basis), yielding a maximum clinker product weight of 79.6 tons per hour (dry basis), averaged on a rolling 30-day production period.

3. The No. 2 kiln's fuel input rate shall not exceed 300.0 MMBtu per hour (based on firing a maximum of 24,000 lbs/hr coal with a heating value of 12,500 Btu/lb). The sulfur content of the coal shall not exceed 1.0 percent, by weight, using ASTM D3177-75. Coals with heating values lower than 12,500 Btu per pound shall be fired only if the sulfur content to heat value ratio of the coal does not exceed 0.83 pounds of sulfur per MMBtu of heat input.

4. The total combined times when using Flolite, a re-refined oil blend, during startup periods (no coal used), idle times (maximum allowable process heat input of 300.0 MMBtu maintained but no process feed input), and as a limited supplemental fuel with coal (coal unable to sustain maximum allowable process heat input requirement), shall not exceed 250 hours per year. The Flolite

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

SPECIFIC CONDITIONS:

shall not contain more than 1 percent sulfur, by weight. The maximum allowable Flolite usage rate is 2069 gals/hr (@ 145,000 Btu/gal). At all times, the Flolite shall contain no higher concentration of metals or toxics than the following:

Cadmium - 0.3 ppm; Lead - 5.0 ppm; and, Arsenic - 1.0 ppm.

5. Emissions from the No. 2 cement kiln shall not exceed the following:

Pollutant	Maximum Allowable Emissions	
	lbs/hr	tons per year
PM	13.5	55.3
SO ₂	11.5	47.0
NOx	250.0	1025.0
VOC	7.4	31.2
CO	64.0	262.2
VE	< 10% opacity	

Note: Except for NOx, the emission limitations were established in construction permit No. AC 27-173474 (PSD-FL-124A), issued July 20, 1990.

6. Compliance shall be demonstrated, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A (July, 1991 version), using the following:

- EPA Method 5 for PM (particulate matter)
- EPA Method 6 for SO₂ (sulfur dioxide)
- EPA Method 7 for NOX (nitrogen oxides)
- EPA Method 9 for VE (visible emissions)
- EPA Method 10 for CO (carbon monoxide)
- EPA Method 25A for VOC (volatile organic compounds)

7. The No. 2 kiln's total process input rate and clinker production rate shall be monitored and recorded daily in accordance with 40 CFR 60.63. The coal feed rate to the kiln and the average coal sulfur content and heating value (Btu/lb) of each coal shipment shall be determined and recorded. If coal of sulfur content exceeding 1.0 percent, by weight, is fired in the kiln, (due to variability in the sulfur content of coal within a shipment) samples will be taken of coal entering the kiln at a minimum frequency of once per hour and analyzed for sulfur content. The average sulfur content of samples taken within each 3-hour period shall not exceed 1.0 percent, by weight.

PERMITTEE:
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Florida Mining and Materials

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SPECIFIC CONDITIONS:

8. The permittee shall comply with all of the applicable provisions and requirements of F.A.C. Chapters 17-2 and 17-4, and 40 CFR (July, 1991 version).

9. The DER's Southwest District office shall be notified in writing at least 15 days prior to compliance testing. Test reports shall be submitted to the DER's Southwest District office within 45 days of compliance test completion.

10. Emissions of NOx will be minimized through the use of low excess air firing. A continuous emission monitor/recorder for measuring the exhaust gas oxygen and NOx shall be installed, calibrated, operated and maintained in proper working order in accordance with 40 CFR 60.13, Monitoring Requirements.

11. The permittee shall apply reasonable work practices to minimize fugitive PM emissions, including the following:

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

12. Any change in the method of operation, fuels, equipment, startup, or operating hours, pursuant to the F.A.C Rule 19-2.100, Definitions-Modification, shall be submitted for evaluation and approval to the DER's Bureau of Air Regulation (BAR) office.

13. The No. 2 kiln and its associated equipment are subject to the applicable provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operations-Problems.

14. This specific conditions of this permit supercedes those of the current permit No. AC 27-173474.

PERMITTEE:
Southdown, Inc. dba
Florida Mining and Materials

Permit Number: AC 27-212252
PSD-FL-188
Expiration Date: December 31, 1993

SPECIFIC CONDITIONS:

15. An annual operation report (AOR) shall be submitted to the Department's Southwest District office by March 1 reporting the kiln's averaged process input rate and clinker production of each month of the previous year. The AOR shall contain the total time that the kiln was firing Flolite during the previous year.

16. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the BAR prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

17. An application for an operation permit must be submitted to the DER'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 applicant shall submit the appropriate application form, fee, certification that construction was completed and noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-2.220).

Issued this _____ day
of _____, 1992

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION**

Carol M. Browner, Secretary

Best Available Control Technology (BACT) Determination
Southdown, Inc. dba Florida Mining & Materials
Hernando County

The applicant proposes an increase in the allowable nitrogen oxide (NOx) emission limitation to 250 lbs/hr (8200 hrs/yr), which results in a significant increase in emissions. The purpose for the increase is to adjust the cement kiln's allowable limit upward to compensate for potential peaks in NOx emissions that would be in violation with the current allowable limitation of 162.3 lbs/hr (8200 hrs/yr). Due to source obligation, the base limitation used for evaluation purposes was 158.4 lbs/hr (7896 hrs/yr). The facility is located in an area designated attainment for all of the criteria pollutants.

The applicant has indicated the maximum net change in pollutant emissions is as follows:

<u>Pollutant</u>	<u>Max. Net Increase in Emissions (TPY)</u>	<u>PSD Significant Emission Rate (TPY)</u>
NOx	399.6	40

Rule 17-2.500(2)(f)(3) of the Florida Administrative Code (F.A.C.) requires a BACT review of all regulated pollutants emitted in an amount equal to or greater than the significant rates listed in Table 500-2, F.A.C. Chapter 17-2.

BACT Determination Requested by the Applicant:

No. 2 Cement Kiln

NOx 250 lbs/hr, 30-day rolling average

Date of Receipt of a BACT Application:

April 22, 1992

Review Group Members:

This determination was based on comments received from the applicant and the Permitting and Standards Section.

BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology 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 determinations 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 source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source 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.

BACT Analysis:

A. No. 2 Cement Kiln

NOx emissions potentially can be controlled by post-combustion reduction systems (i.e., selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR). Such add-on systems have been proposed or recommended for such source categories as municipal

BACT Determination
Southdown Inc., dba FM&M
AC 27-212252 & PSD-FL-188
Page 4

Details of the Analysis May be Obtained by Contacting:

Bruce Mitchell, Permitting Engineer
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

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

Carol M. Browner, Secretary
Dept. of Environmental Regulation

_____, 1992
Date

_____, 1992
Date



United States Department of the Interior



FISH AND WILDLIFE SERVICE

75 Spring Street, S.W.

Atlanta, Georgia

30303

August 18, 1992

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AUG 20 1992

Division of Air
Resources Management

Mr. C. H. Fancy, P.E.
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:

We have completed our review of the additional material that you sent us regarding a proposal by Southdown, Inc., to modify their existing Prevention of Significant Deterioration permit.

We are pleased that the State has responded to our completeness comments by sending us the additional information. Pursuant to our review of the additional material and telephone conversations between the State staff and my staff in the Air Quality Branch, we are satisfied that the Southdown, Inc., application is complete.

We look forward to reviewing the State's preliminary determination and the Southdown, Inc., permit application during the public comment period. If you have any further questions regarding this matter, please contact Bud Rolofson of our Air Quality Branch in Denver at 303/696-2071.

Sincerely yours,

James W. Pulliam, Jr.
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

Cleve Holladay
Benn Mitchell
C. Hetrick, HCBCC
B. Thomas, SWD

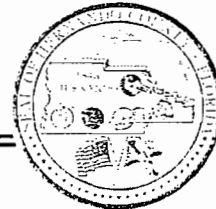
} 8-25-92 RAN

Board of County Commissioners

Hernando County

PLANNING DEPARTMENT

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



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AUG 06 1992

Planning - (904) 754-4057

Fax - (904) 754-4420

Division of Air
Resources Management

July 30, 1992

Mr. Cleve Halliday
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

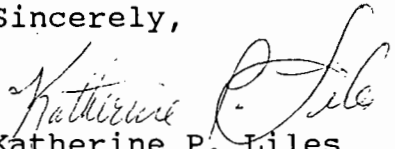
Dear Mr. Halliday:

RE: Permit Modification Request for Kiln No. 2, Southdown, Inc.,
dba Florida Mining and Materials, Permit File No. AC27-212252
and PSD-FL-188

In review of the materials provided as a result of DER's May 22, 1992 letter of incompleteness by Koogler and Associates, County staff noted that the NO2 emission source inventory used in the air dispersion modeling was provided by your office. The County would appreciate receiving a copy of the inventory for our records.

Your assistance in providing this information is greatly appreciated.

Sincerely,


Katherine P. Liles
Environmental Planner

KPL/mfs

Board of County Commissioners

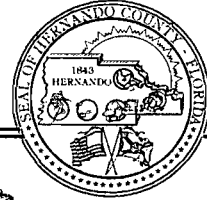
PLANNING DEPARTMENT
*Government Center / Administration Building
20 North Main Street, Room 262
Brooksville, Florida 34601*

Mr. Cleve Halliday
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400



Board of County Commissioners

Hernando County



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JUL 27 1992
Division of Air
Resources Management
July 21, 1992

204 N. Main Street, Room 460
Brooksville, FL 34601
(904) 754-4000
FAX (904) 754-4477

Mr. C.H. Fancy
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Fancy:

RE: Completeness Letter on FM&M's Request for a Modification to No. 2 Kiln: AC27-212252 and PSD-FL-188

Hernando County staff received word from Mr. Bruce Mitchell of your office that the above mentioned permit modification is anticipated to be deemed complete by July 24, 1992. However, in a review of our file, one condition of the incompleteness letter of May 22 is that the applicant address the comments contained in letters from Hernando County and the National Park Service. The County has not received any of the materials submitted by Florida Mining and Materials (FMM) in response to DER's letter of incompleteness.

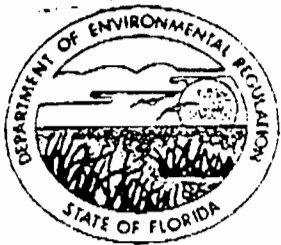
The County's unanswered questions may be raised once again upon issuance of a Notice of Intent; however, answers to our questions are preferred prior to that point to avoid initiation of any formal legal mechanism within the permitting process. If your office has received a full response to the May 22 incompleteness letter, please forward or FAX (904/754-4420) a copy of the package to us to allow our staff to evaluate the response.

As the County previously indicated, a meeting attended by DER representatives may be necessary to resolve any remaining questions. If a meeting is required to resolve outstanding issues, it will be requested by the County once the Notice of Intent is published.

Very truly yours,

CHARLES B. HETRICK
County Administrator

cc: Bruce Mitchell, DER, Tallahassee
Tony Cleveland, OHFC
Lawrence Jennings
Katherine Liles



Florida Department of Environmental Regulation

Southwest District

4520 Oak Fair Boulevard

Tampa, Florida 33610-7347

Lawton Chiles, Governor

813-620-6100

Carol M. Browner, Secretary

FACSIMILE TRANSMISSION SHEET

7-24-92

Date

TO:

Bruce Mitchell

Dept.:

BAR

Phone:

FROM:

Gary Maier

Dept.: DER, Southwest District

Phone: (813) 620-6100 SunCom 542-6100

EXT. 408

OPERATOR:

G.M.

EXT. _____

SUBJECT:

FM & M No. 2 Kiln

(Day 30 = 7-24-92)

Total Number of Pages, Including Cover Page:

1

Bruce

Harry Kerns asked me to contact you regarding your processing of an application from Florida Mining, (No. 2 kiln).

I have no comments for you. I do not think anyone else in the S.W. District has comments at this time either.

Thank you for checking with us.

Air Program FAX Number is (813) 620-6092

SunCom 542-6092

Gary Maier

Bruce Mitchell


BAR, FDER

7/24/92

Subj.: Southdown Inc
No 2 kiln NOx modification

This is a follow up to conversation today with Cleve on the availability of low-NOx burners for a 300mm³/hr cement kiln using coal/oil.

Name & Co.	Tel #	Availability of Low-NOx Burner
Gary Moseley, Polysius (kiln mfr.)	404 955 3660	NO
Frank Binkiewicz, Babcock & Wilcox	813 576 6770	NO (only boilers) none for kilns
Roy Fraunhofer, Peabody Specialty Systems	203 327 7000	NO (none for kilns)
Dean Pickett, ABB Combustion Engg	404 394 2616	NO (none for kilns)

Awaiting response from other "phone message" later next week but doesn't seem like anybody has one. Will keep you informed. Take care, 



KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

FAX TRANSMITTAL FORM

TO: BRUCE MITCHELL
BAR / DARM

FROM: PRABHU RAVAL

PROJECT: 521-92-04

SENT BY: R

DATE: 7/24/92

FAX PHONE: 904-377-7158

The text being transmitted consists of 1 page/
PLUS this one.

REMARKS: HOPE THIS HELPS.
R



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Main File: FM&M/Southdown
AC 27-212252 and PSD-FL-188
No. 2 Kiln NOx modification

FROM: Bruce Mitchell *BMM*

DATE: July 20, 1992

SUBJ: Notification of the 30-day completeness review clock on
the compny's last submittal to the Department

This afternoon I called for Mrs. Kathy Liles, who works with the Hernando County's Planning Office. I was only able to speak with a co-worker of Kathy's because Kathy was attending a meeting. However, I was assured that Kathy would get my message, which is that the 30-day completeness review clock for the last submittal to the Department to the above referenced permitting activity would be concluding on July 24, 1992.



KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 521-92-04

June 23, 1992

RECEIVED

JUN 24 1992

**Bureau of
Air Regulation**

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

Subject: Permit Modification Request for Kiln No. 2
Southdown, Inc. dba Florida Mining & Materials
Permit File No. AC27-212252 and PSD-FL-188

Dear Mr. Fancy:

This is in response to your letter dated May 22, 1992 requesting additional information on the above project. The responses are presented below in the order of the questions raised by FDER.

1. Due to source obligation, the NOx emission evaluation has to begin from the previously established "actuals" of 158.4 lbs/hr (@ 7896 hrs/yr; 625/4 tons/yr; AC27-173474-signed July 20, 1990) instead of the previous allowables of 162.3 lbs/hr. Therefore, please correct and reevaluate the proposal under this direction.

RESPONSE: The revision of the nitrogen oxides (NOx) emission evaluation based on an actual NOx emission rate of 158.4 pounds per hour, in place of the previous allowable emission rate of 162.3 pounds per hour, affect three analyses presented in the permit modification request. The following analyses have been revised and are discussed below:

- a. NOx emissions increase;
- b. Ambient air quality impact analysis; and,
- c. Visibility impairment analysis.

Best Available Copy

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER

2229319035

69M

2229319035

RECIPIENT'S COPY

From (Your Name) Please Print <i>John Kogler</i>		Your Phone Number (Very Important) <i>202-377-4222</i>		To (Recipient's Name) Please Print <i>Mr. Clair Fandy</i>		Recipient's Phone Number (Very Important)			
Company <i>KOGLER & ASSOC</i>		Department/Floor No.		Company <i>FL Dept. of Env. Reg.</i>		Department/Floor No.			
Street Address <i>4014 NW 13TH ST</i>				Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) <i>2600 Blair Stone Rd</i>					
City <i>GAINSVILLE</i>		State <i>FL</i>		City <i>Tallahassee FL</i>		State <i>FL</i>			
ZIP Required <i>32609</i>		ZIP Required <i>32309</i>		ZIP Required <i>32309</i>		ZIP Required			
YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.) <i>521-92-04</i>						IF HOLD FOR PICK-UP, Print FEDEX Address Here			
PAYMENT ¹ <input type="checkbox"/> Bill Sender		² <input type="checkbox"/> Bill Recipient's FedEx Acct. No.		³ <input type="checkbox"/> Bill 3rd Party FedEx Acct. No.		⁴ <input type="checkbox"/> Bill Credit Card			
⁵ <input type="checkbox"/> Cash		<input type="checkbox"/> Check		City		State			
⁶ <input type="checkbox"/> Check				City		State			
4 SERVICES (Check only one box)		5 DELIVERY AND SPECIAL HANDLING (Check services required)		6 PACKAGES		WEIGHT in Pounds Only			
Priority Overnight (Delivery by next business morning) 11 <input type="checkbox"/> YOUR PACKAGING 16 <input type="checkbox"/> FEDEX LETTER 12 <input type="checkbox"/> FEDEX PAK 13 <input type="checkbox"/> FEDEX BOX 14 <input type="checkbox"/> FEDEX TUBE		Standard Overnight (Delivery by next business afternoon) 51 <input type="checkbox"/> YOUR PACKAGING 56 <input type="checkbox"/> FEDEX LETTER 52 <input type="checkbox"/> FEDEX PAK 53 <input type="checkbox"/> FEDEX BOX 54 <input type="checkbox"/> FEDEX TUBE		1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box #) 2 <input checked="" type="checkbox"/> DELIVER WEEKDAY 3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge) 4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge) 5 <input type="checkbox"/> 6 <input type="checkbox"/> DRY ICE _____ Lbs. 7 <input type="checkbox"/> OTHER SPECIAL SERVICE _____ 8 <input type="checkbox"/> 9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge) 10 <input type="checkbox"/> 11 <input type="checkbox"/> DESCRIPTION _____ 12 <input type="checkbox"/> HOLIDAY DELIVERY (if offered) (Extra charge)		Total		Total	
Economy Two-Day (Delivery by second business day) 30 <input type="checkbox"/> ECONOMY		Government Overnight (Restricted to authorized users only) 46 <input type="checkbox"/> GOVT LETTER 41 <input type="checkbox"/> GOVT PACKAGE		DIM SHIPMENT (Chargeable Weight) <input type="checkbox"/>		YOUR DECLARED VALUE			
Freight Service (for Extra Large or any package over 150 lbs) 70 <input type="checkbox"/> OVERNIGHT FREIGHT 80 <input type="checkbox"/> TWO-DAY FREIGHT				1 <input type="checkbox"/> Regular Stop		4 <input type="checkbox"/> B.S.C.			
† Delivery commitments may be later in some areas.		**Declared Value Limit \$100. **Call for delivery schedule.		2 <input type="checkbox"/> On-Call Stop		5 <input type="checkbox"/> Station			
				Emp. No.		Date			
				<input type="checkbox"/> Cash Received		Federal Express Use			
				<input type="checkbox"/> Return Shipment		Base Charges			
				<input type="checkbox"/> Third Party <input type="checkbox"/> Chg. To Del. <input type="checkbox"/> Chg. To Hold		Declared Value Charge			
				Street Address		Other 1			
				City State Zip		Other 2			
				Received By: <i>X</i>		Total Charges			
				Date/Time Received		REVISION DATE 6/91 PART #137204 FXEM 2/92 FORMAT #099			
				FedEx Employee Number		099			
				Release Signature: _____		© 1990-91 FEDEX PRINTED IN U.S.A.			
				FedEx Emp. No. <i>174</i>		Date/Time			

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Nitrogen Oxides Emission Increase

The revised net NOx emission increases from the proposed project are:

$$\begin{aligned}\text{Hourly NOx increase} &= (250.0 - 158.4) \text{ lbs/hr} \\ &= 91.6 \text{ lbs/hr}\end{aligned}$$

$$\begin{aligned}\text{Annual NOx increase} &= (1025.0 - 625.4) \text{ tons per year} \\ &= 399.6 \text{ tpy}\end{aligned}$$

While the revised emission increases are slightly higher than the 87.7 pounds per hour and 359.6 tons per year presented in the application, it should be noted that the PSD rule applicability will remain unchanged.

Ambient Air Quality Impact Analysis

Air dispersion modeling was conducted using the EPA approved ISC-ST2 model with the revised "actual" NOx emission rate of 158.4 pounds per hour. The Class I area PSD increment analysis included the nitrogen dioxide emission source inventory provided by Mr. Cleve Holladay of FDER.

The Class II area modeling results summarized in Table 1 show that the maximum predicted ambient air quality impacts from the proposed project are less than significant, as defined by FAC Rule 17-2.100, and also below the FDER No-Threat-Levels.

The Class I area modeling results summarized in Table 2 show that the maximum predicted cumulative PSD increment consumption (including the proposed project) is 0.32 $\mu\text{g}/\text{m}^3$, or about 13 percent of the allowable Class I area nitrogen dioxide increment.

The computer modeling output is presented in the Appendix. A diskette is also enclosed.

Visibility Analysis

The VISCREEN analysis, conducted in accordance with the EPA modeling guidelines, was revised based on the approach recommended by FDER and the National Park Service. The visibility impact of the proposed NOx increase was further compared with the visibility impact of the total emissions from Kiln No. 2.

As the proposed project had exceeded the Level 1 visibility screening test criteria, a Level 2 visibility analysis was performed. The results presented in Table 3 show that the requested increase in the allowable NOx emissions is not expected to result in adverse visibility impacts in the Class I area.



The computer output is presented in the Appendix.

2. Please redo the NO₂ PSD Class I cumulative increment modeling using the corrected input value referenced in Comment #1 above and all of the increment consuming sources previously identified.

RESPONSE: See Response 1.

3. The proposed project fails a Level 1 visibility screening test using the recommended default values in the VISCREEN model. Therefore, please perform a Level 2 visibility screening analysis (and, if necessary, a Level 3) for the project.

RESPONSE: See Response 1.

4. Please address the comments contained in the attached letters (i.e., Hernando County and National Park Service). Where the comment(s) is/are duplicated, please refer to a previous answer.

Hernando County Board of County Commissioners Questions:

- A. Describe the history of NO_x emissions from Kiln No. 2 including any changes in permitted emission rates, the reasons for those changes, and any violations of emission levels.

RESPONSE: The requested information is presented in Attachment 1.

- B. Provide the history of NO_x emissions related to Kiln No. 1 and describe any restrictions of NO_x emissions from said kiln.

RESPONSE: A history of NO_x emissions for Kiln No. 1 is not available since annual NO_x emission testing is not required by the air permit for Kiln No. 1. A single NO_x emission determination for Kiln No. 1 was performed on February 28, 1992 in keeping with permit requirements for this unit. This information was submitted to FDER and showed an average of 321.8 pounds per hour of NO_x at a 130 tons per hour kiln feed rate.



- C. Provide a summary of the results of oxygen levels taken from the continuous exhaust gas oxygen monitor. Identify the point at which the oxygen levels would be representative of excess air in the kiln.

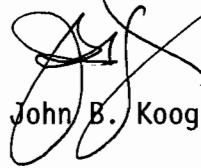
RESPONSE: Excess oxygen levels representative of typical unit operation are submitted to the FDER as part of the annual air compliance test for Kiln No. 2. The information submitted to FDER for the March 24, 1992 compliance test indicates average excess oxygen levels of 0.922 percent at a raw material feed rate of 140.88 tons per hour to the preheater. The excess oxygen is determined by a probe located at the feed inlet to the kiln. The excess oxygen at this point represents excess combustion air supplied to the kiln.

Response 1 addresses the National Park Service comments on the proposed project.

If you have questions, please do not hesitate to give me call.

Very truly yours,

KOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:wa
Enc.

c: Mr. D. Kelly, Southdown
Ms. A. Lue, Southdown
Mr. A. Gill, Southdown
Mr. B. Thomas, FDER, Tampa
Ms. C. Shaver, NPS
Ms. J. Harper, EPA
Mr. C. Hetrick, HCBCC
Mr. G. Smallridge, FDER, OGC
B. Mitchell
C. Holladay

TABLE 1
SUMMARY OF NITROGEN OXIDES IMPACT ANALYSIS
SOUTHDOWN, INC.
HERNANDO COUNTY, FLORIDA

METEOROLOGICAL	CLASS II AREA NITROGEN OXIDES IMPACT ($\mu\text{g}/\text{m}^3$)*		
DATA	ANNUAL	8-HOUR	24-HOUR
1982	0.53	11.77	5.26
1983	0.36	10.48	6.18
1984	0.46	16.43	5.37
1985	0.46	12.79	8.90
1986	0.49	11.45	5.14
Significant Impact 17-2.100, FAC	1.0	NA	NA
De minimis Impact 17-2.500(3)(e)1, FAC	14	NA	NA
Ambient Standard 17-2.300(3)(e), FAC	100	NA	NA
PSD Increment, Class II 17-2.310, FAC	25	NA	NA
FDER No-Threat Levels (Permitting Guidelines)	NA	60.0	14.4

* The maximum predicted impacts are based on the increase in NOx emissions from Kiln No. 2 of 91.6 lbs/hr (11.55 g/s).



TABLE 2
 SUMMARY OF NITROGEN OXIDES CLASS I AREA INCREMENT CONSUMPTION
 SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

METEOROLOGICAL DATA	CUMULATIVE NITROGEN DIOXIDE INCREMENT CONSUMPTION ($\mu\text{g}/\text{m}^3$) ANNUAL
1982	0.32
1983	0.28
1984	0.29
1985	0.29
1986	0.30
Class I PSD Increment 17-2.310, FAC	2.5



TABLE 3
 VISIBILITY ANALYSIS RESULTS
 SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Crit	Delta E		Contrast	
						Crit	Plume	Crit	Plume
SKY	10.	115.	18.1	54.	2.00	.714	.05	-.002	
SKY	140.	115.	18.1	54.	2.00	.232	.05	-.002	
TERRAIN	10.	84.	16.1	84.	2.00	.209	.05	.001	
TERRAIN	140.	84.	16.1	84.	2.00	.068	.05	.001	

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Crit	Delta E		Contrast	
						Crit	Plume	Crit	Plume
SKY	10.	25.	11.5	144.	2.00	.836	.05	-.003	
SKY	140.	25.	11.5	144.	2.00	.272	.05	-.003	
TERRAIN	10.	5.	5.0	164.	2.00	.383	.05	.002	
TERRAIN	140.	5.	5.0	164.	2.00	.126	.05	.002	

NOTE: The above analysis is based on the increase in NOx emissions from Kiln No. 2 of 91.6 lbs/hr (11.55 g/s).



ATTACHMENT 1
NITROGEN OXIDES EMISSION HISTORY



SOUTHDOWN, INC.

BROOKSVILLE PLANT
Kiln No. 2

Permitted Emissions for NOx

Date	NOx Permitting Activity	NOx Limit	Kiln Feed Rate	Kiln Operating Hours
May 12, 1980	Application for Permit to Construct Kiln No. 2 and Associated Equipment	195.3 lb/hr 771.0 tn/yr	120 tn/hr	8,760
July 25, 1981	Construction Permit No. AC27-30450 •PSD-FL-063 (PSD Review)	195.3 lb/hr 771.0 tn/yr	120 tn/hr	7,896
August 29, 1983	Operating Permit No. AC27-65207	195.3 lb/hr 771.0 tn/yr	120 tn/hr	7,896
August 28, 1987	Application for Construction Permit •To increase NOx Limits	330.0 lb/hr 1247.4 tn/yr	120 tn/hr	7,896
November 3, 1988	Construction Permit AC27-138850 •PSD-FL-124 (PSD Review) •BACT determined for NOx •PSD Compliance for NOx was established	250.0 lb/hr 987.0 tn/yr	120 tn/hr	7,896
December 1, 1989	Application to amend Permit AC27-138850 •To increase operating hours	244.0 lb/hr 1025.0 tn/yr	130 tn/hr	8,400
March 21, 1990	Addendum to Application to Amend Permit No. AC27-138850	247.0 lb/hr	130 tn/hr	8,200
July 25, 1990	Construction Permit No. AC27-173474	162.3 lb/hr 665.3 tn/yr	130 tn/hr	8,200
May 9, 1991	Operating Permit No. AC27-194660	162.3 lb/hr 665.3 tn/yr	130 tn/hr	8,200

SOUTHDOWN, INC.

BROOKSVILLE PLANT
Kiln No. 2

Discussion of Permitted NOx Emissions

Date	NOx Permitting Activity	NOx Limit	Kiln Feed Rate	Kiln Operating Hours
May 12, 1980	Application for Permit to Construct Kiln No. 2 and Associated Equipment	195.3 lb/hr 771.0 tn/yr	120 tn/hr	8,760
July 25, 1981	Construction Permit No. AC27-30450 •PSD-FL-063 (PSD Review)	195.3 lb/hr 771.0 tn/yr	120 tn/hr	7,896
August 29, 1983	Operating Permit No. AC27-65207	195.3 lb/hr 771.0 tn/yr	120 tn/hr	7,896
<ul style="list-style-type: none"> • In 1984 and 1985, compliance testing showed NOx emission rates below the permitted levels of 195.3 lb/hr. • In April and May 1986, compliance testing demonstrated NOx emission rates of 403 lb/hr and 244 lb/hr. This exceedence was due primarily to the high ammonia concentration in the fly ash from Tampa Electric. To verify this, all fly ash containing ammonia was flushed from the kiln system. The kiln system was then retested in August 1986. The resulting NOx emissions were considerably below the 195.3 lb/hr limit. • In November 1986, FDER and FMM met to discuss the matter. FMM agreed to submit an application to increase the NOx emission limits, and to comply with the current NOx emission limit by limiting the amount of the particular fly ash until permit approval is obtained. As a result of the meeting, this issue was resolved and a Consent Order was issued. • January 12, 1987 -- FDER issued Consent Order No. 06C-86-1471 for NOx exceedence during compliance testing in April and May 1986. FMM paid a \$13,560 fine in settlement. 				
<p>NOTE: Southdown, Inc. acquired the Brooksville plant on April 7, 1988.</p>				

Date	NOx Permitting Activity	NOx Limit	Kiln Feed Rate	Kiln Operating Hours
August 28, 1987	Application for Construction Permit •To increase NOx Limits	330.0 lb/hr 1247.4 tn/yr	120 tn/hr	7,896
November 3, 1988	Construction Permit AC27-138850 •PSD-FL-124 (PSD Review) •BACT determined for NOx •PSD Compliance for NOx was established	250.0 lb/hr 987.0 tn/yr	120 tn/hr	7,896
<ul style="list-style-type: none"> • In August 1987, FMM submitted an application to increase the NOx from 195.3 lb/hr to 330 lb/hr (an emission level of 330 lb/hr allows 195.3 lb/hr due to combustion of NOx and 134.7 lb/hr due to fly ash contribution). The proposed increase was not a result of a higher production rate or change in operations. • BACT analysis for NOx was submitted with the permit application (see Attachment 1). • BACT determination was issued by FDER on November 3, 1988 (see Attachment 2). • Actual emissions of NOx will be minimized through the use of low excess air firing. A continuous kiln exhaust gas oxygen monitor shall be installed, calibrated, operated and maintained in proper working order. 				

Date	NOx Permitting Activity	NOx Limit	Kiln Feed Rate	Kiln Operating Hours
December 1, 1989	Application to amend Permit AC27-138850 •To increase operating hours	244.0 lb/hr 1025.0 tn/yr	130 tn/hr	8,400
March 21, 1990	Addendum to Application to Amend Permit No. AC27-138850	247.0 lb/hr	130 tn/hr	8,200
July 25, 1990	Construction Permit No. AC27-173474	162.3 lb/hr 665.3 tn/yr	130 tn/hr	8,200
May 9, 1991	Operating Permit No. AC27-194660	162.3 lb/hr 665.3 tn/yr	130 tn/hr	8,200
<ul style="list-style-type: none"> • On October 20, 1989, FMM met with FDER and advised that the plant was having difficulty in complying with the stringent air permit limitations. • FDER indicated that the plant could increase the permitted hours of operation without triggering PSD if it could show a lower pounds per hour of emissions. • FMM provided test data showing low NOx levels which became FMM permit limitations. • By letter dated January 10, 1990, EPA, Region IV, advised that the netting calculations performed by applicant were incorrect. EPA alleged that FMM used permitted allowable emissions as actual emissions rather than using existing emissions based on the previous two years of operating data. • FMM submitted an Addendum to its Application in response to EPA comments and accepted the emission calculations in the manner suggested, in an effort to avoid delay in the permitting process. FMM revised the annual hours of operation from 8,400 hours to 8,200 hours/year as requested. • FMM advised that the new proposed limits on NOx of 162.3 lb/hr are severely restrictive and difficult to achieve. FMM advised that the 250.0 lb/hr limit will be pursued with EPA, Region IV. • EPA's Final Determination indicated that EPA's policy on netting calculations will not allow an increase in the proposed limit. To obtain a higher limit, the application would have to be refiled under the PSD rule. • On July 25, 1990, FDER issued a construction permit and, based upon the highest two 1989 stack test results, concluded that the new allowable NOx limit should be 162.3 lb/hr. • Permit issuance resulted in a 25% reduction in the NOx limit for a 3% increase in operating hours. • In 1991, FMM demonstrated compliance with the NOx emission limit of 162 lb/hr with a 110 lb/hr emission rate. The permit limit of 162 lb/hr represents 2 lb/tn of clinker. This may be the lowest NOx limit for a cement kiln in the country. 				

ATTACHMENT 1

Included with FM&M
Submittal dated April 20, 1988,
submitting additional informatior
to be included with
Permit Application dated
August 28, 1987.

BACT Analysis For NOx

A summary of NOx emission factors and the associated pollution control systems for Portland Cement Plans are enclosed for permitted Florida facilities and nationwide facilities. This data shows that the NOx emission factors range from 2.50 lbs of NOx per ton of clinker to 7.98 lbs. of NOx per ton of clinker. The proposed FM&M emission rate of 320 lbs. per hour is the lowest emission rate for Florida facilities. The proposed FM&M emission factor of 4.65 lbs. of NOx per ton of clinker is in the mid range of values on a nationwide basis.

An important consideration is that the original NOx emission rate of 195 lbs per hour is the lowest in the nation and the resulting emission factor of 2.75 lbs. of NOx per ton of clinker is one of the lowest in the nation. Actual testing of the FM&M facility prior to the addition of ammonia to the flyash shows emission rates between 11.9 to 141.2 lbs. per hour. Unfortunately, the addition of ammonia to the fly ash results in a substantial increase in NOx emissions. These emissions are not directly controlled by combustion refinement but are more a product of high kiln temperatures and the ammonia source of nitrogen.

The alternatives to using ammonia fly ash in the kiln are (1) disposing of the fly ash in a landfill or other containment area (2) the elimination of ammonia from the flyash. The placing of ammonia contaminated flyash in a landfill provides for potential serious groundwater contamination. The elimination of ammonia from the flyash would result in serious H₂SO₄ mist emissions from Tampa Electric Big Bend 3. The use of this flyash in a cement product provides for the best overall solution with a minimal environmental impact. This is especially true when the ground level impact is considered.

FDER BACT DETERMINATION
Issued by FDER on November 3, 1988
(November 3, 1988)

BACT Determined by FDER

- 12.0 lb/hr SO₂
- 250.0 lb/hr NO_x

- Based on the application's operating schedule of 7,560 hr/yr, the proposed increases (20 lb/hr for SO₂ and 330 lb/hr for NO_x in hourly emission limitations would result in annual emission increases of 64.3 and 509.2 tn/yr. These annual increases each exceed the 40 tons per year significant emission increase, thus requiring a BACT determination.

BACT Determination Rationale:

- Compliance Testing results for a four (4) year period beginning April 1983 indicate that the SO₂ emissions range from a low of 2.4 lb/hr to a high of 11.99 lb/hr with the highest measurement occurring back in April of 1983.
- Based on this finding, it appears that the requested level of 20 lb/hr is much higher than would be expected from the facility. FDER judges that 12.0 lb/hr appears to be more reasonable.
- Compliance Testing results for a four (4) year period referred to above indicate that NO_x emissions ranged from a low of 111.9 lb/hr to a high of 403 lb/hr. Of the six measurements, the highest reading of 403 lb/hr was well above the other measurements which averaged 159.6 lb/hr.
- Based on the test data, FDER judges BACT to be 250.0 lb/hr. FDER believes the 403.0 reading should not be judged to be representative of the multi-year operation. In addition, FDER states that this NO_x emission level is quite typical as BACT for other cement kilns of similar size.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

MAY 29 1992

RECEIVED

JUN 1 1992

Division of Air
Resources Management

4APT-AEB

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

RE: Southdown Inc., Florida Mining and Materials
PSD Permit Modification (PSD-FL-188)

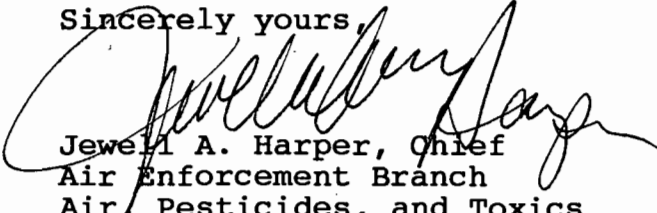
Dear Mr. Fancy:

This is to acknowledge receipt of the Prevention of Significant Deterioration (PSD) permit modification package for the above referenced facility, by your letter dated April 23, 1992. The proposed modification will increase the nitrogen oxides emission limit of the No. 2 cement kiln at the facility.

The proposed emission limit for the No. 2 cement kiln will be 250.0 pounds per hour; presently the kiln is permitted at 162.3 pounds per hour (both on 30-day averages). Southdown proposes to limit NO_x emissions through the use of proper operation practices and by controlling the excess combustion air.

We have reviewed the package as submitted and have no adverse comments. Thank you for the opportunity to review and comment on this package. If you have any questions or comments, please contact Mr. Scott Davis of my staff at (404) 347-5014.

Sincerely yours,


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

cc: D. Mitchell
C. Holladay
B. Thomas, SW Dist
C. Sharer, NPS
C. Nettick, HCBC
eHF/BA/PL

P 710 058 486



Certified Mail Receipt

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

Signature <i>Charles Detrick</i>	
Street & No. <i>Hernando Cty Bd of CC</i>	
P.O., State & ZIP Code <i>Brooksville, FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date <i>6-5-92</i>	
<i>AC 27-212252</i>	
<i>PSD-FL-188</i>	

PS Form 3800, June 1990

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 Fee will provide you the signature of the person delivered to and the date of delivery.

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

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Charles B. Detrick
Hernando Cty Board of CCs
20 N main St - Rm 460
Brooksville, FL 34601

4a. Article Number
P 710 058 486

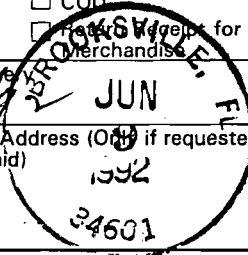
4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
6/9/92 JUN

5. Signature (Addressee)
PA Lang

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)
1392
34601





Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 2, 1992

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Charles B. Hetrick
County Administrator
Hernando County Board of County Commissioners
20 N. Main Street, Room 460
Brooksville, Florida 34601

Dear Mr. Hetrick:

Re: Completeness Letter on FM&M's Request for a Modification
No. 2 Kiln: AC 27-212252 and PSD-FL-188

The Department has reviewed your letter, which was received May 22, 1992, regarding the above referenced project currently being evaluated by the Department's Bureau of Air Regulation and Southwest District. As you can see by the enclosure, your letter was attached to the Department's incompleteness letter, that was sent on May 22, 1992, and requires a response on the contents of your letter.

You also raised a point of having an informal meeting prior to the Department issuing its Intent. As was done in April, we feel that informal meetings, as opposed to administrative hearings, is an excellent way to resolve certain issues. However, a meeting seems premature until the Department's Intent is prepared. The Department will issue its Intent after the application is deemed complete, and await your comments to see if there is a need to hold such a meeting.

If there are any questions, please call Bruce Mitchell at (904)488-1344 or write to me at the above address.

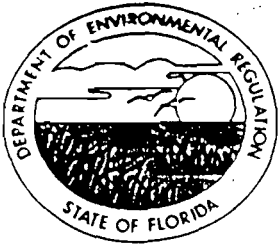
Sincerely,

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

HLR/rbm

Enclosure

cc: B. Thomas, SW District
W. Congdon, Esq., DER
D. Beason, Esq., DER



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

May 22, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Don Kelly, Plant Manager
Florida Mining & Materials
Post Office Box 6
Brooksville, Florida 34605-0006

Dear Mr. Kelly:

Re: Completeness Review for a Modification Request
Kiln No. 2
AC 27-212252 and PSD-FL-188

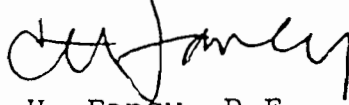
The Department has reviewed the application package and supplementary information received on April 22 and May 5, 1992, respectively. Based on a technical review of the material, the application package is deemed incomplete. Therefore, please submit to the Department's Bureau of Air Regulation the following information, including all calculations, assumptions and reference material, and the status will, again, be ascertained:

1. Due to source obligation, the NO_x emission evaluation has to begin from the previously established "actuals" of 158.4 lbs/hr (@ 7896 hrs/yr; 625.4 tons/yr; AC 27-173474-signed July 20, 1990) instead of the previous allowables of 162.3 lbs/hr. Therefore, please correct and reevaluate the proposal under this direction.
2. Please redo the NO₂ PSD Class I cumulative increment modeling using the corrected input value referenced in comment # 1 above and all of the increment consuming sources previously identified.
3. The proposed project fails a Level 1 visibility screening test using the recommended default values in the VISCREEN model. Therefore, please perform a Level 2 visibility screening analysis (and, if necessary, a Level 3) for the project.
4. Please address the comments contained in the attached letters (i.e., Hernando County and National Park Service). Where the comment(s) is/are duplicated, please refer to a previous answer.

Mr. Don Kelly
Page 2

If there are any questions, please call Bruce Mitchell or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,



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

CHF/BM/rbm

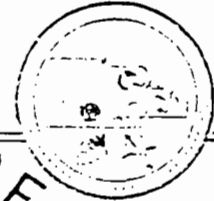
Attachments

cc: B. Thomas, SWD
J. Koogler, Ph.D., P.E., K&A
C. Shaver, NPS
J. Harper, EPA
C. Hetrick, HCBCC
G. Smallridge, Esq., DER

Attachments

Board of County Commissioners

Hernando County



20 N. Main Street, Room 460
Brooksville, FL 34601

May 13, 1992 (904) 784-4000

Division of Air
Resources Management

RECEIVED
MAY 20 1992
FAC (904) 734-4477

Secretary Carol Browner
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Secretary Browner:

At the request of Mr. Clare Fancy of the Bureau of Air Regulation, Hernando County staff has reviewed the application for Florida Mining and Materials Kiln No. 2 Modification (AC 27212252, PSD-FL-188). Several questions resulted as part of the review, and the need for additional information was identified.

- 1) Describe the history of NOX emissions from kiln #2 including any changes in permitted emission rates, the reasons for those changes, and any violations of emission levels.
- 2) Provide the history of NOX emissions related to kiln #1 and describe any restrictions of NOX emissions from said kiln.
- 3) Provide a summary of the results of oxygen levels taken from the continuous exhaust gas oxygen monitor. Identify the point at which the oxygen levels would be representative of excess air in the kiln.

The Hernando County Board of County Commissioners addressed the modification in a Board meeting on May 12, 1992 and requested that the Department of Environmental Regulation schedule an informal meeting in Hernando County prior to issuance of any Intent in order to discuss the additional information needed. This meeting would also allow for questions raised by residents of the County during the May 12 meeting to be answered. Attendance by members of the Bureau of Air Regulation, the Office of General Counsel, and the Tampa District Office would be beneficial.

Please contact the County to discuss the logistics of establishing this meeting. Your assistance is appreciated.

Sincerely,

Charles B. Hetrick
County Administrator

cc: Lawrence Jennings, Planning Department Manager
Tony Cleveland, Oertel, Hoffman, Fernandez and Cole, P.A.
Clare Fancy, DER, Tallahassee
Richard Garrity, DER, Tampa

BEST AVAILABLE COPY

5/17/92

DRAFT

Brown
Do you have a copy of this?
Preston

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:

We have completed our review of the material that you sent us regarding Southdown Inc.'s proposal to modify their existing Prevention of Significant Deterioration (PSD) permit. Southdown Inc., doing business as Florida Mining and Materials (FMM), operates a portland cement manufacturing facility and is proposing to increase the allowable emission rate of nitrogen oxides (NO_x) from the existing No. 2 cement kiln from 162.3 to 250.0 pounds per hour, 30-day average. The higher allowable hourly emission rate will result in a significant increase in NO_x emissions from the No. 2 kiln from 665.4 to 1025.0 tons per year. The facility is located near Brooksville, Florida, approximately 14 km east of the Chassahowitzka Wilderness Area, a Class I air quality area administered by the U.S. Fish and Wildlife Service.

We are pleased that the State required the applicant to submit additional analyses regarding cumulative increment consumption and visibility impacts. However, we do have some concerns regarding these analyses and the completeness of the application.

It should be made clear that the Class I PSD increment is for nitrogen dioxide (NO₂) and not for NO_x as referred to in the application and the supplemental analyses. The technique of summing previously modeled maximum impacts from other increment-consuming sources to predict the total NO₂ increment consumption is unconventional and it is not clear that all analyses used the same meteorological data set. If all analyses used the same meteorological data, we are willing to accept the analysis as an initial impact estimate for this application because there are a limited number of NO_x sources in the area and the total estimated impacts are low (0.19 ug/m³ annual average).

A visibility analysis was performed by the applicant as a supplemental analysis. The results are characterized as potential impacts from the proposed modification using VISCREEN Level 1 analysis. These results are neither a Level 1 or Level 2 analysis. Any changes to the default meteorological inputs used for the wind speed voids it as a Level 1 screening analysis. As indicated in the Environmental Protection Agency's Workbook for Plume Visual Impact Screening and Analysis (September 1988) "For Level-1 plume visual impact screening the analyst should use the default input offered in Viscreen." Therefore, we performed an analysis using the screening Level 1 as recommended in the September 1988 workbook.

DRAFT

Our results showed that the proposed project fails the Level-1 screening test.

The next step is to perform a Level-2 screening analysis. This involves the use of less conservative assumptions as input to the model. For a Level-2 screening analysis the workbook calls for "the worst-case wind direction and speed and atmospheric stability". It recommends as important input "the joint frequency distribution of these parameters as measured at or near the location of the emission source." The applicant's analysis used a higher wind speed than the Level-1 default value and justified it by stating that it is "a more realistic wind speed." This is not a criteria for input in VISCREEN screening analyses.

The applicant needs to perform a Level-2 (and if necessary a Level-3) analysis for the proposed project according to the specifications in the workbook. Until this is done one cannot conclude that the proposed project will not impair visibility in the Chassahowitzka Wilderness Area.

We appreciate the opportunity to comment on the completeness of FMM's permit application. If you have any further questions regarding this matter, please contact Bud Rolofson of our Air Quality office in Denver at (303) 969-2071.

Sincerely,

James W. Pulliam, Jr.
Regional Director

cc: Jellell 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-WASO: Don Voros, Chief, Resource Management
FWS-REG. 4: AQC
FWS-REG. 6: Ty Berry
CHAS: Refuge Manager
AQD-DEN: Bud Rolofson
National Park Service - AIR
P.O. Box 25287
Denver, CO 80225

BEST AVAILABLE COPY

Preston



United States Department of the Interior

NATIONAL PARK SERVICE
AIR QUALITY DIVISION
P.O. BOX 25287
DENVER, CO 80225

IN REPLY REFER TO:

DATE: 3/15/90

TIME: 11:30 AM

FAX PHONE NO. ETS 327-2822 or (303) 969-2822

NUMBER OF PAGES TO FOLLOW: 2

TO: Clair Fancy
FDEP PHONE: 922-6979

FROM: Bud Roloffson - FWS
PHONE: 303-969-2804

SUBJECT: Southdown Completeness Review

REMARKS: We are sending an unsigned draft for
your use. Signed copy will follow

J. Smallwood
Judy Rogers handle

Board of County Commissioners

Hernando County



20 N. Main Street, Room 460
Brooksville, FL 34601

May 13, 1992 (904) 754-4000

FAX (904) 754-4477

Secretary Carol Browner
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Secretary Browner:

At the request of Mr. Clare Fancy of the Bureau of Air Regulation, Hernando County staff has reviewed the application for Florida Mining and Materials Kiln No. 2 Modification (AC 27212252, PSD-FL-188). Several questions resulted as part of the review, and the need for additional information was identified.

- 1) Describe the history of NOX emissions from kiln #2 including any changes in permitted emission rates, the reasons for those changes, and any violations of emission levels.
- 2) Provide the history of NOX emissions related to kiln #1 and describe any restrictions of NOX emissions from said kiln.
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Please contact the County to discuss the logistics of establishing this meeting. Your assistance is appreciated.

Sincerely,

Charles B. Hetrick
County Administrator

cc: Lawrence Jennings, Planning Department Manager
Tony Cleveland, Oertel, Hoffman, Fernandez and Cole, P.A.
Clare Fancy, DER, Tallahassee
Richard Garrity, DER, Tampa

RECEIVED

MAY 22 1992

Division of Air
Resources Management

RECEIVED

MAY 18 1992

D.E.R. OFFICE
OF THE SECRETARY

Department of Environmental Regulation
Routing and Transmittal Slip

To: (Name, Office, Location)

1. ~~Clay~~ AI: DARM 577
2. Due: 6-2-92
3. Preston 5/27
- 4.

Remarks:

Draft response for Howard's
signature.

pls have Bruce
draft response

Clay

From:

Judy

Date

5-26

Phone

Department of Environmental Regulation
HETRIX Mail Response — Action Slip

Date out: 5.21

Action Item No. 5.050

DATE DUE: 6.4.92

TO:

Mark Latch

Richard Harvey

Dan Thompson

Mike Peyton

Steve Smallwood

John Ruddell

Mimi Drew

Gil Bergquist

Dana Minerva

Other _____

RECEIVED

MAY 22 1992

ACTION:

Handle

Draft Resp. CMB

Draft for Gov.

Respond, Your Signature Division of Air Resources Management

Other _____

(ITEMS for Secretary's Signature **MUST** be reviewed by Division and Secretary's Staff)

Draft Reviewed by (Div.) _____ Date _____ Reviewed by (O.Sec.) _____ Date _____

Return to Doris Hayes **NO LATER THAN:** 6.4.92

P 710 058 535



Certified Mail Receipt

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

PS Form 3800, June 1990

Sent to	
Mr. Don Kelly, Plant Mgr.	
Street & No. FM&M	
P.O. Box 6	
P.O., State & ZIP Code Brooksville, FL 34605-0006	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date mailed: 5/22/92	
AC 27-212252 and PSD-FL-188	

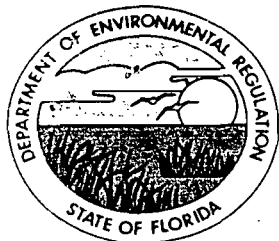
SENDER:

- 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 next to the article number.

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

1. Addressee's Address
 2. Restricted Delivery
- Consult postmaster for fee.

3. Article Addressed to: Mr. Don Kelly, Plant Mgr. FM&M P.O. Box 6 Brooksville, FL 34605-0006	4a. Article Number P 710 058 535
	4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
	7. Date of Delivery 5-26-92
5. Signature (Addressee)	8. Addressee's Address (Only if requested and fee is paid)
6. Signature (Agent) <i>B. Stevenson</i>	



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

May 22, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Don Kelly, Plant Manager
Florida Mining & Materials
Post Office Box 6
Brooksville, Florida 34605-0006

Dear Mr. Kelly:

Re: Completeness Review for a Modification Request
Kiln No. 2
AC 27-212252 and PSD-FL-188

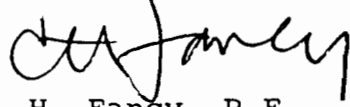
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4. Please address the comments contained in the attached letters (i.e., Hernando County and National Park Service). Where the comment(s) is/are duplicated, please refer to a previous answer.

Mr. Don Kelly
Page 2

If there are any questions, please call Bruce Mitchell or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,



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

CHF/BM/rbm

Attachments

cc: B. Thomas, SWD
J. Koogler, Ph.D., P.E., K&A
C. Shaver, NPS
J. Harper, EPA
C. Hetrick, HCBCC
G. Smallridge, Esq., DER

Ready file }
Bruce } 5-22-92 gsm
Cleve }

Attachments

Board of County Commissioners

Hernando County



20 N. Main Street, Room 460
Brooksville, FL 34601

May 13, 1992 (904) 754-4600

FAX (904) 754-4477

RECEIVED
MAY 18 1992
Division of Air
Resources Management

Secretary Carol Browner
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Secretary Browner:

At the request of Mr. Clare Fancy of the Bureau of Air Regulation, Hernando County staff has reviewed the application for Florida Mining and Materials Kiln No. 2 Modification (AC 27212252, PSD-FL-188). Several questions resulted as part of the review, and the need for additional information was identified.

- 1) Describe the history of NOX emissions from kiln #2 including any changes in permitted emission rates, the reasons for those changes, and any violations of emission levels.
- 2) Provide the history of NOX emissions related to kiln #1 and describe any restrictions of NOX emissions from said kiln.
- 3) Provide a summary of the results of oxygen levels taken from the continuous exhaust gas oxygen monitor. Identify the point at which the oxygen levels would be representative of excess air in the kiln.

The Hernando County Board of County Commissioners addressed the modification in a Board meeting on May 12, 1992 and requested that the Department of Environmental Regulation schedule an informal meeting in Hernando County prior to issuance of any Intent in order to discuss the additional information needed. This meeting would also allow for questions raised by residents of the County during the May 12 meeting to be answered. Attendance by members of the Bureau of Air Regulation, the Office of General Counsel, and the Tampa District Office would be beneficial.

Please contact the County to discuss the logistics of establishing this meeting. Your assistance is appreciated.

Sincerely,

A handwritten signature in cursive script, appearing to read "Charles B. Hetrick".

Charles B. Hetrick
County Administrator

cc: Lawrence Jennings, Planning Department Manager
Tony Cleveland, Oertel, Hoffman, Fernandez and Cole, P.A.
Clare Fancy, DER, Tallahassee
Richard Garrity, DER, Tampa

5/17/92

Brown
 Do you have
 a copy of this?
Preston

DRAFT

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:

We have completed our review of the material that you sent us regarding Southdown Inc.'s proposal to modify their existing Prevention of Significant Deterioration (PSD) permit. Southdown Inc., doing business as Florida Mining and Materials (FMM), operates a portland cement manufacturing facility and is proposing to increase the allowable emission rate of nitrogen oxides (NO_x) from the existing No. 2 cement kiln from 162.3 to 250.0 pounds per hour, 30-day average. The higher allowable hourly emission rate will result in a significant increase in NO_x emissions from the No. 2 kiln from 665.4 to 1025.0 tons per year. The facility is located near Brooksville, Florida, approximately 14 km east of the Chassahowitzka Wilderness Area, a Class I air quality area administered by the U.S. Fish and Wildlife Service.

We are pleased that the State required the applicant to submit additional analyses regarding cumulative increment consumption and visibility impacts. However, we do have some concerns regarding these analyses and the completeness of the application.

It should be made clear that the Class I PSD increment is for nitrogen dioxide (NO₂) and not for NO_x as referred to in the application and the supplemental analyses. The technique of summing previously modeled maximum impacts from other increment-consuming sources to predict the total NO₂ increment consumption is unconventional and it is not clear that all analyses used the same meteorological data set. If all analyses used the same meteorological data, we are willing to accept the analysis as an initial impact estimate for this application because there are a limited number of NO_x sources in the area and the total estimated impacts are low (0.19 ug/m³ annual average).

A visibility analysis was performed by the applicant as a supplemental analysis. The results are characterized as potential impacts from the proposed modification using VISCREEN Level 1 analysis. These results are neither a Level 1 or Level 2 analysis. Any changes to the default meteorological inputs used for the wind speed voids it as a Level 1 screening analysis. As indicated in the Environmental Protection Agency's Workbook for Plume Visual Impact Screening and Analysis (September 1988) "For Level-1 plume visual impact screening, the analyst should use the default input offered in Viscreen." Therefore, we performed an analysis using the screening Level 1 as recommended in the September 1988 workbook.

DRAFT

Our results showed that the proposed project fails the Level-1 screening test.

The next step is to perform a Level-2 screening analysis. This involves the use of less conservative assumptions as input to the model. For a Level-2 screening analysis the workbook calls for "the worst-case wind direction and speed and atmospheric stability". It recommends as important input "the joint frequency distribution of these parameters as measured at or near the location of the emission source." The applicant's analysis used a higher wind speed than the Level-1 default value and justified it by stating that it is "a more realistic wind speed." This is not a criteria for input in VISCREEN screening analyses.

The applicant needs to perform a Level-2 (and if necessary a Level-3) analysis for the proposed project according to the specifications in the workbook. Until this is done one cannot conclude that the proposed project will not impair visibility in the Chassahowitzka Wilderness Area.

We appreciate the opportunity to comment on the completeness of FMM's permit application. If you have any further questions regarding this matter, please contact Bud Rolofson of our Air Quality office in Denver at (303) 969-2071.

Sincerely,

James W. Pulliam, Jr.
Regional Director

cc: Jellell 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-WASO: Don Voros, Chief, Resource Management
FWS-REG. 4: AQC
FWS-REG. 6: Ty Berry
CHAS: Refuge Manager
AQD-DEN: Bud Rolofson
National Park Service - AIR
P.O. Box 25287
Denver, CO 80225

Preston



United States Department of the Interior

NATIONAL PARK SERVICE
AIR QUALITY DIVISION
P.O. BOX 25287
DENVER, CO 80225

IN REPLY REFER TO:

DATE: 5/15/92

TIME: 11:30 AM

FAX PHONE NO. FTS 327-2822 or (303) 969-2822

NUMBER OF PAGES TO FOLLOW: 2

TO: Clair Fancy
FDER PHONE: 922-8974

FROM: Bud Rolason - FWS
PHONE: 303-989-2804

SUBJECT: Southdown Completeness Review

REMARKS: We are sending an unsigned draft for
your use. Signed copy will follow

Board of County Commissioners

Hernando County



20 N. Main Street, Room 460

Brooksville, FL 34601

(904) 754-4800

FAX (904) 754-4477

May 13, 1992

RECEIVED
MAY 20 1992
Division of Air
Resources Management

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2600 Blair Stone Road
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County Administrator

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Clare Fancy, DER, Tallahassee
Richard Garrity, DER, Tampa

5/17/92

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Preston

DRAFT

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Chief, Bureau of Air Regulation
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
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James W. Pulliam, Jr.
Regional Director

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

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AQD-DEN: Bud Rolofson
National Park Service - AIR
P.O. Box 25287
Denver, CO 80225

cc'd: Bann }
Clem } 5-20-92 RQ

Preston



United States Department of the Interior

NATIONAL PARK SERVICE
AIR QUALITY DIVISION
P.O. BOX 25287
DENVER, CO 80225

IN REPLY REFER TO:

DATE: 5/15/92

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NUMBER OF PAGES TO FOLLOW: 2

TO: Clair Fancy
FDER PHONE: 922-6979

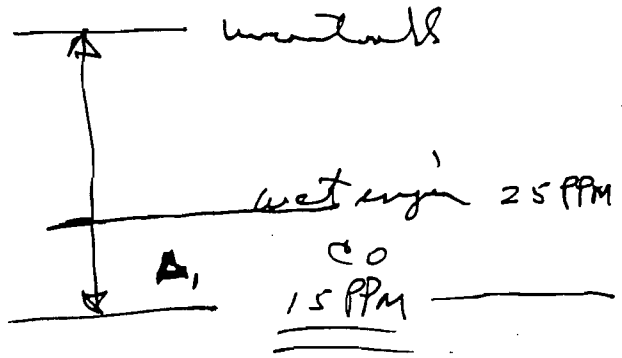
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PHONE: 303-969-2804

SUBJECT: Southdown Completeness Review

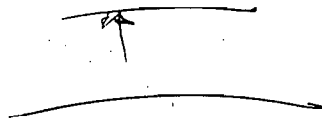
REMARKS: We are sending an unsigned draft for
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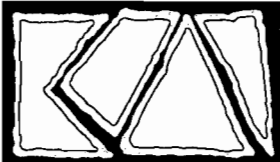
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KOGLER & ASSOCIATES
 ENVIRONMENTAL SERVICES
 4014 NW THIRTEENTH STREET
 GAINESVILLE, FLORIDA 32609
 904/377-5822 • FAX 377-7158

KA 521-91-04

May 4, 1992

RECEIVED
 MAY 05 1992
 Division of Air
 Resources Management

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

Subject: Class I NOx Impacts
 No. 2 Cement Kiln Modification
 Southdown, Inc.
 Permit File No. AC27-212252, PSD-FL-188

Dear Mr. Fancy:

This is a follow up to our meeting on April 22, 1992, with Mr. Cleve Holladay and Mr. Bruce Mitchell concerning the changes to the Southdown dba Florida Mining and Materials No. 2 cement kiln nitrogen oxides emission limit and the corresponding Class I NOx PSD increment consumption and visibility impacts.

PSD Increment Analysis

The fraction of the Class I NOx PSD increment consumed at the Chassahowitzka National Wildlife Refuge can be conservatively estimated by adding previously modeled maximum impacts from sources consuming the increment to the maximum predicted impact from the proposed project.

The modeling conducted for the Pasco County cogeneration facility in June 1991 included the following NOx increment consuming sources:

Source	NOx Emission Rate Modeled (g/s)	Approximate Distance to Class I Area (km)
Lake Co. Cogeneration	11.64	90
Pasco Co. Cogeneration	11.64	50
City of Lakeland	21.04	90
Pasco Co. RRF	40.57	30
Enron-Silver Springs	1.33	70

The maximum predicted Class I impact from the above sources was $0.13 \mu\text{g}/\text{m}^3$. The maximum predicted Class I impact from the proposed Southdown project is $0.06 \mu\text{g}/\text{m}^3$ (annual average). The maximum (worst-case) Class I NOx impact can be estimated to be the sum of the two impacts, or $0.19 \mu\text{g}/\text{m}^3$ (annual average).

The projected worst-case NOx Class I impact of $0.19 \mu\text{g}/\text{m}^3$ is approximately eight percent of the allowable Class I increment of $2.5 \mu\text{g}/\text{m}^3$.

The above analysis indicates that the proposed Southdown project will not cause or contribute to a Class I area PSD increment violation for NOx.

Visibility Impacts

Visibility impairment can be quantified by evaluating such issues as the reduction of visual range, the perceptibility of plume shapes and haze layers, atmospheric discoloration and plume-influenced visual contrast of distant objects.

The EPA approved VISCREEN (plume visual impact screening) model was used to determine the visibility impacts of the proposed increase in NOx emissions from Southdown's No. 2 cement kiln.

The Level-I plume visual impact screening uses the VISCREEN model to obtain a conservative estimate of plume visual impacts. If a Level-I analysis indicates that a project will not cause adverse visibility impairment, a more rigorous Level-II or Level-III analysis is not required. The Level-I analysis provides a conservative estimate of visual impact (impacts that would be larger than those calculated with more realistic input and modeling assumptions) because it is based on worst-case meteorological conditions; extremely stable (F) atmospheric conditions coupled with a very low wind speed persisting for 12 hours with a wind that would transport the plume directly adjacent to the observer. The Level-I analysis also includes the use of default parameters reducing the model input requirements to emission rates of particulates and nitrogen oxides and distances between the observer and the Class I area boundaries.

The VISCREEN modeling conducted for the proposed project used the Level-I features and default options for all parameters except wind speed. In place of a 1.0 meter per second default wind speed, a more realistic average wind speed of 3.13 meters per second (seven miles per hour) was used. This wind speed is representative of Tampa, Gainesville and Orlando meteorological data with winds in the direction of the Class I area.

Mr. Cleve Holladay
Florida Department of
Environmental Regulation

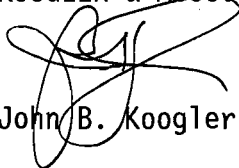
May 4, 1992
Page 3

The results of VISCREEN modeling (attached) demonstrate that the NOx emission increase from the proposed project will not have a significant impact on visibility at the Chassahowitzka National Wildlife Refuge.

If you have any questions, please do not hesitate to give me a call.

Very truly yours,

KOGLER & ASSOCIATES


John B. Koogler, Ph.D., P.E.

JBK:wa
Enc.

c: Mr. Don Kelly, Southdown
Mr. Amarjit S. Gill, Southdown
Mr. Cleve Holladay, FDER, Tallahassee
Mr. Bruce Mitchell, FDER, Tallahassee
B. Thomas, SW Dist,
J. Harper, EPA
C. Shaver, NPS
C. Nettick, HEI/CE
CHF/BA/PL



Visual Effects Screening Analysis for
 Source: FLORIDA MINING
 Class I Area: Chassahowitzka

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.00	G /S	
NOx (as NO2)	11.06	G /S	(net increase from proposed project)
Primary NO2	.00	G /S	
Soot	.00	G /S	
Primary SO4	.00	G /S	

PARTICLE CHARACTERISTICS

	Density	Diameter
	=====	=====
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	25.00 km
Source-Observer Distance:	14.00 km
Min. Source-Class I Distance:	14.00 km
Max. Source-Class I Distance:	28.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	6
Wind Speed:	3.13 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

					Delta E	Contrast		
					=====	=====		
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
=====	=====	=====	=====	=====	=====	=====	=====	=====
SKY	10.	125.	16.6	44.	2.00	.801	.05	-.003
SKY	140.	125.	16.6	44.	2.00	.260	.05	-.003
TERRAIN	10.	84.	14.0	84.	2.00	.237	.05	.001
TERRAIN	140.	84.	14.0	84.	2.00	.077	.05	.001

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

					Delta E	Contrast		
					=====	=====		
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
=====	=====	=====	=====	=====	=====	=====	=====	=====
SKY	10.	15.	8.2	154.	2.00	.995	.05	-.004
SKY	140.	15.	8.2	154.	2.00	.324	.05	-.004
TERRAIN	10.	5.	4.4	164.	2.00	.566	.05	.003
TERRAIN	140.	5.	4.4	164.	2.00	.185	.05	.003



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 23, 1992

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Dear Ms. Harper:

RE: Southdown, Inc., dba Florida Mining and Materials
No. 2 Kiln Modification
Hernando County, PSD-FL-188

The Department has received the above referenced PSD application package. Please review this package and forward your comments to the Department's Bureau of Air Regulation by May 18, 1992. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact John Reynolds or Cleve Holladay at (904)488-1344 or write to me at the above address.

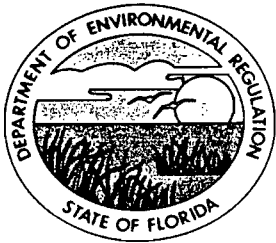
Sincerely,

Patricia G. Adams
for C. H. Fancy, P.E.

Chief
Bureau of Air Regulation

CHF/pa

Enclosures



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 23, 1992

Mr. Charles B. Hetrick
County Administrator
Hernando County Government Center
20 N. Main Street, Room 461
Brooksville, FL 34601

Dear Mr. Hetrick:

RE: Southdown, Inc., dba Florida Mining and Materials
Kiln No. 2 Modification
Hernando County, AC 27-212252, PSD-FL-188

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for

C. H. Fancy, P.E.

Chief

Bureau of Air Regulation

CHF/pa

Enclosures



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 23, 1992

Mr. Bill Thomas
District Air Program Administrator
Southwest District
4520 Oak Fair Blvd.
Tampa, Florida 33610-7347

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Florida Department of Environmental Regulation

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Lawton Chiles, Governor

Carol M. Browner, Secretary

April 23, 1992

Mrs. Chris Shaver, Chief
Permit Review and Technical Support Branch
National Park Service-Air Quality Division
Post Office Box 25287
Denver, Colorado 80225

Dear Mrs. Shaver:

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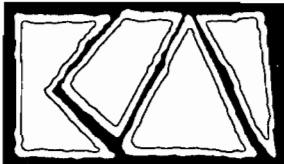
CHF/pa

Enclosures

Attendees

4/22/92 @ BAR @ Southdown Inc. / a.k.a. Fl. Mining & Materials

Bruce Mitchell	FDER/DARM/BAR	904-488-1344
John Reynolds	DFER	"
Pradeep Raval	Kogler A Assoc.	904 377 5822
AMARJIT SINGH GILL	SOUTHDOWN, INC.	713 653-8098
Clive Holladay	FDER/DARM/BAR	904-488-1344



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 521-92-01

April 21, 1992

RECEIVED

APR 22 1992

Bureau of
Air Regulation

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

Subject: Air Construction Permit Application
Southdown, Inc. dba
Florida Mining and Materials
No. 2 Kiln Modification

Dear Mr. Fancy:

Enclosed are eight copies of the air construction permit application (including one copy of the computer modeling output and diskette) for modification of the nitrogen oxides emission limit of the No. 2 cement kiln at the Southdown facility in Brooksville, Hernando County, Florida. Also, enclosed is a check (permit processing fee) in the amount of \$7,500.

If you have any questions, please do not hesitate to give me a call.

Very truly yours,

KOOGLER & ASSOCIATES

Pradeep A. Raval

PAR:wa
Enc.

c: Mr. Don Kelly, Florida Mining & Materials
Mr. Amarjit Gill, Southdown

APPLICATION FOR A PSD
CONSTRUCTION PERMIT REVIEW

PREPARED FOR:

SOUTHDOWN, INC. DBA
FLORIDA MINING AND MATERIALS
HERNANDO COUNTY, FLORIDA

APRIL 1992



KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

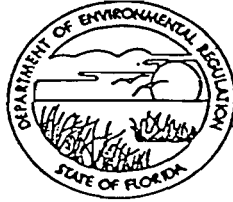
4047 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 FAX 904/377-7158

#7,500 pd
4-22-92
Receipt # 180759

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

AC 27-212252
PSD-FL-184



RECEIVED

APR 22 1992

Bureau of
Air Regulation

APPLICATION TO ~~OPERATE~~/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Portland Cement Plant [] New¹ [X] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [X] Modification
Southdown, Inc. dba

COMPANY NAME: Florida Mining and Materials COUNTY: Hernando

Identify the specific emission point source(s) addressed in this application (i.e. Lime
Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) No. 2 Cement Kiln

SOURCE LOCATION: Street U.S. Highway 98 City NW of Brooksville

UTM: East (17) 356.0 km North 3169.2 km

Latitude 28 ° 38 ' 37 "N Longitude 82 ° 28 ' 24 "W

APPLICANT NAME AND TITLE: Mr. Don Kelly, Plant Manager

APPLICANT ADDRESS: P. O. Box 6, Brooksville, Florida 34605-0006

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

Southdown, Inc. dba

I am the undersigned owner or authorized representative* of Florida Mining & Materials

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Don Kelly
Don Kelly, Plant Manager
Name and Title (Please Type)

Date: 4/10/92 Telephone No. (904) 796-7241

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been ~~designed~~/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

Edgar J. Marston III
EXECUTIVE VICE PRESIDENT
AND GENERAL COUNSEL



April 9, 1992

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

Re: Letter of Authorization

Dear Mr. Fancy:

Please be advised that Mr. Don Kelly, Plant Manager for Florida Mining and Materials' (FM&M) Brooksville facility, is hereby authorized to sign environmental permit applications and other related correspondence on behalf of Southdown, Inc.

Sincerely,



Edgar J. Marston III

li

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed _____

John B. Koogler, Ph.D., P.E.
Name (Please Type)

Koogler & Associates, Environmental Services
Company Name (Please Type)

4014 N.W. 13th Street, Gainesville, FL 32609
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 4/21/92 Telephone No. (904) 377-5822

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attached Report

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction NA Completion of Construction NA

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Existing equipment.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit No. A027-194660 : Issued 5/9/91 ; Expires 4/30/96.



E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 49 ;
if power plant, hrs/yr _____ ; if seasonal, describe: 8200 hours per year

F. If this is a new source or major modification, answer the following questions.
(Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? NO
a. If yes, has "offset" been applied? NA
b. If yes, has "Lowest Achievable Emission Rate" been applied? NA
c. If yes, list non-attainment pollutants. _____ NA

2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. YES

3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. YES

4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? YES

5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? YES

H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? NO

a. If yes, for what pollutants? _____ NA

b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

See Attached Report

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Limestone	Particulate	0.02	208,000	See attached report.
Sand / Clay	"	0.08	8,840	"
Flyash	"	0.14	42,900	"
Mill Scale	"	1.40	260	"

B. Process Rate, if applicable: (See Section V, Item 1)

- 1. Total Process Input Rate (lbs/hr): 260,000 (130 TPH)
- 2. Product Weight (lbs/hr): 159,250 (79.6 TPH)

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

See Attached Report

Name of Contaminant	Emission ¹		Allowed ² Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yxhr	T/yr	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Fuller Reverse Air	Particulate	99.9%	> 2	Est.

E. Fuels (See Also Attached Report)

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Coal (solid)	20,640	24,000	300
Flolite (liquid)	1,779	2,069	300

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. NA

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Solids collected in fabric filter are recycled.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 105 ft. Stack Diameter: 14 ft.
 Gas Flow Rate: 300,000 ACFM 200,000 DSCFM Gas Exit Temperature: 250 °F.
 Water Vapor Content: 10 % Velocity: 32.5 FPS

SECTION IV: INCINERATOR INFORMATION NA

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

See Attached Report

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

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2. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation. \$7,500.00

0. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

See Attached Report

. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[] Yes [] No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[] Yes [] No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

What emission levels do you propose as best available control technology?

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

Describe the existing control and treatment technology (if any).

- 1. Control Device/System:
- 2. Operating Principles:
- 3. Efficiency:*
- 4. Capital Costs:

Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Costs:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft.
- b. Diameter: ft.
- c. Flow Rate: ACFM
- d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

Describe the control technology selected:

1. Control Device:

2. Efficiency:¹

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:²

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

Explain method of determining efficiency.

Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

See Attached Report

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? Yes No
- b. Was instrumentation calibrated in accordance with Department procedures?
 Yes No Unknown

Meteorological Data Used for Air Quality Modeling

- 1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year
- 2. Surface data obtained from (location) _____
- 3. Upper air (mixing height) data obtained from (location) _____
- 4. Stability wind rose (STAR) data obtained from (location) _____

Computer Models Used

- 1. _____ Modified? If yes, attach description.
- 2. _____ Modified? If yes, attach description.
- 3. _____ Modified? If yes, attach description.
- 4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ²	_____ grams/sec

Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

Attach all other information supportive to the PSD review.

Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

REPORT IN SUPPORT OF
AN APPLICATION FOR A PSD
CONSTRUCTION PERMIT REVIEW

PREPARED FOR:

SOUTHDOWN, INC. DBA
FLORIDA MINING AND MATERIALS
HERNANDO COUNTY, FLORIDA

APRIL 1992

PREPARED BY:

KOGLER & ASSOCIATES
4014 N.W. 13TH STREET
GAINESVILLE, FLORIDA 32609
(904) 377-5822

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1.0 SYNOPSIS OF APPLICATION

1.1 APPLICANT

Southdown, Inc. dba
Florida Mining and Materials
Post Office Box 6
Brooksville, FL 34605

1.2 FACILITY LOCATION

Southdown, Inc. (Southdown) doing business as Florida Mining and Materials operates a portland cement manufacturing facility approximately nine miles northwest of Brooksville, off US Highway 98 in Hernando County, Florida. The UTM coordinates of the Southdown facility are Zone 17, 356.0 km East and 3169.2 km North.

1.3 PROJECT DESCRIPTION

Southdown proposes to increase the allowable emission rate of nitrogen oxides of the existing No. 2 cement kiln from 162.3 to 250.0 pounds per hour, 30-day average. The No. 2 kiln had previously been permitted with an emission limit for nitrogen oxides of 250 pounds per hour in 1988 (PSD-FL-124), based on FDER's determination of the Best Available Control Technology (BACT). The intent of this submittal is to re-establish the previous nitrogen oxides emission limit which is more representative of normal kiln operation. There will be no change in the method of operation or annual operating hours of the No. 2 kiln. As a result of the proposed increase in the allowable hourly emission rate, there will be a corresponding increase in the allowable annual emission rate of nitrogen oxides from the No. 2 kiln from 665.4 to 1025.0 tons per year.

The proposed project will result in a significant net increase (in accordance with Table 500-2 of Chapter 17-2, Florida Administrative Code, FAC) in the emission rate of nitrogen oxides. There will be no change in the emission rates of other air pollutants presently regulated by No. 2 kiln permit A027-194660 (See Table 3-1) or in the emission rate of unregulated air pollutants.

Southdown is submitting this report in support of the application to the Florida Department of Environmental Regulation for an increase in the allowable emission rate of nitrogen oxides from the existing No. 2 kiln. The report includes a description of the existing No. 2 kiln operation, a review of Best Available Control Technology, an ambient air quality analysis and an evaluation of the impact of the proposed modifications on soils, vegetation and visibility.

2.0 FACILITY DESCRIPTION

Southdown operates a portland cement manufacturing facility located off US Highway 98 in Hernando County, Florida (See Figures 2-1 and 2-2). The UTM coordinates of the facility are Zone 17, 356.0 km East and 3169.2 km North.

2.1 EXISTING FACILITY

There are two existing cement kilns at the Southdown facility. The No. 1 kiln is currently permitted under AC27-186923, while No. 2 kiln is permitted under A027-194660. The proposed increase in the allowable emission rate of nitrogen oxides of the No. 2 kiln will not affect the No. 1 kiln or any other source at the facility. A modification of the nitrogen oxides emission limit is being requested to reflect normal kiln emissions. A summary of past stack sampling data indicative of nitrogen oxides emissions above currently permitted levels is presented in Table 2-1.

The No. 2 kiln is permitted for a maximum kiln feed rate of 130 tons per hour producing about 80 tons per hour of clinker. This reflects a feed rate to the preheater of 145 tons per hour. The maximum heat input rate to the kiln is 300 MMBTU per hour. The No. 2 kiln uses coal with a sulfur content of less than one percent as the primary fuel and Flolite (re-refined oil blend) as a start up fuel and a supplemental fuel.

A baghouse is used to control the emissions of particulate matter. Add-on controls are not required or deemed necessary for any of the other pollutants emitted from the No. 2 kiln.

TABLE 2-1
 NO. 2 KILN - SUMMARY OF NITROGEN OXIDES
 EMISSION DATA

SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

STACK SAMPLING DATE	<u>NITROGEN OXIDES EMISSIONS (1)</u> (pounds per hour)
04/04/86 (2)	403.0
05/05/86 (2)	244.0
3-4/91 (3)	309.6 (4)
03/24/92	311.4 (5)

- (1) Stack sampling data indicative of higher NOx emissions than presently permitted.
- (2) Previously submitted to FDER.
- (3) Data gathered using NOx CEM from March to April 1991.
- (4) Maximum daily average over 30-day period, based on CEM data.
- (5) Highest 1-hour run.

FIGURE 2-1

AREA LOCATION MAP

SOUTHDOWN, INC.
HERNANDO COUNTY, FLORIDA

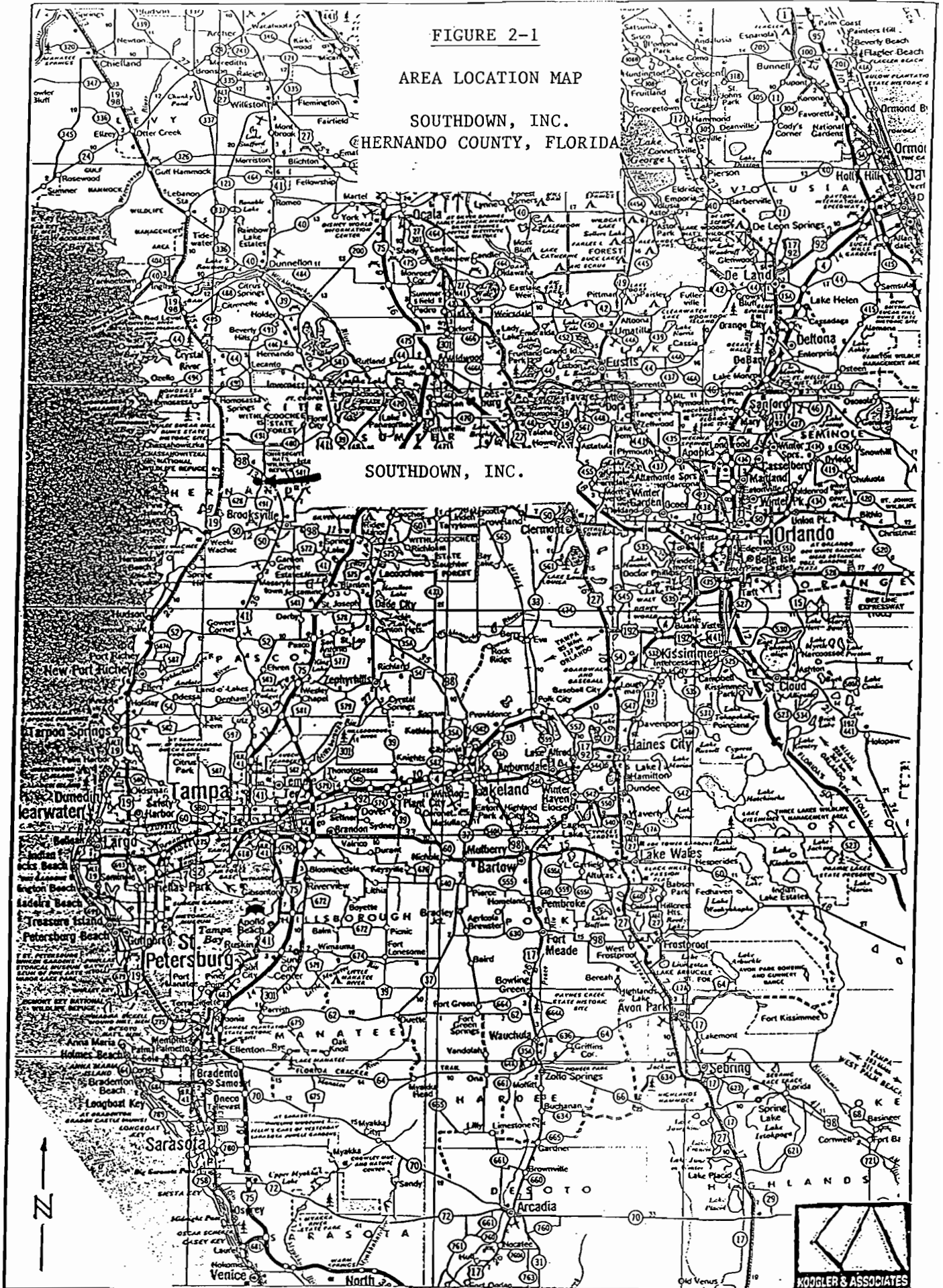


FIGURE 2-2

SITE LOCATION MAP

SOUTHDOWN, INC.
HERNANDO COUNTY, FLORIDA

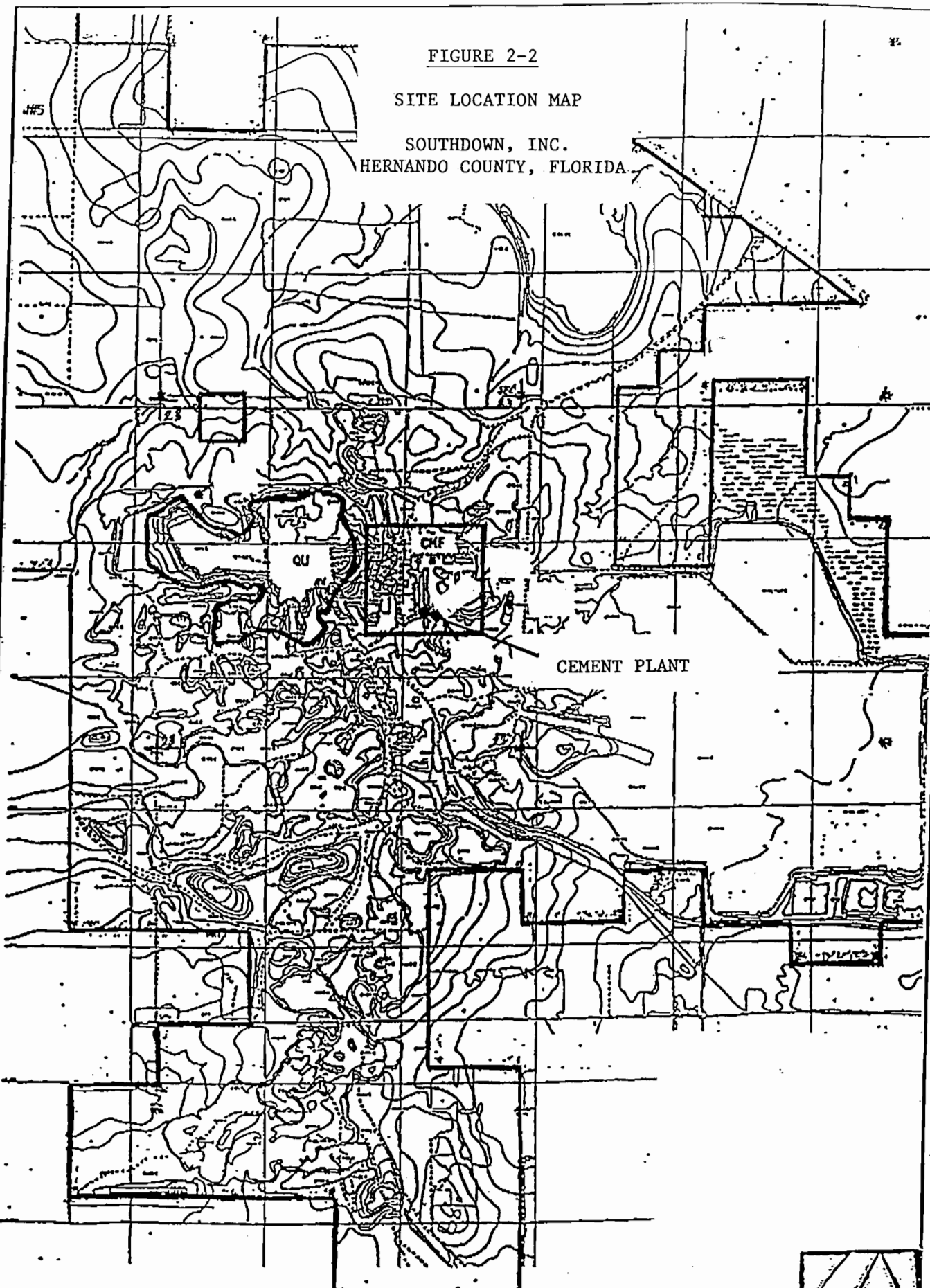
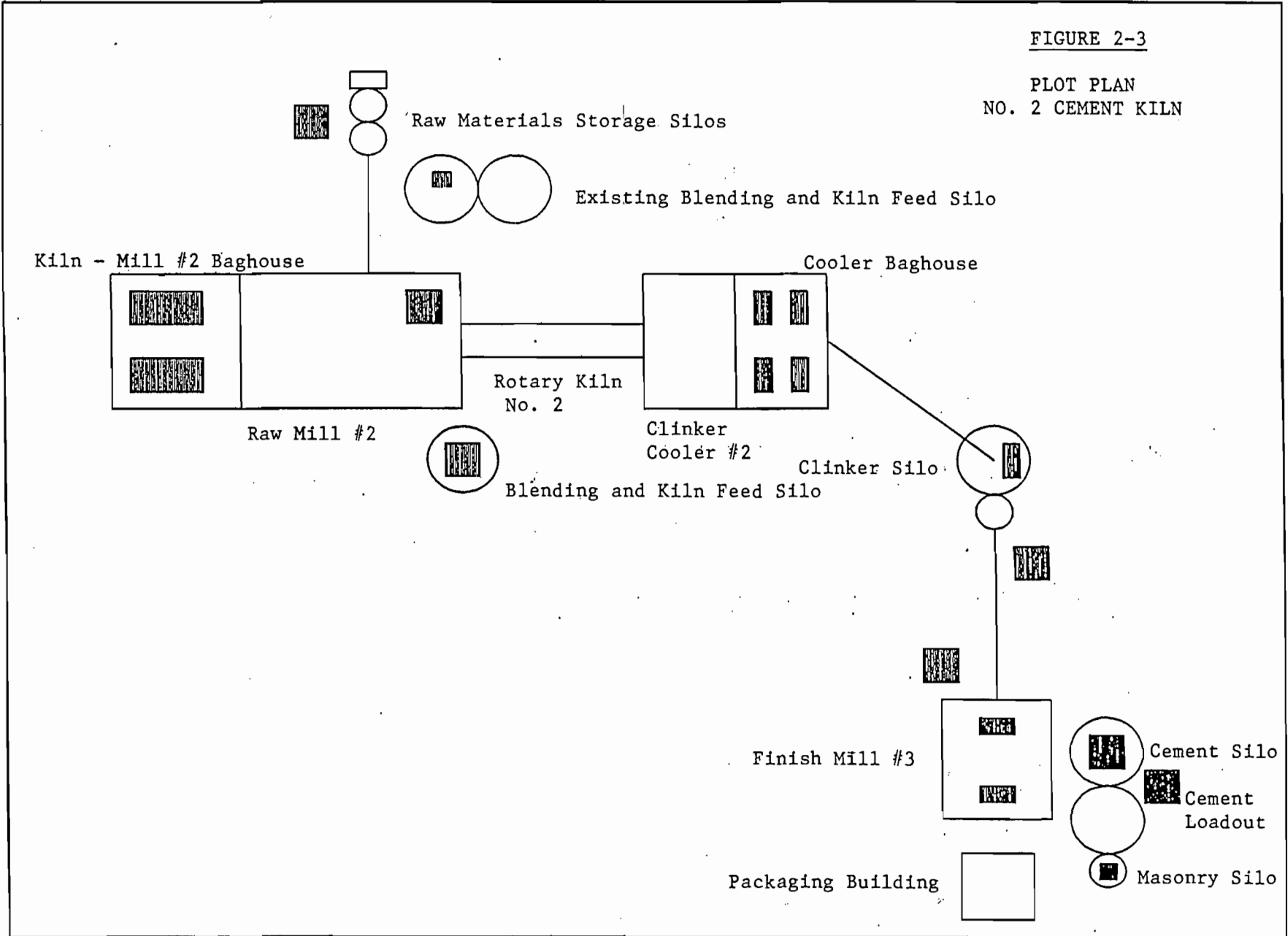


FIGURE 2-3

PLOT PLAN
NO. 2 CEMENT KILN



3.0 PROPOSED PROJECT

3.1 PROJECT DESCRIPTION

Southdown proposes to increase the allowable emission rate of nitrogen oxides of the No. 2 cement kiln from 162.3 to 250.0 pounds per hour, 30-day average. The No. 2 kiln had previously been permitted with a nitrogen oxides emission limit of 250 pounds per hour in 1988 (PSD-FL-124), based on FDER's determination of the Best Available Control Technology (BACT). The intent of this application submittal is to re-establish an emission limit for nitrogen oxides which reflects normal kiln operation. No change in the method of operation or in the annual operating hours is associated with the emission modification. An allowable emission rate of 250 pounds per hour for nitrogen oxides reflects not only a realistic emission limit for the No. 2 kiln based on stack sampling data, but also reflects FDER's previous BACT determination.

After the PSD permitting in 1988, Southdown had applied for an increase in the hours of operation and production rate of the No. 2 kiln. As a result of the FDER review of that permit application in 1990, an emission limit for nitrogen oxides of 162.3 pounds per hour was imposed on the No. 2 kiln based on compliance test history.

Unfortunately, the limited number of compliance tests considered in the permit review only showed what the kiln emissions were during a given test period (typically 3 hours per compliance test). In reality, the emission rate of nitrogen oxides fluctuate considerably over time.

In 1991, Southdown had installed a temporary continuous emission monitor (CEM) to determine the nitrogen oxides emitted from the No. 2 kiln. While the CEM was not certified, it had been calibrated periodically to maintain quality assurance. The CEM data were obtained over a period of about 30 days. The nitrogen oxides performance data indicated emissions of nitrogen oxides between 138 and 730 ppm, corrected to 7 percent oxygen. This corresponds to a mass emission rate between 84 and 445 pounds per hour.

In evaluating this CEM data as well as a number of past compliance tests, it was apparent that an emission limit of 162.3 pounds per hour could not be considered representative of kiln operation. In order to correct this permit inadequacy, Southdown decided to request a modification of the currently permitted emission limit of nitrogen oxides to reflect a more realistic emission limit. It should be noted that there will be no change in the operation of the No. 2 kiln. This request is intended to simply modify the permitted limit to reflect a realistic emission limit for nitrogen oxides.

However, correcting the permitted emission limit for nitrogen oxides will result in a significant increase (as defined by FAC Rule 17-2.500) in the annual emission rate of nitrogen oxides. The proposed modification of the permit limit will therefore be subject to a Prevention of Significant Deterioration (PSD) review.

3.2 RULE REVIEW

The following are the state and federal air regulatory requirements that apply to new or modified sources subject to a Prevention of Significant Deterioration (PSD) review.

In accordance with EPA and State of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) are subject to preconstruction review. Florida's State Implementation Plan (SIP), approved by the EPA, authorizes the Florida Department of Environmental Regulation (FDER) to manage the air pollution program in Florida.

The PSD review determines whether or not significant air quality deterioration will result from a new or modified facility. Federal PSD regulations are contained in 40CFR52.21, Prevention of Significant Deterioration of Air Quality. The state of Florida has adopted PSD regulations which are essentially identical to the federal regulations and are contained in Chapter 17-2 of the Florida Administration Code (FAC). All new major facilities and major modifications to existing facilities are subject to control technology review, source impact analysis, air quality analysis and additional impact analyses for each pollutant subject to a PSD review. A facility must also comply with the Good Engineering Practice (GEP) stack height rule.

A major facility is defined in the PSD rules as any one of the 28 specific source categories (see Table 3-3) which has the potential to emit 100 tons

per year (tpy) or more, or any other stationary facility which has the potential to emit 250 tpy or more, of any pollutant regulated under the CAA. A major modification is defined in the PSD rules as a change at an existing major facility which increases the actual emissions by greater than significant amounts (see Table 3-4).

3.2.1 Ambient Air Quality Standards

The EPA and the state of Florida have developed/adopted ambient air quality standards, AAQS (see Table 3-5). Primary AAQS protect the public health while the secondary AAQS protect the public welfare from adverse effects of air pollution. Areas of the country have been designated as attainment or nonattainment for specific pollutants. Areas not meeting the AAQS for a given pollutant are designated as nonattainment areas for that pollutant. Any new source or expansion of existing sources in or near these nonattainment areas are usually subject to more stringent air permitting requirements. Projects proposed in attainment areas are subject to air permit requirements which would ensure continued attainment status.

3.2.2 PSD Increments

In promulgating the 1977 CAA Amendments, Congress quantified concentration increases above an air quality baseline concentration level for sulfur dioxide and particulate matter which would constitute significant deterioration. The size of the allowable increment depends on the classification of the area in which the source would be located or have an impact. Class I areas include specific national parks, wilderness

areas and memorial parks. Class II areas are all areas not designated as Class I areas and Class III areas are industrial areas in which greater deterioration than Class II areas would be allowed. There are no designated Class III areas in Florida.

In 1988, EPA promulgated PSD regulations for nitrogen oxides and PSD increments for nitrogen dioxide concentrations. FDER adopted the nitrogen dioxide increments in July 1990 (see Table 3-6 for PSD increments).

3.2.3 Control Technology Evaluation

The PSD control technology review requires that all applicable federal and state emission limiting standards be met and that Best Available Control Technology (BACT) be applied to the source. The BACT requirements are applicable to all regulated pollutants subject to a PSD review.

BACT is defined in Chapter 17-2, FAC, as an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant. If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work

practice, operational standard or combination thereof, may be prescribed instead, to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.

The reason for evaluating the BACT is to minimize as much as possible the consumption of PSD increments and to allow future growth without significantly degrading air quality. The BACT review also analyzes if the most current control systems are incorporated in the design of a proposed facility. The BACT, as a minimum, has to comply with the applicable New Source Performance Standard for the source. The BACT analysis requires the evaluation of the available air pollution control methods including a cost-benefit analysis of the alternatives. The cost-benefit analysis includes consideration of materials, energy, and economic penalties associated with the control systems, as well as environmental benefits derived from the alternatives.

EPA recently determined that the bottom-up approach (starting at NSPS and working up to BACT) was not providing the level of BACT originally intended. As a result, in December 1987, EPA strongly suggested changes in the implementation of the PSD program including the "top-down" approach to BACT. The top-down approach requires a technology evaluation to start with the most stringent control alternative, often Lowest Achievable

Emission Rate (LAER), and justify its rejection or acceptance as BACT. Rejection of control alternatives may be based on technical or economical infeasibility, physical differences, locational differences, and environmental or energy impact differences when comparing a proposed project with a project previously subject to that BACT.

3.2.4 Air Quality Monitoring

An application for a PSD permit requires an analysis of ambient air quality in the area affected by the proposed facility or major modification. For a new major facility, the affected pollutants are those that the facility would potentially emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate.

Ambient air monitoring for a period of up to one year, but no less than four months, is required. Existing ambient air data for a location in the vicinity of the proposed project is acceptable if the data meet FDER quality assurance requirements. If not, additional data would need to be gathered. There are guidelines available for designing a PSD air monitoring network in EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration."

FDER may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause air quality impacts less than the de minimis

levels (see Table 3-4).

3.2.5 Ambient Impact Analysis

A source impact analysis is required for a proposed major source subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rate. Specific atmospheric dispersion models are required in performing the impact analysis. The analysis should demonstrate the project's compliance with AAQS and allowable PSD increments. The impact analysis for criteria pollutants may be limited to only the new or modified source if the net increase in impacts due to the new or modified source is below significant impact levels.

Typically, a five-year period is used for the evaluation of the highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term "highest, second-highest" refers to the highest of the second-highest concentrations at all receptors. The second-highest concentration is considered because short-term AAQS specify that the standard should not be exceeded at any location more than once a year. If less than five years of meteorological data are used in the modeling analysis, the highest concentration at each receptor is normally used.

3.2.6 Additional Impact Analysis

The PSD rules also require analyses of the impairment to visibility and the impact on soils and vegetation that would occur as a result of the project. A visibility impairment analysis must be conducted for PSD Class I areas. Impacts due to commercial, residential, industrial, and other

growth associated with the source must be addressed.

3.2.7 Good Engineering Practice Stack Height

In accordance with Chapter 17-2, FAC, the degree of emission limitation required for control of any pollutant is not to be affected by a stack height that exceeds GEP, or any other dispersion technique. GEP stack height is defined as the highest of:

1. 65 meters (m), or
2. A height established by applying the formula:

$$H_g = H + 1.5 L$$

where:

H_g - GEP stack height,

H - Height of the structure or nearby structure, and

L - Lesser dimension, height or projected width of nearby structure(s)

3. A height demonstrated by a model or field study.

The GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height. The actual stack height may be higher or lower.

3.3 RULE APPLICABILITY

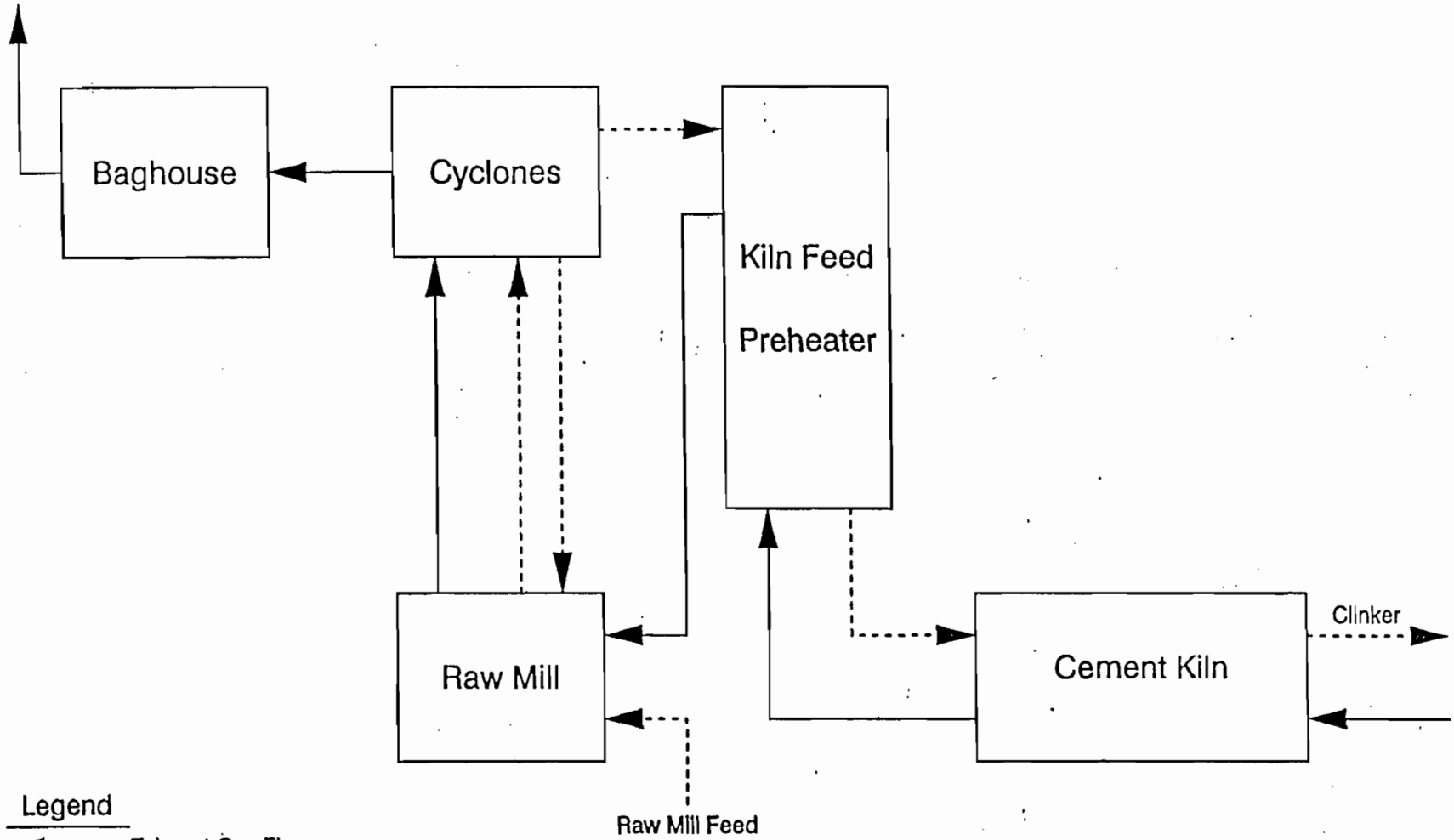
The increase in the allowable emissions of nitrogen oxides of the No. 2 kiln is classified as a major modification to a major facility subject to both state and federal regulations as set forth in Chapter 17-2, FAC. The

facility is located in an area classified as attainment for each of the regulated air pollutants. The proposed modification to the existing No. 2 cement kiln will result in significant increases in emissions of nitrogen oxides as defined by Rule 17-2.500(2)(e)2, FAC, and will therefore be subject to PSD review requirements in accordance with FAC Rule 17-2.500. This will include a determination of Best Available Control Technology, an air quality review, Good Engineering Practice stack height analysis and an evaluation of impacts on soils, vegetation and visibility.

FIGURE 3-1

PROCESS FLOW DIAGRAM
NO. 2 CEMENT KILN

To
Stack



Legend

- ← Exhaust Gas Flow
- ▶ Material Flow

TABLE 3-1
 NO. 2 KILN - CURRENT AND PROPOSED
 AIR EMISSION RATES
 SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

POLLUTANT	EMISSIONS	
	lbs/hr	tpy
<u>Current Permit Limits</u>		
Particulate Matter	13.5	55.3
Sulfur Dioxide	11.5	47.0
Nitrogen Oxides	162.3	665.3
Volatile Organic Compounds	7.4	31.2
Carbon Monoxide	64.0	262.2
<u>Proposed Allowable Limit (1)</u>		
Nitrogen Oxides	250.0(2)	1025.0

(1) The emission limits for particulate matter, sulfur dioxide, volatile organic compounds and carbon monoxide remain unchanged from those currently permitted.

(2) Based on a 30-day average.

TABLE 3-2
 NO. 2 KILN - NET EMISSION INCREASES(1)

SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

POLLUTANT	NET EMISSIONS INCREASE	
	lbs/hr	tpy
Particulate Matter	0	0
Sulfur Dioxide	0	0
Volatile Organic Compounds	0	0
Carbon Monoxide	0	0
Nitrogen Oxides (NOx)	87.7	359.6
Significant Increase For NOx (2)	--	40.0

- (1) See Appendix for emission calculations.
 (2) Presented in Table 500.2, Chapter 17-2, FAC.

TABLE 3-3

MAJOR FACILITY CATEGORIES

SOUTHDOWN, INC.
HERNANDO COUNTY, FLORIDA

Fossil fuel fired steam electric plants of more than 250 MMBTU/hr heat input
Coal cleaning plants (with thermal dryers)
Kraft pulp mills
Portland cement plants
Primary zinc smelters
Iron and steel mill plants
Primary aluminum ore reduction plants
Primary copper smelters
Municipal incinerators capable of charging more than 250 tons of refuse per day
Hydrofluoric acid plants
Sulfuric acid plants
Nitric acid plants
Petroleum refineries
Lime plants
Phosphate rock processing plants
Coke oven batteries
Sulfur recovery plants
Carbon black plants (furnace process)
Primary lead smelters
Fuel conversion plants
Sintering plants
Secondary metal production plants
Chemical process plants
Fossil fuel boilers (or combinations thereof) totaling more than 250 million
BTU/hr heat input
Petroleum storage and transfer units with total storage capacity exceeding
300,000 barrels
Taconite ore processing plants
Glass fiber processing plants
Charcoal production plants

TABLE 3-4

REGULATED AIR POLLUTANTS - SIGNIFICANT EMISSION RATES

SOUTHDOWN, INC.
HERNANDO COUNTY, FLORIDA

Pollutant	Significant Emission Rate tons/yr	De minimis Ambient Impacts $\mu\text{g}/\text{m}^3$
CO	100	575 (8-hour)
NOx	40	14 (NO ₂ , Annual)
SO ₂	40	13 (24-hour)
Ozone	40 (VOC)	-
PM (TSP)	25	10 (24-hour)
PM ₁₀	15	10 (24-hour)
TRS (including H ₂ S)	10	0.2 (1-hour)
H ₂ SO ₄ mist	7	-
Fluorides	3	0.25 (24-hour)
Vinyl Chloride	1	15 (24-hour)
	<u>pounds/yr</u>	
Lead	1200	0.1 (Quarterly avg)
Mercury	200	0.25 (24-hour)
Asbestos	14	-
Beryllium	0.8	0.001 (24-hour)

TABLE 3-5
 AMBIENT AIR QUALITY STANDARDS

SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

Pollutant	FDER (State)		USEPA (National)			
			Primary		Secondary	
	$\mu\text{g}/\text{m}^3$	PPM	$\mu\text{g}/\text{m}^3$	PPM	$\mu\text{g}/\text{m}^3$	PPM
SO ₂ , 3-hour 24-hour Annual	1,300	0.5	-	-	1300	0.5
	260	0.1	365	0.14	-	-
	60	0.02	80	0.03	-	-
PM10, 24-hour Annual	150	-	150	-	150	-
	50	-	50	-	50	-
CO, 1-hour 8-hour	40,000	35	40,000	35	-	-
	10,000	9	10,000	9	-	-
Ozone, 1-hour	235	0.12	235	0.12	235	0.12
NO ₂ , Annual	100	0.05	100	-	100	-
Lead, Quarterly	1.5	-	1.5	-	1.5	-

TABLE 3-6
 PSD INCREMENTS
 SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

Pollutant	Allowable PSD Increments (State/National)		
	Class I $\mu\text{g}/\text{m}^3$	Class II $\mu\text{g}/\text{m}^3$	Class III $\mu\text{g}/\text{m}^3$
TSP, Annual	5	19	37
24-hour	10	37	75
SO ₂ , Annual	2	20	40
24-hour	5	91	182
3-hour	25	512	700
NO ₂ , Annual	2.5	25	50

4.0 BEST AVAILABLE CONTROL TECHNOLOGY

Best Available Control Technology (BACT) is required to control air pollutants emitted from newly constructed major sources or from modification to the major emitting facilities if the modification results in significant increase in the emission rate of regulated pollutants (see Table 3-5 for significant emission levels). The emission rate increase of nitrogen dioxide proposed by Southdown represents a significant increase. A BACT analysis is therefore required for nitrogen oxides.

4.1 EMISSION STANDARDS FOR PORTLAND CEMENT PLANTS

Federal New Source Performance Standards (NSPS) have been promulgated for portland cement plants. These standards became effective on August 17, 1971, are codified in 40CFR60, Subpart F, and require particulate emissions from a cement kiln to be limited to no more than 0.30 pound per ton of feed. The visible emissions from the kiln are limited to no more than 20 percent opacity. Particulate emissions from a clinker cooler are limited to no more than 0.10 pound per ton feed. The visible emissions from the cooler are limited to less than 10 percent opacity. The NSPS do not address the emissions of other criteria pollutants from portland cement manufacturing.

EPA revised/amended the New Source Performance Standards for portland cement plants in 1989. At that time, no changes to the emission standard were deemed necessary or justified.

The emission standards in FAC Rule 17-2.600, applicable to new portland cement plants, are identical to those contained in 40CFR60, Subpart F and also address only particulate matter and visible emissions.

4.2 PREVIOUS BACT DETERMINATIONS

A review of the EPA BACT/LAER Clearinghouse identified a number of BACT determinations for portland cement plants. These BACT determinations addressed not only particulate matter, but also other criteria pollutants emitted from portland cement manufacturing facilities. The emission limits for nitrogen oxides from cement kilns have been evaluated by regulatory agencies in several states.

Most of the BACT determinations published in the Clearinghouse date back to the early 1980s. There are only three projects listed in the Clearinghouse which have been evaluated since 1984. A summary of the BACT determinations conducted over the last decade is presented in Tables 4-1 and 4-2. A copy of the various BACT determinations as presented in the BACT/LAER Clearinghouse is provided in the Appendix. For every project, the BACT determination for nitrogen oxides was established as proper operation practices.

A review of the nitrogen oxides emission limits listed in Table 4-2 indicates that the Southdown No. 2 kiln emission limit is the most stringent in the nation. Several other kilns which were initially permitted at lower emission rates have had the limits revised to reflect an emission level that is realistic. It is interesting to note that the

nitrogen oxides emission limit requested for the No. 2 kiln, if granted by FDER, would still be the lowest in the nation. Based on past BACT determinations for other cement kilns and also FDER's original BACT determination for the No. 2 kiln, it is apparent that the requested nitrogen oxides emission limit of 250 pounds per hour, 30-day average, is reasonable and does reflect BACT.

4.3 NITROGEN OXIDES CONTROL TECHNOLOGY

Nitrogen oxides emissions are formed in the combustion process by the oxidation of nitrogen in fuels (fuel NO_x) and in combustion air (thermal NO_x). Thermal NO_x is formed from the reaction of oxygen and nitrogen in the combustion air at combustion temperatures. Formation of thermal NO_x depends on the flame temperature, residence time, combustion pressure, and air-to-fuel ratio in the combustion zone. The design and operation of the combustion system dictates these conditions. Fuel bound NO_x is created by the oxidation of the volatilized nitrogen in the fuel. Nitrogen content of the fuel is the primary factor in the formation of fuel NO_x.

The emissions of nitrogen oxides can be lowered by lowering combustion temperatures and reducing combustion air. These measures, however, do increase the generation of carbon monoxide. Post combustion controls have been proposed for certain sources where reduction of nitrogen oxides have been demonstrated. The source categories for which the "add-on" controls have been proposed or recommended include municipal waste combustors, industrial and utility boilers, glass furnaces, and gas turbines. The add-on controls used in the above applications typically consist of

Selective Catalytic Reduction (SCR) technology or Selective Non-Catalytic Reduction (SNCR) technology.

4.3.1 Selective Catalytic Reduction

SCR uses ammonia to react with the nitrogen oxides present in the flue gas stream in the presence of a catalyst. Ammonia is typically diluted with air to an optimum concentration and introduced into the gas stream. A temperature range between 600 and 750°F is required for the reaction of ammonia and nitrogen oxides and results in the formation of nitrogen and water.

In the case of cement kilns, nitrogen oxides removal using SCR has not been demonstrated. The process design of a typical cement kiln system poses several difficulties in successfully implementing SCR technology.

The temperature zone required for SCR occurs in the kiln system between the preheater and the baghouse. At this location, there is a high concentration of calcium particles present in the gas stream. The calcium particles would render the catalyst ineffective within a very short period. The SCR system cannot be installed at a location downstream of the baghouse (after the majority of the calcium particles are removed from the air stream) because the gas temperature at that point would be around 250 to 300°F, far below the SCR operation range.

4.3.2 Selective Non-Catalytic Reduction

SNCR technology also uses ammonia or urea injection into the gas stream

to control nitrogen oxides. In some systems, the simultaneous injection of hydrogen has also been used to extend the process effectiveness. While no catalyst is required, the effective temperature range necessary for the reaction of the ammonia and nitrogen oxides is significantly higher than that required for SCR. The ammonia is typically diluted with air or steam and introduced at a location that provides optimum reaction temperature and residence time. At temperatures between 1500 and 2200°F, the ammonia reacts with the nitrogen oxides in the gas stream to produce nitrogen and water. However, at temperatures above 2200°F, the ammonia reacts with the oxygen in the gas stream to produce nitrogen oxides.

In the case of cement kilns, the removal of nitrogen oxides using SNCR has not been demonstrated. The process design of a typical cement kiln system poses several difficulties in implementing SNCR technology.

The optimum temperature range for a SNCR system is between 1600 and 2000°F. This temperature range is encountered in a typical cement kiln system only in the kiln itself. The temperature in the flame/combustion zone of a cement kiln are typically above 2700°F, while the temperature on the other end of the kiln are typically around 1500°F. Assuming a constant temperature gradient from one end of the kiln to the other, the period in which the temperature range falls within the SNCR operation range (1600-2000°F) would be about one-fourth of the period in which the temperature range in the kiln would be above 2000°F. Under these circumstances, ammonia injection into the kiln may actually increase the emissions of nitrogen oxides from the kiln.

The injection of ammonia at a location after the cement kiln would be outside the desired SNCR system optimum temperature range and therefore would not be beneficial in the removal of nitrogen oxides.

4.3.3 Proper Operation Practices

Proper operation practices are used by all the cement kilns in the country as the method of achieving low emissions of nitrogen oxides. It is widely recognized that the emissions of nitrogen oxides can be controlled by limiting the amount of excess combustion air supplied to the combustion process. However, it should be noted that there is a relationship between the emissions of nitrogen oxides and carbon monoxide. Figure 4-1 shows how the emissions of carbon monoxide increase dramatically as the emissions of nitrogen oxides are reduced. Actual emission data of nitrogen oxides and carbon monoxide are presented in Figures 4-2 and 4-3. At optimum operating conditions, the generation of both pollutants can be minimized.

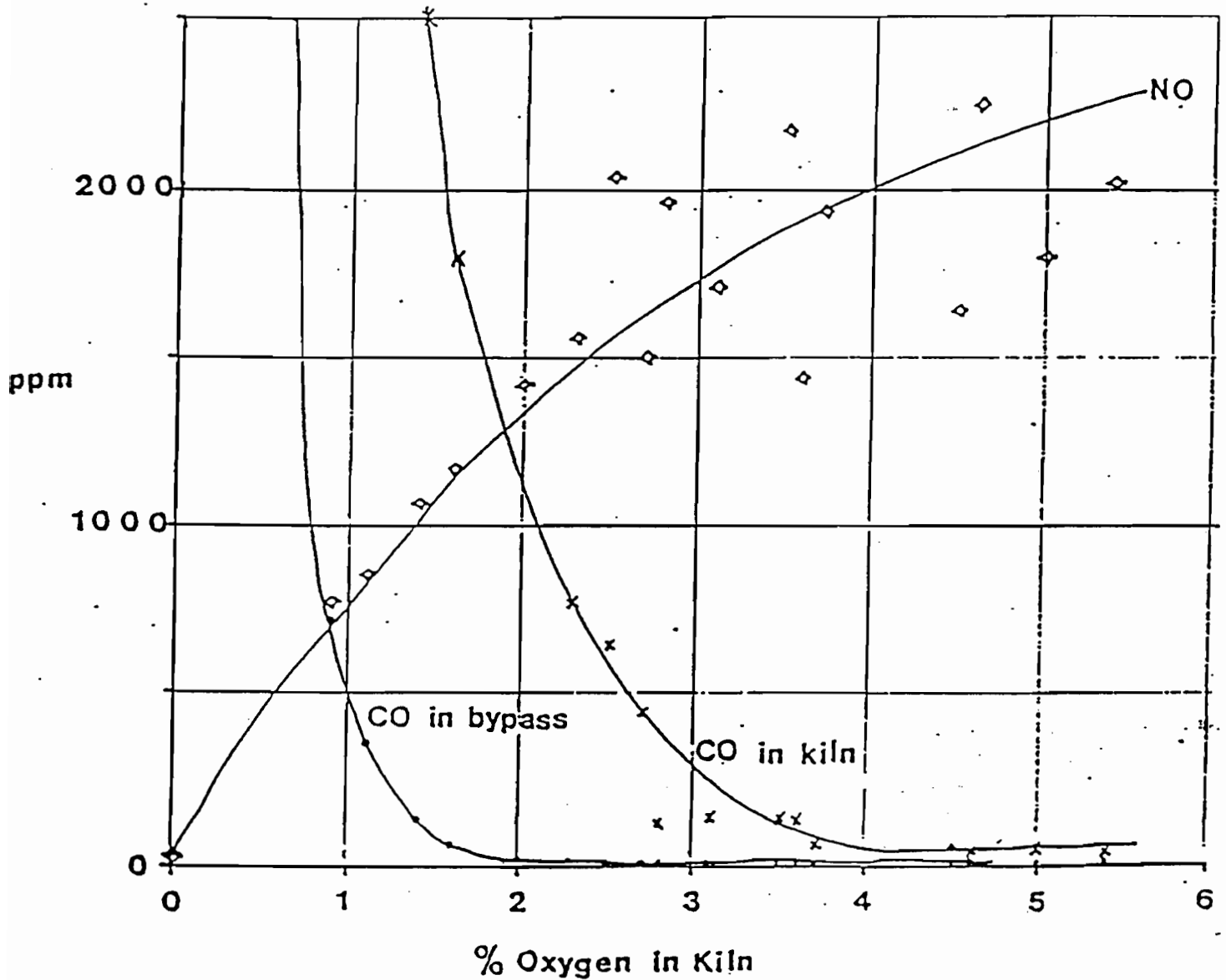
Southdown proposes to control the excess combustion air, and implement proper operation practices to control the emissions of nitrogen oxides from the No. 2 cement kiln.

4.4 CONCLUSION

Based upon the analysis presented in previous sections, the control of excess combustion air and the implementation of proper operation practices by Southdown, limiting the emissions of nitrogen oxides from the No. 2 cement kiln to 250 pounds per hour, 30-day average, represents BACT.

FIGURE 4-1

RELATIONSHIP OF CO AND NO_x EMISSIONS

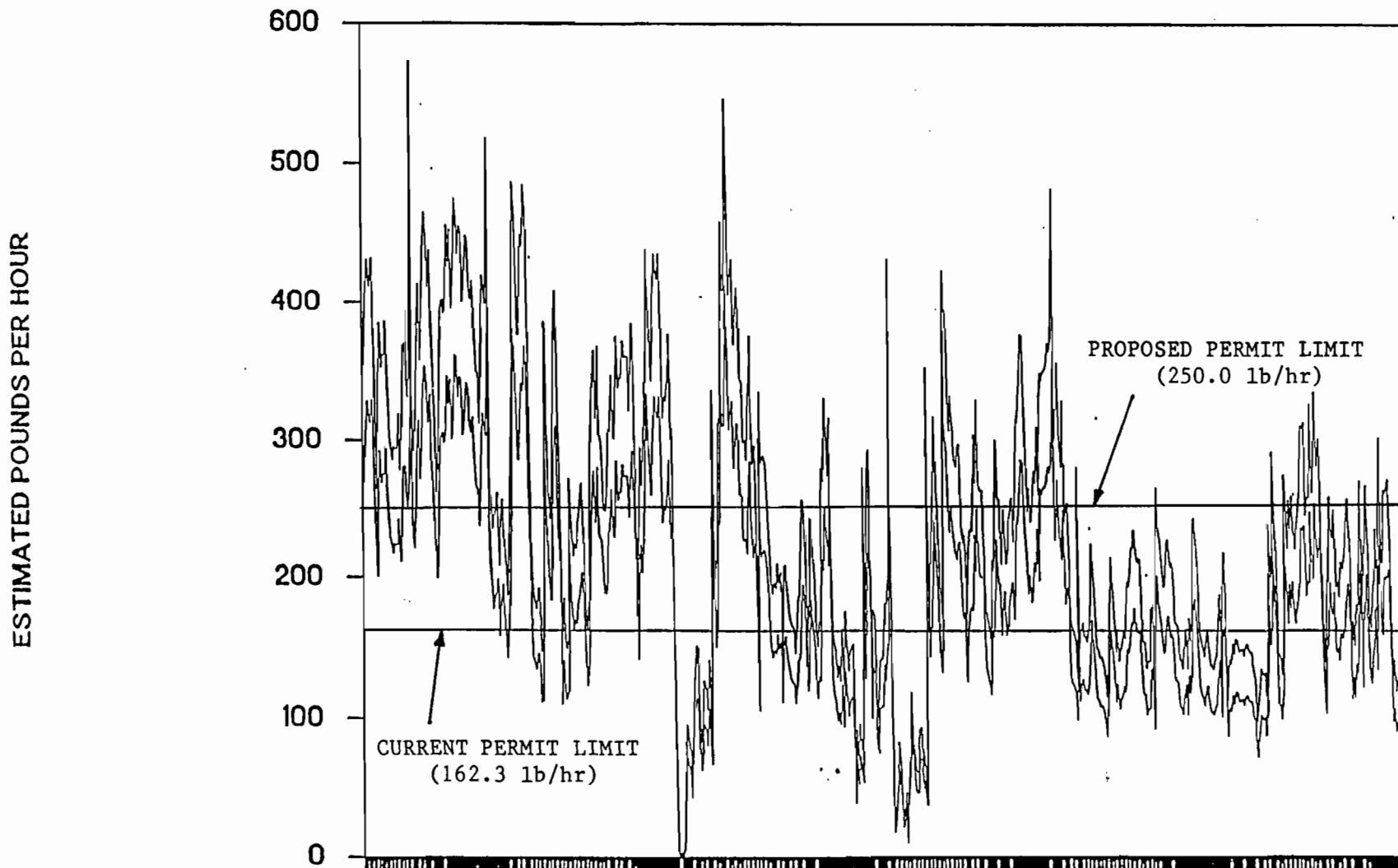


From "The Use of Carbon Monoxide and Other Gases for Process Control", by Eric R. Hansen. Submitted for the 1985 I.E.E.E. Conference.

NOTE: No. 2 Kiln does not have a bypass

FIGURE 4-2

NO. 2 KILN NO_x EMISSION DATA



—— HI ESTIMATE

—— LOW ESTIMATE

—— LIMIT

FIGURE 4-3

NO. 2 KILN CO EMISSION DATA

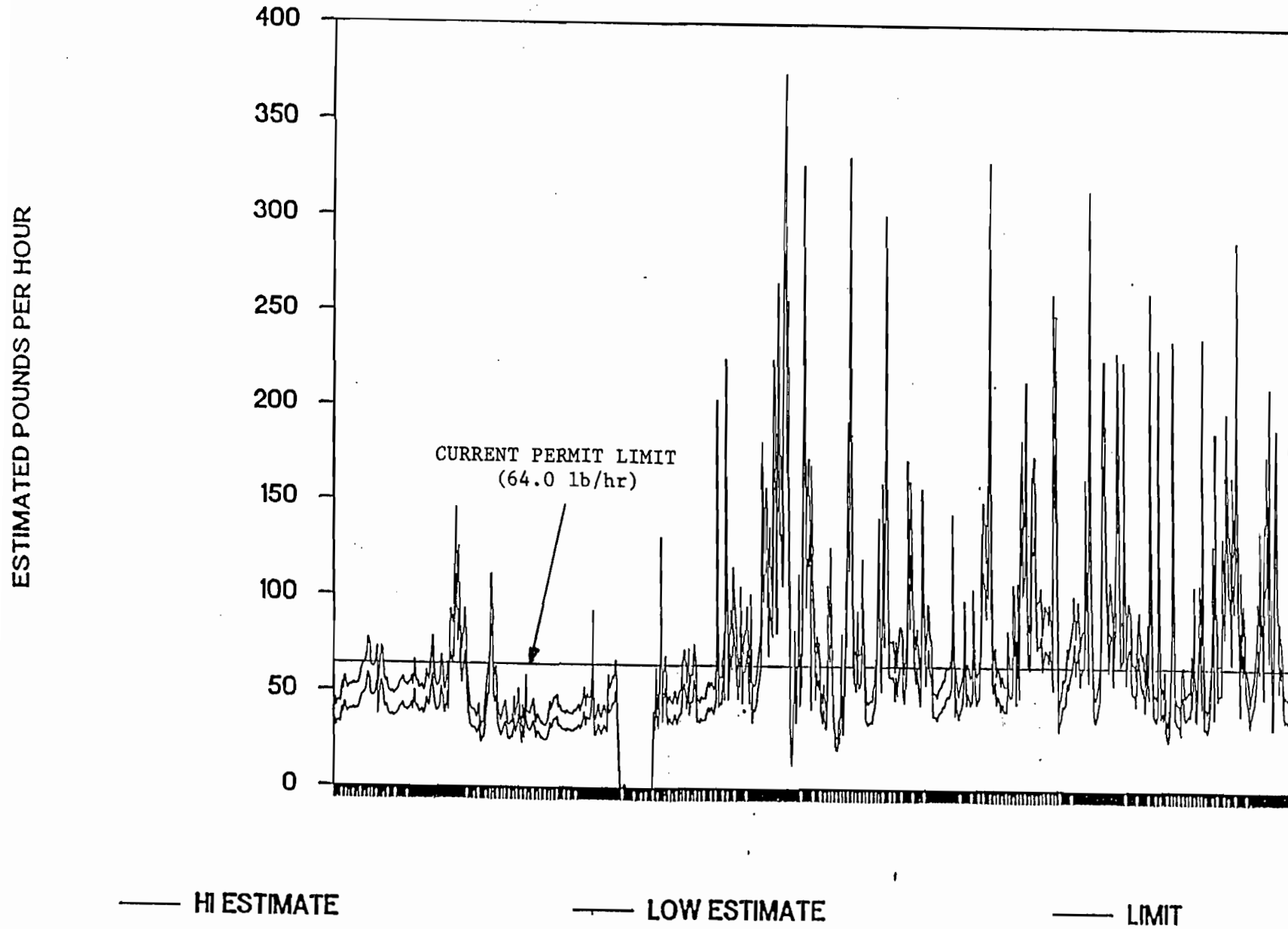


TABLE 4-1
SUMMARY OF NO_x BACT DETERMINATIONS
FOR PORTLAND CEMENT KILNS

SOUTHDOWN, INC.
HERNANDO COUNTY, FLORIDA

COMPANY	DATE	BACT NO _x LIMIT	CONTROL TECHNOLOGY
Ash Grove Cement West, Inc. (WA)	06/20/90	478 ppmvd 590 lb/hr(1)	Process Design
Lone Star Ind. (CA)	07/29/86	250 lb/hr(2)	Process Design
Florida Crushed Stone (FL)	03/27/84	2.90 lb/T feed	Process Design
DAL-TEX Cement (TX)	09/03/82	None	
Las Vegas Port. Cement (NV)(3)	02/01/82	115.0 ppm 281.0 lb/hr	Process Design
Lonestar Ind., Inc. (WA)	01/25/82	300.0 lb/hr	Process Design
Monolith Port. Cement Co. (CA)	12/23/81	260.0 lb/hr	Process Design
Southwestern Port. Cement Co. (TX)(4)	11/05/81	0.32 lb/MMBtu	Kiln Design
Dixie Cement Co. (TN)(5)	09/10/81	110.0 lb/hr	Process Design
Lonestar Port. Cement (UT)(6)	01/16/81	1.6 lb/T feed 236.6 lb/hr	Process Design
Creole Corp. (CA)	05/20/80	175 ppm 213.0 lb/hr	Process Design
Texas Cement Co. (TX)(7)	05/16/80	240.0 lb/hr	Process Design

(continued)

TABLE 4-1 (CONTINUED)

COMPANY	DATE	BACT NOx LIMIT	CONTROL TECHNOLOGY
Lonestar Ind., Inc. (TX)(8)	02/19/80	360.0 lb/hr	Process Design
California Port. Cement Co. (CA)	01/12/79	None	
Kaiser Cement & Gypsum Corp. (CA)	12/26/78	1158.0 lb/hr	Process Design

- (1) Revised 5/91 to 590 lb/hr 3-hr avg. and 422 lb/hr annual avg.
- (2) Permit Engineer corrected data to 100 tph feed not clinker.
- (3) This facility was never built.
- (4) No annual testing required.
- (5) Source shut down.
- (6) Revised 5/90 to 400.0 lb/hr, 2.9 lb/T feed.
- (7) Source out-of-compliance, negotiating revised limits.
- (8) State files indicate source inactive since 1985.

TABLE 4-2
 COMPARISON OF NO_x BACT DETERMINATIONS
 SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

COMPANY	NO _x EMISSION LIMIT (pound NO _x /ton clinker)	CONTROL TECHNOLOGY
Ash Grove Cement	4.6 (6.4 peak)	Process Design
Lone Star Ind.	4.2 (5.8 peak)	Process Design
Florida Crushed	4.8	Process Design
DAL-TEX Cement	None	NA
Las Vegas Cement	NA(1)	NA
Lonestar Ind.	3.5	Process Design
Monolith Cement	4.6	Process Design
Southwestern Cement	NA(2)	Kiln Design
Dixie Cement	NA(3)	NA
Lonestar Cement	4.8	Process Design
Creole Corp.	3.7	Process Design
Texas Cement	NA(4)	Process Design
Lonestar Ind.	NA(5)	Process Design
California Cement	None	NA
Kaiser Cement	5.6	Process Design
Southdown	3.2(6)	Process Design

- (1) This facility was never built.
- (2) No annual testing required.
- (3) Source shut down.
- (4) Source out-of-compliance, negotiating revised limits.
- (5) State files indicate source inactive since 1985.
- (6) Southdown No. 2 Kiln proposed limit; lowest limit in above list.

5.0 AIR QUALITY REVIEW

The air quality review required of a PSD construction permit application potentially requires both air quality modeling and air quality monitoring. The air quality monitoring is required when the impact of air pollutant emission increases and decreases associated with a proposed project exceed the de minimis impact levels defined by Rule 17-2.500(3)(e)1, FAC or in cases where an applicant wishes to define existing ambient air quality by monitoring rather than by air quality modeling. The air quality modeling is required to provide assurance that the emissions from the proposed project, together with the emissions of all other air pollutants in the project area, will not cause or contribute to a violation of any ambient air quality standard.

5.1 AIR QUALITY MODELING FOR NITROGEN OXIDES

The ambient air quality impacts resulting from the requested increase in emissions of nitrogen oxides were evaluated using air dispersion modeling.

The impact analysis of the net increase in emissions of nitrogen oxides from the No. 2 kiln was conducted using the Industrial Source Complex-Short Term (ISC-ST) air quality model, Version 90346. The Area of Significant Impact (ASI) modeling was conducted in accordance with guidelines established by EPA and published in the document, *Guidelines for Air Quality Modeling*, (Revised), July 1986. The meteorological data used with the model were for Tampa, Florida and represent the period 1982 to 1986.

The nitrogen oxides emissions modeled to determine the ASI were the net increase in emissions requested. The ASI modeling include receptors established by the polar grid system extending to 5 kilometers from the plant. Ten sets of receptor rings were placed at distances ranging from 0.9 to 5 kilometers from the plant with the receptors placed at 10 degree intervals on each receptor ring. The receptor ring at 0.9 kilometer approximately corresponds to the nearest boundary to the northeast of the facility (see Figure 2-2). A single receptor was placed at a distance of 14 kilometers from the facility representing the nearest Class I area (Chassahowitzka National Wildlife Refuge) boundary.

5.2 MODELING RESULTS

The results of the ASI modeling, summarized in Table 5-2, demonstrate that the impact of nitrogen oxides emission increases associated with the proposed project were less than significant for the annual time period and also less than the de minimis impact level. The ASI modeling also demonstrated that the impact from the proposed project was not significant at the Class I area located at a distance of 14 kilometers from the Southdown facility (see Table 5-3).

The PSD increment and ambient air quality standard analyses were not required as the impacts from the proposed project were predicted to be less than de minimis.

TABLE 5-1
 AIR QUALITY MODELING PARAMETERS
 SOUTHDOWN, INC.
 HERNANDO COUNTY, FLORIDA

Source	NOx Emission Rate (g/s)	Stack Parameters			
		Ht (m)	Dia (m)	Vel (mps)	Temp (°K)
No. 2 Kiln	11.06	32.01	4.27	9.90	394

NOTE:

1. The modeled emission rate is the net increase in nitrogen oxides from the No. 2 kiln.
2. The dimensions of the nearest building were included in the model input as 25.6 m height, 24.0 m length, and 24.0 m width.

TABLE 5-2
SUMMARY OF NITROGEN OXIDES IMPACT ANALYSIS
SOUTHDOWN, INC.
HERNANDO COUNTY, FLORIDA

METEOROLOGICAL DATA	NITROGEN OXIDES IMPACT ($\mu\text{g}/\text{m}^3$)		
	ANNUAL	8-HOUR	24-HOUR
1982	0.51 (2500m, 240°)	11.28 (1500m, 240°)	5.04 (1500m, 240°)
1983	0.34 (1500m, 90°)	10.04 (1500m, 90°)	5.92 (1250m, 100°)
1984	0.44 (3000m, 240°)	15.73 (900m, 130°)	5.14 (1500m, 120°)
1985	0.44 (1500m, 90°)	12.25 (1250m, 90°)	8.52 (1000m, 120°)
1986	0.47 (1500m, 90°)	10.96 (1250m, 90°)	4.92 (2500m, 230°)
De minimis Impact 17-2.500(3)(e)1,FAC	14	NA	NA
Ambient Standard 17-2.300(3)(e),FAC	100	NA	NA
PSD Increment, Class II 17-2.310,FAC	25	NA	NA
FDER No-Threat Levels (Permitting Guidelines)	NA	60.0	14.4

TABLE 5-3
SUMMARY OF NITROGEN OXIDES IMPACT ON CLASS I AREA
SOUTHDOWN, INC.
HERNANDO COUNTY, FLORIDA

METEOROLOGICAL DATA	<u>NITROGEN OXIDES IMPACT ($\mu\text{g}/\text{m}^3$)</u> ANNUAL
1982	0.04
1983	0.05
1984	0.06
1985	0.06
1986	0.06
Class I PSD Increment 17-2.310, FAC	2.5

6.0 GOOD ENGINEERING PRACTICE STACK HEIGHT

The criteria for good engineering practice stack height in Rule 17-2.270 states that the height of a stack should not exceed the greater of 65 meters (213) feet or the height of nearby structures plus the lesser of 1.5 times the height or cross-wind width of the nearby structure. This stack height policy is designed to prevent achieving ambient air quality goals solely through the use of excessive stack heights and air dispersion.

The Southdown No. 2 kiln stack is less than 213 feet in height above-grade. This satisfies the Good Engineering Practice (GEP) stack height criteria.

It should be noted that building wake effects were considered in the modeling using the worst-case dimensions of the nearest structure (baghouse).

7.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

7.1 IMPACT ON SOILS AND VEGETATION

The U. S. Environmental Protection Agency was directed by Congress to develop primary and secondary ambient air quality standards. The primary standards were to protect human health and the secondary standards were to:

"... protect the public welfare from any known or anticipated adverse effects of a pollutant."

The public welfare was to include soils, vegetation and visibility.

As a basis for promulgating the air quality standards, EPA undertook studies related to the effects of all major air pollutants and published criteria documents summarizing the results of the studies. The studies included in the criteria documents were related to both acute and chronic effects of air pollutants. Based on the results of these studies, the criteria documents recommended air pollutant concentration limits for various periods of time that would protect against both chronic and acute effects of air pollutants with a reasonable margin of safety.

The air quality modeling that has been conducted as a requirement for the PSD application demonstrates that the levels of nitrogen oxides expected as a result of the proposed project will be below the de minimis impact level as well as the FDER NTLs. As a result, it is reasonable to conclude that there will be no adverse effect to the soils or vegetation of the area.

7.2 GROWTH RELATED IMPACTS

The proposed modification will require no increase in personnel to operate the No. 2 kiln. Therefore, no additional growth impacts are expected as a result of the proposed project.

7.3 VISIBILITY IMPACTS

The proposed project will result in an increase in nitrogen oxides emissions. However, since the predicted impact from the proposed project is below the de minimis level, no adverse impacts on visibility are expected.

8.0 CONCLUSION

It can be concluded from the information in this report that the proposed increase in the allowable emission rate of nitrogen oxides from the Southdown No. 2 cement kiln as described in this report will not cause or contribute to a violation of any air quality standard, PSD increment, or any other provision of Chapter 17-2, FAC.

APPENDIX

NOx EMISSION CALCULATIONS

$$\begin{aligned} \text{Present Permitted NOx} &= 162.3 \text{ lbs/hr} \\ &\quad \times 8200 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\ &= 665.4 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{CEM Measured NOx} &= 250 \text{ lbs/hr} \\ \text{(March-April 1991)} &\quad \times 8200 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\ &= 1025.0 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{Proposed NOx} &= 250 \text{ lbs/hr (30-day avg.)} \\ &\quad \times 8200 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\ &= 1025.0 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{Net Change in Allowable NOx} &= 250 \text{ lbs/hr} - 162.3 \text{ lbs/hr} \\ &= 87.7 \text{ lbs/hr} \\ &\quad \times 8200 \text{ hrs/yr} \times \text{ton}/2000 \text{ lb} \\ &= 359.6 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{Net Change in NOx} &= 250 \text{ lbs/hr} - 250 \text{ lbs/hr} \\ \text{Based on CEM Data} &= 0 \text{ lb/hr, 0 tpy} \end{aligned}$$

$$\begin{aligned} \text{Modeled Emissions of NOx} &= (250 - 162.3) \text{ lbs/hr} \\ &= 87.7 \text{ lbs/hr} \\ &\quad \times 454 \text{ g/lb} \times \text{hr}/3500 \text{ s} \\ &= 11.06 \text{ g/s} \end{aligned}$$

CURRENT NO. 2 KILN PERMIT



Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347
 Lawton Chiles, Governor 813-623-5561 Carol M. Browner, Secretary

PERMITTEE:

Southdown, Inc. dba
 Florida Mining & Materials
 P.O. Box 6
 Brooksville, Florida 34605-0006

PERMIT/CERTIFICATION:

Permit No: A027-194660
 County: Hernando
 Expiration Date: 4/30/96
 Project: No. 2 Kiln

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans 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 Kiln No. 2, a rotary kiln used to produce portland cement clinker. Maximum kiln feed rate is 130 tons/hr yielding a maximum clinker production rate of 79.6 tons/hr. The kiln uses coal with a sulfur content not to exceed 1% as the primary fuel at a maximum heat input rate of 300 MMBtu/hr. Flolite re-refined oil blend is also used as a startup fuel and an alternate fuel during periods when raw material feed is stopped or when coal moisture content exceeds the normal range. Particulate emissions are controlled by the following baghouse:

<u>Baghouse Description</u>	<u>Baghouse ID</u>
Fuller Model 10744 Modular (18 Unit Reverse Air Dust Collector rated at 300,000 ACFM)	E-19

Location: U.S. Highway 98 North, NW of Brooksville

UTM: 17-356.9 E 3169.0 N NEDS No: 0010 Point ID No: 15

Replaces Permit No.: AC27-173474

PERMITTEE
 Southdown, Inc. dba
 Florida Mining & Materials
 P.O. Box 6
 Brooksville, FL 34605-0006

PERMIT/EXPIRATION
 Permit No.: AO27-194660
 County: Hernando
 Expiration Date: 4/30/96
 Project: No. 2 Kiln

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions.
2. The No. 2 Kiln feed rate shall not exceed 130 tons per hour, yielding a maximum clinker production rate of 79.6 tons per hour, averaged on a rolling 30-day production period. [Permit No. AC27-173474].
3. The operation of the No. 2 Kiln shall not exceed 8,200 hours per year. [Permit No. AC27-173474].
4. Emissions from the No. 2 Kiln shall not exceed the following:

Pollutant	Maximum Allowable Emissions	
	pounds/hour	tons/year
Particulates (PM)	13.5	55.3
Sulfur Dioxide (SO ₂)	11.5	47.0
Nitrogen Oxides (NO _x)	162.3	665.3
Volatile Organic Compounds (VOC)	7.4	31.2
Carbon Monoxide (CO)	64.0	262.2

[Permit No. AC27-173474].

5. Visible emissions shall not exceed 10% opacity. [Permit No. AC27-173474].
6. The No. 2 Kiln fuel input rate shall not exceed 300 MMBtu/hr. [Permit No. AC27-173474].
7. Except as allowed for in Specific Condition No. 8 below, the fuel used in No. 2 kiln shall be coal with a sulfur content of less than 1.0% by weight and sulfur content to heat content ratio not to exceed 0.83 pounds of sulfur per MMBtu of heat input.

PERMITTEE

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PERMIT/EXPIRATION

Permit No.: A027-194660
County: Hernando
Expiration Date: 4/30/96
Project: No. 2 Kiln

Specific Conditions:

8. Flolite re-refined oil blend (or equivalent re-refined oil blend product), not to exceed 1.0% sulfur by weight, may be used as an alternate fuel in No. 2 Kiln under the following circumstances:

- a. during periods of startup, not to exceed a total of 250 hours per year;
- b. during periods when kiln material feed is stopped;
- c. during periods when the coal moisture content exceeds the normal range.

The rate of Flolite (or equivalent) re-refined oil blend usage shall not exceed 2,069 gallons per hour. At all times, the Flolite (or equivalent) re-refined oil blend shall not contain metal/toxic concentrations that exceed the following:

Metal/Toxic	Maximum Allowed Concentration
Cadmium*	0.3 ppm*
Lead	5.0 ppm*
Arsenic	1.0 ppm*

[Permit No. AC27-173474].

9. Test the emissions from the No. 2 Kiln baghouse for the following pollutant(s) at intervals of 12 months ± 1 month from the date January 29, 1991 and submit a copy of the test data to the Air Section of the Southwest District Office within 45 days of such testing: [Rules 17-2.700(2) and 17-2.700(7), F.A.C.].

- (X) Opacity (VE - Visible Emissions)
- (X) Particulates (PM)
- (X) Sulfur Dioxide (SO2)
- (X) Carbon Monoxide (CO)
- (X) Nitrogen Oxides (NOx)
- (X) Volatile Organic Compounds (VOC)

PERMITTEE

Southdown, Inc. dba
Florida Mining & Materials
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PERMIT/EXPIRATION

Permit No.: A027-194660
County: Hernando
Expiration Date: 4/30/96
Project: No. 2 Kiln

Specific Conditions:

10. Compliance with the emission limitations of Specific Condition Nos. 4 and 5 shall be determined using the following EPA Methods contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-2.700, F.A.C.:

EPA Method 5 for PM
EPA Method 6 for SO₂
EPA Method 7 for NO_x
EPA Method 9 for VE
EPA Method 10 for CO
EPA Method 25A for VOC

The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 17-2.700, F.A.C. and 40 CFR 60, Appendix A.

11. The visible emissions test shall be conducted by a certified observer and be a minimum of sixty (60) minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. [Rule 17-2.700(1)(d)1.b., F.A.C.].

12. Testing of emissions must be conducted within 10% of the maximum permitted kiln feed rate of 130 tons/hour and heat input rate of 300 MMBtu/hr. A compliance test submitted at an operating rate less than 90% of maximum permitted rate will automatically constitute an amended permit at the lesser rate until another test showing compliance at a higher rate is submitted. Failure to submit the operating rate and actual operating conditions may invalidate the test. [Rule 17-4.070(3), F.A.C.].

13. The permittee shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 17-2.700(2)(a)9., F.A.C.].

14. Emissions of NO_x shall be minimized through use of low excess air firing. In order to document that this is being done, a continuous kiln exhaust gas oxygen monitor and data recorder shall be operated, calibrated and maintained. Data from the recorder shall be kept for the most recent 2 year period and made available upon request.

PERMITTEE
Southdown, Inc. dba
Florida Mining & Materials
P.O. Box 6
Brooksville, FL 34605-0006

PERMIT/EXPIRATION
Permit No.: AO27-194660
County: Hernando
Expiration Date: 4/30/96
Project: No. 2 Kiln

Specific Conditions:

15. The daily No. 2 Kiln feed rates and clinker production rates shall be monitored and recorded in accordance with 40 CFR 60.33. [Permit No. AC27-173474].

16. The following Kiln No. 2 fuel records shall be maintained and made available upon request:

a. Coal

- (1) the daily coal usage rate in tons/day;
- (2) the average coal sulfur content (using ASTM-D-3177-84) and heating value (Btu/lb) of each coal shipment based upon analysis of a sample representative of the shipment (trainload);
- (3) calculation of average sulfur to heat content ratio (in lbs sulfur/MMBtu) for each shipment based upon the above analysis.

b. Flolite (or equivalent) Re-refined Oil Blend

- (1) Log of all periods when Flolite (or equivalent) re-refined oil blend is used including the following:
 - (a) the conditions that required its use (i.e. startup, raw material feed stopped, etc.);
 - (b) the length of time the re-refined blend oil was fired (hrs);
 - (c) the quantity of re-refined oil blend used (gallons).
- (2) Records of the following representative of each daily shipment of Flolite (or equivalent) re-refined oil blend received based upon vendor supplied data or upon the results of analysis of representative as-received samples taken from each daily shipment:
 - (a) sulfur content in %S by weight;
 - (b) concentration of cadmium in ppm;
 - (c) concentration of lead in ppm;
 - (d) concentration of arsenic in ppm.

[Permit No. AC27-173474].

PERMITTEE

Southdown, Inc. dba
Florida Mining & Materials
P.O. Box 6
Brooksville, FL 34605-0006

PERMIT/EXPIRATION

Permit No.: A027-194660
County: Hernando
Expiration Date: 4/30/96
Project: No. 2 Kiln

Specific Conditions:

14. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 17-2.610(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. Specific work practices to minimize fugitive PM emissions shall include:

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

[Permit No, AC27-173474].

14. The applicant shall comply with all of the applicable provisions and requirements of 40 CFR 60 Subpart F (New Source Performance Standards - Portland Cement Plants) and F.A.C. Chapters 17-2 and 17-4. [AC27-173474].

15. Submit to the Southwest District Office of the Department each calendar year, on or before March 1, an emission report for this source for the preceding calendar year containing the following information pursuant to Subsection 403.061(13), F.S.:

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

PERMITTEE

Southdown, Inc. dba
Florida Mining & Materials
P.O. Box 6
Brooksville, FL 34605-0006

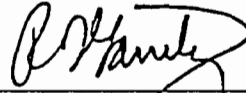
PERMIT/EXPIRATION

Permit No.: A027-194660
County: Hernando
Expiration Date: 4/30/96
Project: No. 2 Kiln

Specific Conditions:

16. Four applications to renew this operating permit shall be submitted to the Southwest District Office of the Department at least 60 days prior to the expiration date of this permit pursuant to Rule 17-4.090(1), F.A.C.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION



Richard D. Garrity, Ph.D.
Deputy Assistant Secretary
Southwest District

PAST BACT DETERMINATIONS

NO_x Emission Limits For Cement Kilns,
Portland Cement Manufacturing Facilities

Company Name	Date of Permit Issuance	Determination Made By	NO _x Emission Limit	Control Technology Or Process on
Ashgrove Cement West, Inc.	6/20/90	Washington DOE	478 ppmdv 590 lb/h	Temperature and fuel use reduction
Lone Star Industries	7/29/86	Monterey Bay Unified Agency, California	250 lb/hr	O ₂ control on combust air to precalciner
Florida Crushed Stone	3/27/84	Florida DER	2.9 lb/T dry feed	Design
Dal-Tex Cement	9/3/82	Texas ACB	None	None
Las Vegas Portland Cement	2/1/82	EPA Region IX	281 lb/hr 115 ppm	None
Lonestar Industries Inc.	1/25/82	EPA Region X	300 lb/hr 1314 T/yr	Minimized by process design
Monolith Portland Cement Co.	12/23/81	EPA Region IX	260 lb/hr	Coal fired, wet process
Southwestern Portland Cement Co.	11/5/81	EPA Region VI	Unknown for 2 kilns, .32 lb/mmBtu for third kiln	Kiln design
Dixie Cement Co.	9/10/81	Tennessee APCD	110 lb/hr	Dry process/coal fired
Lonestar Portland Cement	1/16/81	EPA Region VIII	1.6 lb/T feed 236.6 lb/hr	Kiln
Creole Corp.	5/20/80	EPA Region IX	213 lb/hr 175 ppm at 10% O ₂	Reduced temper- ature in precalcining furnace, and high fuel efficiency
Texas Cement Co.	5/16/80	EPA Region VI	240 lb/hr	Flash calciner, LEA
Lonestar Industries Inc.	2/19/80	EPA Region VI	360 lb/hr	Precalciner process design
California Portland Cement Co.	1/12/79	EPA Region IX	None	Reduced fuel usage, low furnace temperature
Kaiser Cement & Gypsum Corp.	12/26/78	EPA Region IX	1158 lb/hr	Reduced fuel usage and low temperature

APPENDIX -- DETAILED SOURCE LISTING

06/12/1991

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=====
SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          750000.00 T/YR
-----
COMPANY NAME/SITE LOCATION ASH GROVE CEMENT WEST, INC.          SEATTLE, WA
-----
DETERMINATION IS BACT FOR A NEW SOURCE.          DATE OF PERMIT ISSUANCE-- 06/20/90
PERMIT NO. PSD-90-03          ESTIMATED START-UP DATE--
DETERMINATION MADE BY WASHINGTON DEPARTMENT OF ECOLOGY          ALAN T. BUTLER, P.E.          (206)-867-7103
(AGENCY)          (AGENCY CONTACT PERSON)          (PHONE)
=====
    
```

PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT NAME	EMISSION LIMITS/ CONTROL EQUIPMENT OR PROCESS MODIFICATION/ ... & BASIS	
			TOP DOWN BACT INFORMATION	... PCT EFF
SYSTEM MAIN EXHAUST STACK		CO	1000.0000 PPM DV CORR. TO 10% O2 538.0000 LB/H, 8 H AVG PROCESS DESIGN	BACT
		NOX	478.0000 PPM DV CORR TO 10% O2 590.0000 LB/H, AVG	BACT
		PM10	0.0100 GR/DSCF CORR. TO 10% O2 43.0000 T/YR BAGHOUSE	BACT
		SO2	33.0000 PPM DV CORR TO 10% O2 40.0000 LB/H, AVG SO2 PREHEAT REMOVAL, PROCESS DESIGN	BACT

NOTES -----
 CEMENT KILN W/ SINGLE, COUNTER-CURRENT ATR STREAM FOR CLINKER COOLING, COMBUSTION AIR, AND RAW MATERIALS DRYING.
 CEMS MUST CONFORM W/ 40 CF60 APP.B, PS 2,3,4. CERMS, TO DETERMINE LB/H EMISSIONS, MUST CONFORM WITH PS 6. SOURCE MUST HAVE QC PLAN CONFORMING WITH APP. F.

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

DATE ENTERED/UPDATED: 05/21/1991

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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=====
SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          600000.00 T/YR
-----
COMPANY NAME/SITE LOCATION  FLORIDA CRUSHED STONE          BROOKSVILLE, FL
-----
DETERMINATION IS BACT FOR A NEW SOURCE.          DATE OF PERMIT ISSUANCE-- 03/27/84
PERMIT NO. FL-091          ESTIMATED DATE OF START-UP-- 1985
DETERMINATION MADE BY    FLORIDA DER          BOB KING          (704)-488-1344
                        (AGENCY)          (AGENCY CONTACT PERSON)          (PHONE)
=====
    
```

PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
KILN	124.00 T/H	PM	0.3000 LB/T DRY FEED BAGHOUSE, SEE NOTE	99.00
		SO2	0.6000 LB/T DRY FEED 0.8% S COAL	
		NOX	2.9000 LB/T DRY FEED DESIGN	
COOLER, CLINKER	75.00 T/H	PM	0.1000 LB/T KILN FEED BAGHOUSE, SEE NOTE	99.00
KILN, COOLER		VE	10.0000 % OPACITY, MAX BAGHOUSE, SEE NOTE	99.00
DRYER, RAWMILL		VE	10.0000 % OPACITY, MAX BAGHOUSE, SEE NOTE	99.00
PLANT, ALL OTHER EMISSION POINTS		VE	5.0000 % OPACITY, MAX BAGHOUSE	99.00

NOTES -----
 NSPS SUBPART F APPLICABLE. SO2 EMISSIONS LIMITED TO PROTECT CHASSAHOVITZKA NATIONAL WILDERNESS CLASS I AREA AND TO ALLOW FUTURE INDUSTRIAL GROWTH. NOTE -- ONE LARGE BAGHOUSE THROUGH WHICH A 362 MW BOILER ALSO EXHAUSTS.
 PROJECT DELAYED TO LATE 1985 DUE TO LITIGATION.

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(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.          INITIAL REVIEW POST STARTUP
                                                                REVIEW STATUS: 12/28/1984
=====
PAGE G- 997          ID NUMBER FL-0032          SOURCE TYPE CODE 9.4
    
```

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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=====
SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          2900.00 T/D
-----
COMPANY NAME/SITE LOCATION  DAL-TEX CEMENT                          MIDLOTHIAN, TX
                                                                ELLIS COUNTY

DETERMINATION IS BACT FOR A NEW SOURCE.
PERMIT NO. C-8995
DETERMINATION MADE BY    TEXAS ACS                                GARY MCARTHUR
                        (AGENCY)                          (AGENCY CONTACT PERSON)
                                                                DATE OF PERMIT ISSUANCE-- 09/03/82
                                                                ESTIMATED DATE OF START-UP-- 1983
                                                                (512)-451-5711
                                                                (PHONE)
=====
    
```

PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
CEMENT KILN	2900.00 T/D	PM	0.3000 LB/T FEED BAGHOUSE	NSPS 99.00
		SO2 NOX		
COAL HANDLING	21.00 T/H	FUG* VE	SEE VE LIMIT 20.0000 % OPACITY BAGHOUSE-UNLOAD, GRINDING, FEED BIN	NSPS 99.00
FINISH MILLS	2900.00 T/D	PM	78.0000 T/YR BAGHOUSE	99.00

NOTES -----

NO EMISSION POINT FOR CLINKER COOLER. PART OF EXHAUST IS RECIRCULATED TO THE CLINKER COOLER THROUGH A HEAT EXCHANGER AND THE REMAINDER IS USED AS COMEUSTION AIR FOR THE KILN /PREHEATER/PRECALCINER.

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

INITIAL REVIEW POST STARTUP
REVIEW STATUS: 04/01/1983

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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=====
SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          6000.00 T/D
-----
COMPANY NAME/SITE LOCATION  LAS VEGAS PORTLAND CEMENT          JEAN, NV
-----
DETERMINATION IS BACT FOR A NEW SOURCE.          DATE OF PERMIT ISSUANCE-- 02/01/82
PERMIT NO. NSR-4-7-1 NV-81-01          ESTIMATED DATE OF START-UP--
DETERMINATION MADE BY          EPA REGION IX          BOB BAKER          (415)-974-8215
(AGENCY)          (AGENCY CONTACT PERSON)          (PHONE)
=====
    
```

PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... BASIS ... PCT EFF
KILN, 2	125.00 T/H EA	SO2	260.0000 LB/H 2H AV	BACT
			72.0000 PPM 2H AV	
		SO2	150.0000 LB/H 300 AV	80.00
			44.0000 PPM 300 AV	BACT
		NOX	261.0000 LB/H	80.00
			115.0000 PPM	BACT
		CO	30.0000 LB/H	BACT
		PM	58.0000 LB/H	BACT
			0.0125 GR/DSCF	
		VE	10.0000 % OPACITY	99.90
			ESP	BACT
		BE	0.0290 LB/D	BACT
CLINKER COOLER, 2	125.00 T/H EA	PM	40.0000 LB/H	BACT
			0.0065 GR/DSCF	
		VE	BAGHOUSE & MULTICYCLONE	99.90
			10.0000 % OPACITY	BACT
		BAGHOUSE & MULTICYCLONE	99.90	

NOTES -----
THIS FACILITY WAS NEVER BUILT.

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

```

=====
SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          750000.00 T/YR
-----
COMPANY NAME/SITE LOCATION LONESTAR INDUSTRIES INC.          CONCRETE, WA
-----
DETERMINATION IS BACT FOR A NEW SOURCE.          DATE OF PERMIT ISSUANCE-- 01/25/82
PERMIT NO. (REGION FILE NO.) PSD-X82-03          ESTIMATED DATE OF START-UP-- 1983
DETERMINATION MADE BY    EPA REGION X          (206)-442-1105
                        (AGENCY)          (PHONE)
                        PAUL BOYS
                        (AGENCY CONTACT PERSON)
=====
    
```

PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
CEMENT KILN AND MILL	2.91 MMTU/T CLIM*	PM	0.0100 GR/ACF 20.8000 LB/H BAGHOUSE, FIBERGLASS BAGS	99.90
		SO2	275.0000 LB/H 1205.0000 T/YR MINIMIZED BY PROCESS DESIGN	
		NOX	300.0000 LB/H 1314.0000 T/YR MINIMIZED BY PROCESS DESIGN	
CLINKER COOLER		PM	0.0100 GR/ACF 16.1000 LB/H BAGHOUSE, NOMEX BAGS	
MATERIALS HANDLING EQUIP., 37 U*		PM	0.0100 GR/ACF 5.0000 % OPACITY BAGHOUSE	
QUARRY, STACKER-RECLAIMER, COAL*		PM	10.0000 % OPACITY WET SUPPRESSION	

NOTES -----
 BACT FOR PARTICULATE WAS BASED ON EXPECTED PERFORMANCE OF BAGHOUSES. IF THE KILN EMISSION LIMITATION IS EXPRESSED IN THE UNITS OF THE NSPS IT IS CONSIDERABLY SMALLER DUE TO PROCESS DESIGN AND BAGHOUSE PERFORMANCE.
 THE PRECALCINER DESIGN IS EXPECTED TO RESULT IN LOWER SO2 AND NOX EMISSIONS THAN THE CONVENTIONAL WET OR DRY PROCESS CEMENT PLANT.

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE. INITIAL REVIEW POST STARTUP
 REVIEW STATUS: 04/01/1983

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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=====
SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          5.00 MT/YR
-----
COMPANY NAME/SITE LOCATION MONOLITH PORTLAND CEMENT CO.          MONOLITH, CA
-----
DETERMINATION IS BACT FOR A MODIFIED SOURCE.          DATE OF PERMIT ISSUANCE-- 12/23/81
PERMIT NO. (REGION FILE NO.) SE 78-11          ESTIMATED DATE OF START-UP--
DETERMINATION MADE BY EPA REGION IX          DON HARVEY          (415)-974-9223
(AGENCY)          (AGENCY CONTACT PERSON)          (PHONE)
=====
    
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PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
ROTARY KILN	500000.00 T/YR	NOX	260.0000 LB/H COAL FIRED, WET PROCESS	BACT
		SO2	300.0000 LB/H BAGHOUSE ALKALINE CEMENT DUST	BACT 90.00
		PM	21.4000 LB/H 0.0250 GR/DSCF BAGHOUSE	HSPS 99.80
		BE	21.4000 LB/H 0.0200 GR/DSCF BAGHOUSE	HSPS 99.00
KILN DUST RECYCLE		PM	NONE	
CLINKER COOLER	500000.00 T/YR	PM	12.9000 LB/H 0.0120 GR/DSCF BAGHOUSE REINJECTION INTO KILN	HSPS

NOTES -----
 CONSTRUCTION OF A ROT. CEMENT KILN, CLINKER COOLER, AND COAL MILL. ONLY LOW SULFUR FUEL (1.5% BY WT.) MAY BE USED IN KILN. QUARTERLY BERYLLIUM MONITORING IS REQUIRED. BACT DETERMINATION: 1) TECHNOLOGY & ECONOMICS, 2) TECHNOLOGY, 3) TECH. AND HSPS.

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

INITIAL REVIEW POST STARTUP
 REVIEW STATUS: 04/01/1983 04/04/1984

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          1.70 MT/D
-----
COMPANY NAME/SITE LOCATION LONESTAR PORTLAND CEMENT          , UT
NEAR GRANTSVILLE          TOOLE COUNTY
-----
DETERMINATION IS BACT FOR A NEW SOURCE.          DATE OF PERMIT ISSUANCE-- 01/16/81
PERMIT NO.          ESTIMATED DATE OF START-UP--
DETERMINATION MADE BY    EPA REGION VIII          JOHN DALE          (303)-837-3763
(AGENCY)          (AGENCY CONTACT PERSON)          (PHONE)
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PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
ADD. RECLAIM		PM	0.5100 LB/H FF	BACT 99.90
AIR SEPARATOR		PM	3.8600 LB/H FF	BACT 99.90
ALKALI BYPASS		PM	3.0000 LB/H FF	BACT 99.90
CEM SILO BUCKET		VE	20.0000 % OPACITY	
CEM SILO LDOUT		PM	0.6900 LB/H FF	BACT 99.90
CLK COOL ELEV		PM	2.1400 LB/H FF	BACT 99.90
CLK COOLER		PM	0.3300 LB/H FF	BACT 99.90
CLK RECL		PM	11.1000 LB/H FF	BACT 99.90
		VE	20.0000 % OPACITY	

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

INITIAL REVIEW POST STARTUP
REVIEW STATUS: 04/01/1985

(CONTINUED) LONESTAR PORTLAND CEMENT

PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
SAME PROCESS (CONTINUED)				
COAL CRUSHER	61.90 MT/YR	PM	0.5800 LB/H FF	BACT 99.90
		PM	0.5900 LB/H FF	BACT 99.90
COAL MILL	61.90 MT/YR	VE	10.0000 % OPACITY	
		PM	1.7100 LB/H FF	BACT 99.90
COAL MILL SURGE		VE	10.0000 % OPACITY	
		PM	0.3400 LB/H FF	BACT 99.90
FINISH MILL		PM	2.5700 LB/H FF	BACT 99.90
FRINGE BIN		PM	0.2600 LB/H FF	BACT 99.90
GYP BIN LDOUT		PM	0.4300 LB/H FF	BACT 99.90
HI-LIME LDOUT		PM	0.2100 LB/H FF	BACT 99.90
KILN GASES	1.70 MT/D	NOX	1.6000 LB/T FEED 236.6000 LB/H KILN	BACT
		SO2	0.6000 LB/T FEED 64.5000 LB/H KILN	BACT 85.00
LIMESTONE RECL		PM	0.5100 LB/H FF	BACT 99.90
RAW MILL		PM	12.0000 LB/H FF	BACT 99.90
		VE	20.0000 % OPACITY	

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

INITIAL REVIEW POST STARTUP
REVIEW STATUS: 04/01/1983

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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SOURCE TYPE/SIZE	PORTLAND CEMENT MANUFACTURING	1.10 MMT/YR

COMPANY NAME/SITE LOCATION	CREOLE CORP. NEAR PLASTER CITY	, CA IMPERIAL COUNTY

DETERMINATION IS BACT FOR A NEW SOURCE.		DATE OF PERMIT ISSUANCE-- 05/20/80
PERMIT NO. (REGION FILE NO.) SE-78-09		ESTIMATED DATE OF START-UP--
DETERMINATION MADE BY	EPA REGION IX (AGENCY)	(415)-974-8223 (PHONE)
	DOH HARVEY (AGENCY CONTACT PERSON)	

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PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS	CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF

PREHEATER/KILN MILL (2)	500000.00 T/YR CEMENT*	PM	23.7000 LB/H 0.0180 GR/DSCF EA	BAGHOUSE	99.90
		SO2	78.3000 LB/H 46.0000 PPM AT 10% O2	ABSORPTION OF SULFUR OXIDES BY ALKALI LOW SULFUR COAL	85.00
		SO2	266.0000 LB/H 156.0000 PPM AT 10%O2	INCREASED CONTACT BETWEEN ALKALI AND SULFUR BE*	
		NOX	213.0000 LB/H 175.0000 PPM AT 10%O2	REDUCED TEMPERATURE IN PRECALCINING FURNACE HIGH FUEL EFFICIENCY	
CLINKER COOLER		PM	10.2000 LB/H 0.0130 GR/DSCF EA		
OTHER PM POINT SOURCES		PM	0.0150 GR/ACFM	BAGHOUSES	
INPLANT ROADS		PM		PAVING AND SWEEPING	

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

INITIAL REVIEW POST STARTUP
REVIEW STATUS: 04/01/1983 04/04/1984

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          2750.00 T/D
-----
COMPANY NAME/SITE LOCATION TEXAS CEMENT CO.          BUENA, TX 78610
                           P.O. BOX 610
-----
DETERMINATION IS BACT FOR A MODIFIED SOURCE.          DATE OF PERMIT ISSUANCE-- 05/16/80
PERMIT NO. TX-194          ESTIMATED DATE OF START-UP--
DETERMINATION MADE BY    EPA REGION VI          JOHN BUNYAK          (214)-767-1534
                           (AGENCY)              (AGENCY CONTACT PERSON)          (PHONE)
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PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
KILN & RAW MILL	2750.00 T/D	PM	33.7000 LB/H BAGHOUSE	BACT 99.90
		NOX	240.0000 LB/H FLASH CALCINER, LEA	BACT
		SO2	416.0000 LB/H MATERIAL ALKALINITY	BACT 75.00
MATERIAL CRUSHING		PM	5.9000 LB/H BAGHOUSE	BACT 99.80
BLENDING SILOS		PM	3.1000 LB/H BAGHOUSE	BACT 99.80
CLINKER COOLER		PM	6.6000 LB/H BAGHOUSE	BACT 97.00
FINISH SILO		PM	2.1000 LB/H BAGHOUSE	BACT 99.80
COAL & GYPSUM HANDLING		PM	3.2000 LB/H BAGHOUSE	BACT 97.80
CEMENT BAG PACKING		PM	1.8000 LB/H BAGHOUSE	BACT 99.80

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

INITIAL REVIEW POST STARTUP
 REVIEW STATUS: 04/01/1983

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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SOURCE TYPE/SIZE	PORTLAND CEMENT MANUFACTURING	1.00 MMT/YR
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COMPANY NAME/SITE LOCATION	LOWESTAR INDUSTRIES INC.	GEORGETOWN, TX	WILLIAMSON COUNTY
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DETERMINATION IS BACT FOR A NEW SOURCE.		DATE OF PERMIT ISSUANCE-- 02/19/80
PERMIT NO. PSD-TX-174		ESTIMATED DATE OF START-UP-- 1981
DETERMINATION MADE BY	EPA REGION VI (AGENCY)	BILL TAYLOR (AGENCY CONTACT PERSON)
		(214)-767-1594 (PHONE)

=====

PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
KILN MILL & ALKALI BYPASS	1.00 MMT/YR	PM	30.6000 LB/H BAGHOUSE	99.90
		SO2	960.0000 LB/H PRECALCINER PROCESS DESIGN	80.00
		NOX	360.0000 LB/H PRECALCINER PROCESS DESIGN.	
TRUCK AND RAIL UNLOAD		PM	0.5000 LB/H BAGHOUSE	99.90
COAL RECLAIM TRANSFER		PM	0.3000 LB/H BAGHOUSE	99.90
LIMESTONE STORAGE		PM	2.6000 LB/H BAGHOUSE	99.00
LIMESTONE RECEIVING		PM	0.0000 LB/H BAGHOUSE	99.90
LIMESTONE RECLAIM TRANSFER		PM	0.3000 LB/H BAGHOUSE	99.90
ROLLER MILL SURGE BIN		PM	0.3000 LB/H BAGHOUSE	99.90

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

INITIAL REVIEW POST STARTUP
REVIEW STATUS: 04/01/1983

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

SOURCE TYPE/SIZE PORTLAND CEMENT MANUFACTURING

COMPANY NAME/SITE LOCATION CALIF. PORTLAND CEMENT CO

HOJAVE, CA

DETERMINATION IS BACT FOR A MODIFIED SOURCE.
 PERMIT NO. (REGION FILE NO.) SJ-78-73
 DETERMINATION MADE BY EPA REGION IX
 (AGENCY)

DON HARVEY
 (AGENCY CONTACT PERSON)

DATE OF PERMIT ISSUANCE-- 01/12/79
 ESTIMATED DATE OF START-UP--
 (415)-974-8223
 (PHONE)

PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS	CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
PRECALCINER - KILN	1.00 MM/T/YR CEME*	PM	36.0000 LB/H	BAGHOUSE	BACT 99.90
		SO2	616.0000 LB/H	ABSORPTION BY ALKALI	BACT 70.00
		NOX		NONE	
				REDUCED FUEL USAGE, LOW FURNACE TEMP.	
CLINKER COOLER		PM	21.0000 LB/H	BAGHOUSE	BACT 99.60
PRIMARY CRUSHER		PM	5.0000 LB/H	BAGHOUSE	BACT 99.50
SAMPLE SYS, SURGE SILO		PM		BAGHOUSE	99.50
SAMPLE SYS, SURGE SILO RECLAIM		PM		BAGHOUSE	99.50
CONVEYORS & TRANSFER		PM		BAGHOUSE	99.50
HILLS & SCREENS		PM		BAGHOUSE	99.50

(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.

INITIAL REVIEW POST STARTUP
 REVIEW STATUS: 04/01/1983 04/04/1984

APPENDIX -- DETAILED SOURCE LISTING

05/21/1985

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SOURCE TYPE/SIZE          PORTLAND CEMENT MANUFACTURING          1.60 MMT/YR
-----
COMPANY NAME/SITE LOCATION KAISER CEMENT & GYPSUM CORP.          PERMANENTE, CA
-----
DETERMINATION IS BACT FOR A MODIFIED SOURCE.          DATE OF PERMIT ISSUANCE-- 12/26/78
PERMIT NO. SFB-78-03          ESTIMATED DATE OF START-UP--
DETERMINATION MADE BY          EPA REGION IX          DON HARVEY          (415)-974-8223
          (AGENCY)          (AGENCY CONTACT PERSON)          (PHONE)
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PROCESSES SUBJECT TO THIS PERMIT	THROUGHPUT CAPACITY	POLLUTANT EMITTED	EMISSION LIMITS CONTROL EQUIPMENT OR PROCESS MODIFICATION	... & BASIS ... PCT EFF
KILN-MILL, #1 & 2	5000.00 T/D	PM	18.0000 LB/H 0.0200 GR/DSCF BAGHOUSE	99.00 BACT
		SO2	481.0000 LB/H 165.0000 PPM	BACT
		NOX	1158.0000 LB/H ALKALI ABSORPTION, PREHEATER, AND BAGHOUSES 1.0% S COAL (ANNUAL AVERAGE) 2.0% S (TRAINLOAD) REDUCED FUEL USAGE & LOW TEMPERATURE	BACT
CLINKER COOLER		PM	5.3000 LB/H 0.0100 GR/DSCF BAGHOUSE	
PRECALCINER COAL SYS		PM	3.5000 LB/H 0.0200 GR/DSCF BAGHOUSE	
KILN COAL SYS		PM	3.5000 LB/H 0.0200 GR/DSCF	

NOTES -----
 MODIFY EXISTING WET PROCESS FACILITY TO DRY USING SUSPENSION PREHEATERS & PRECALCINERS. SO2 AND NOX LIMITS SUBJECT TO REVISION UPON COMPLETION OF EMISSION TESTING -- LACK OF EMISSIONS DATA FROM PROCESS.
 FUGITIVE DUST SOURCES TO BE CONTROLLED BY APPROPRIATE MEANS (COVERING, SUPPRESSION AND STABILIZATION SYSTEMS) SUCH THAT THERE ARE NO VISIBLE EMISSIONS.

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(*) INDICATES DATUM WAS TRUNCATED FOR THIS TABLE.          INITIAL REVIEW POST STARTUP
          REVIEW STATUS: 04/01/1983          04/04/1984
=====
PAGE G-1001          ID NUMBER CA-0019          SOURCE TYPE CODE 9.4
    
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Mr. Gill - Southdown / FM&M
 Dr. Koogler - K&A Assoc / PE of record
 John Reynolds
 Cleve Holladay
 me

Emission changes resulting from the proposed permit are summarized below:

	Current Allowable		Current Actual(1)		New Allowable(2)		Net Increase	Significant Increase
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	T/yr	T/yr
PM	21.6	85.3	7.7	30.4	13.5	55.3	24.9	25
SO ₂	12.0	47.4	1.8	7.1	11.5	47.0	39.9	40
NO _x	250.0	987.0	158.4	625.4	162.3	665.3	39.9	40
VOC	2.7	10.7	5.4	21.3	7.4	31.2	9.9	40
CO	8.9	35.1	41.1	162.3	64.0	262.2	99.9	100

(1) Based on the highest two 1989 stack test results

(2) New allowable (8200 hrs) vs. current actual 7896 (hrs)

It is presumed that the applicant will accept reductions in allowable emission limits that are necessary to avoid PSD review for particulate matter (PM), SO₂ and NO_x. Any emission increase above these levels would require another evaluation including a Best Available Control Technology (BACT) determination, additional \$4,000 application fee, and perhaps additional air modeling data (this evaluation does not address the air modeling data submitted with this application).

There is no objection to the request to use Flolite re-refined oil. This fuel has already been approved for use in kiln No. 1 at this facility.

III. Rule Applicability

The construction permit application is subject to review under Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The facility is located in an area classified as attainment for each of the regulated air pollutants. Although the kiln is a major source, the proposed increases in emissions are less than the significant levels listed in Table 500-2 and therefore the proposed modification is not subject to the new source review requirements of F.A.C. Rule 17-2.500. Applicable rules are F.A.C. Rule 17-2.600(7)(b) and F.A.C. Rule 17-2.660, Standards of Performance for New Stationary Sources, Section 60.60, Subpart F, Portland Cement Plants.

IV. Conclusion

Based on the information provided by Florida Mining and Materials, the Department has reasonable assurance that the modification to kiln No.2, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.

James K. Pervington
 No. 34536
 4/26/90

Southdown/FM¹M 2-12-92

2 km

① ↑ NO_x allow. emissions

625 TPY → 1095 TPY
(158.4 lb/hr) (250 lb/hr)

② ↑ SO_2 allow. emissions

7.1 TPY → 165.7 TPY
(1.8 lb/hr) (15.0 lb/hr)

both greater than significant.

MSR

	Maximum allowable increase (micrograms per cubic meter)
.....	19
.....	37
.....	20
.....	91
.....	325
.....	25

applicable requirements of this section are otherwise met.

(8) *Emission limitations for Presidential or gubernatorial variance.* In the case of a permit issued pursuant to paragraph (q) (5) or (6) of this section the source or modification shall comply with such emission limitations as may be necessary to assure that emissions of sulfur dioxide from the source or modification would not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which would exceed the following maximum allowable increases over the baseline concentration and to assure that such emissions would not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less for more than 18 days, not necessarily consecutive, during any annual period:

MAXIMUM ALLOWABLE INCREASE
[Micrograms per cubic meter]

Period of exposure	Terrain areas	
	Low	High
24-hr maximum	36	62
3-hr maximum	130	221

(q) *Public participation.* The Administrator shall follow the applicable procedures of 40 CFR part 124 in processing applications under this section. The Administrator shall follow the procedures at 40 CFR 52.21(r) as in effect on June 19, 1979, to the extent that the procedures of 40 CFR part 124 do not apply.

(r) *Source obligation.* (1) Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this section or with the terms of any approval to construct, or any owner or operator of a source or modification subject to this section who commences construction after the effective date of these regulations without applying for and receiving approval hereunder, shall be subject to appropriate enforcement action.

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

(3) Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the State implementation plan and any other requirements under local, State, or Federal law.

(4) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements or paragraphs (j) through (s) of this section shall apply to the source or modification as though construction had not yet commenced on the source or modification.

(s) *Environmental impact statements.* Whenever any proposed source or modification is subject to action by a Federal Agency which might necessitate preparation of an environmental impact statement pursuant to the National Environmental Policy Act (42 U.S.C. 4321), review by the Administrator conducted pursuant to this section shall be coordinated with the broad environmental reviews under that Act and under section 309 of the Clean Air Act to the maximum extent feasible and reasonable.

(t) *Disputed permits or redesignations.* If any State affected by the redesignation of an area by an Indian Governing Body, or any Indian Governing Body of a tribe affected by the redesignation of an area by a State,

disagrees with such redesignation, or if a permit is proposed to be issued for any major stationary source or major modification proposed for construction in any State which the Governor of an affected State or Indian Governing Body of an affected tribe determines will cause or contribute to a cumulative change in air quality in excess of that allowed in this part within the affected State or Indian Reservation, the Governor or Indian Governing Body may request the Administrator to enter into negotiations with the parties involved to resolve such dispute. If requested by any State or Indian Governing Body involved, the Administrator shall make a recommendation to resolve the dispute and protect the air quality related values of the lands involved. If the parties involved do not reach agreement, the Administrator shall resolve the dispute and his determination, or the results of agreements reached through other means, shall become part of the applicable State implementation plan and shall be enforceable as part of such plan. In resolving such disputes relating to area redesignation, the Administrator shall consider the extent to which the lands involved are of sufficient size to allow effective air quality management or have air quality related values of such an area.

(u) *Delegation of authority.* (1) The Administrator shall have the authority to delegate his responsibility for conducting source review pursuant to this section, in accordance with paragraphs (v) (2) and (3) of this section.

(2) Where the Administrator delegates the responsibility for conducting source review under this section to any agency other than a Regional Office of the Environmental Protection Agency, the following provisions shall apply:

(i) Where the delegate agency is not an air pollution control agency, it shall consult with the appropriate State and local air pollution control agency prior to making any determination under this section. Similarly, where the delegate agency does not have continuing responsibility for managing land use, it shall consult with the appropriate State and local agency primarily responsible for man-



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JAN 1 1992

Division of Air
Resources Management

December 31, 1991

Mr. C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Meeting Pertaining to Permits For Kilns # 1 & 2
Florida Mining and Materials (FM&M)

Dear Mr. Fancy:

As a follow up to my telephone conversation this morning, with Mr. John Reynolds of your office, I am writing to request a meeting with yourself, Mr. Reynolds and appropriate members of your staff on Friday, January 10, 1992 at 9:00 a.m. to discuss some permitting issues related to FM&M's kilns and auxiliary equipment. Specifically, we would like to discuss the operating hours and process feed rates for Kiln # 1, and the NO_x limits for Kiln # 2.

Mrs. Barbara Berardi and I from Southdown Inc. and Mr. Don Kelley, Plant Manager of FM&M will attend this meeting. Please call me at (713) 653-8098 if this presents a conflict with your schedule.

Sincerely,

Amarjit-Singh Gill

Amarjit S. Gill, P.E.
Senior Air Permitting Engineer