

P16 7682487

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO	
<i>Vasant Chaturbar</i>	
STREET AND NO.	
<i>P.O. Drawer 217</i>	
P.O., STATE AND ZIP CODE	
<i>Sumterville FL 33585</i>	
POSTAGE	\$
CERTIFIED FEE	
	c
SPECIAL DELIVERY	
	c
RESTRICTED DELIVERY	
	c
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED
	c
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
	c
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
	c
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY
	c
TOTAL POSTAGE AND FEES	
	\$
POSTMARK OR DATE	
<i>5/4/82</i>	

PS Form 3800, Apr. 1976

PS Form 3811, Jun. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

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

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

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

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

*Vasant Chaturbar
Pipe, Lumber & Stone Co.
P.O. Drawer 217
Sumterville FL 33585*

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	<i>7682487</i>	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

Jim Schulz

4. DATE OF DELIVERY

5-4-82

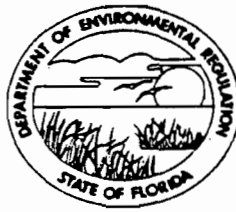
5. ADDRESS (Complete only if requested)

POSTMARK
SUMTERVILLE
MAY 5 1982

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS
AK

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



BOB GRAHAM
GOVERNOR

Victoria J. Tschinkel
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

May 4, 1982

CERTIFIED MAIL-RETURN RECEIPT REQUESTED


Vasant D. Chapnerkar
Research and Development Manager
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

Dear Dr. Chapnerkar: AC 60-52317
 AC 60-52586
 AC 60-52589
 AC 60-52583

Enclosed is Permit Number AC 60-52587, dated May 3, 1982
to Dixie Lime and Stone Company
issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,


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

CHF/pa

cc: Dan Williams, DER, Southwest District
Jon F. Hamlin, Consulting Service, Inc.

Final Determination

Dixie Lime and Stone Company

Sumterville, Florida

Application Number:

AC 60-52317
AC 60-52586
AC 60-52589
AC 60-52583
AC 60-52587

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

April 30, 1982

Final Determination for Dixie Lime and Stone Company's
Facility Modifications and Expansion

The construction/modification permit applications from Dixie Lime and Stone Company for the modification of Lime Kiln No. 2, construction of Lime Kiln No. 1 with control equipment, construction of Lime Kiln No. 1 Scavenger System with control equipment, construction of Lime Kiln No. 1 Fine Coal Handling System with control equipment, and construction of Lime Kiln No. 2 Fine Coal Handling System with control equipment have been reviewed by Florida's Department of Environmental Regulation (FDER), Bureau of Air Quality Management (BAQM) - Central Air Permitting Section (CAPS). The technical evaluation and preliminary determination was completed on March 25, 1982. Notice of the Department's Intent to Issue was published in the Sumter County Times, Bushnell, Florida, on March 25, 1982, fulfilling all state notice requirements. Copies of the preliminary determination were available for public inspection at Florida Department of Environmental Regulation's Southwest District Office and Florida Department of Environmental Regulation's Bureau of Air Quality Management-Central Air Permitting Section.

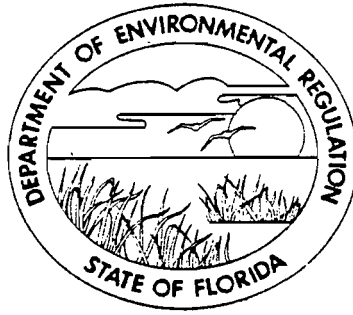
Two comments were received in a letter on April 13, 1982, from the applicant. One addressed existing construction permit number AC 60-44627, Plant ID D-10, in which the operating hours were to be changed from 24 hrs/day, 7 days/wk, 50 wks/yr to 8 hrs/day, 5 days/wk, 48 wks/yr. This will change particulate matter (PM) maximum allowable emissions from 4.15 tons per year (TPY) to 0.99 TPY at a maximum allowed hourly rate of 1.03 lbs/hr. The other comment addressed existing construction permit number AC 60-49009, Plant ID D-12, in which the design flow rate was changed from 7500 ACFM at 90°F to 6400 ACFM at 200°F and was requested previously in a letter dated February 26, 1982, and again in a letter received April 13, 1982. This will also change PM maximum allowable emissions from 3.90 TPY at 1.29 lbs/hr to 3.33 TPY at 1.10 lbs/hr. The two PM emission changes will reduce the total facility PM emissions in Table 3 from 101.19 TPY to 97.46 TPY. Therefore, the facility will be a minor facility for PM according to Chapter 17-2.100(100), Florida Administrative Code (FAC). However, the facility is still a major facility for sulfur dioxide (SO₂) emissions according to Chapter 17-2.100(95), FAC. Tables 2 and 3 should be changed to reflect these lower PM maximum allowable emissions.

One comment was received from the FDER's Southwest District Office. The request was to add a condition to Specific Condition No. 18 in the draft construction/modification permit number AC 60-52586, Plant ID D-1 (Lime kiln No. 2). The added condition will confirm the replacement of the existing FDER operating permit number AO 60-30853 with AC

60-52576 upon completion of the construction/modification (production of 90% CaO product) or receipt of a new operating permit that reflects the completion of the construction/modification.

Since the changes requested by the applicant will not cause any significant changes in the five proposed construction/modification permits that were on public notice, the construction/modification permits should be issued as they were proposed in the preliminary determination. Table 1 and revised Tables 2 and 3 are attached and are a part of the Final Determination.

AC 60-52317



STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 60-52317

DATE OF ISSUANCE

May 3
APRIL 30, 1982

Victoria J. Hill

DATE OF EXPIRATION

NOVEMBER 11, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

PERMIT/CERTIFICATION
NO. AC 60-52317

COUNTY: Sumter

PROJECT: Construction
of Lime Kiln No. 1,
oil and coal fired,
with a Lodge Cottrell
baghouse.

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2
and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to
perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and
made a part hereof and specifically described as follows:

For the construction of lime kiln No. 1 to fire No. 6 Fuel Oil and coal with
a maximum of 2.0% and 0.8% sulfur content by weight, respectively. Associated
control equipment will be a Lodge Cottrell baghouse system. The UTM coor-
dinates are Zone 17, 397.2 km. east and 3182.6 km. north.

Construction shall be in accordance with the permit application and its amend-
ments, plans, documents, and drawings except as otherwise noted on pages 3
and 4 of "Specific Conditions."

Attachments are as follows:

1. Dixie Lime and Stone Company's (DL&S) letter of December 30, 1981 and
General Counsel's response dated January 19, 1982.
2. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.122
(16), and transmittal letter from DER's Southwest District Office.
3. DL and S letter of February 24, 1982.
4. DL and S letter of February 26, 1982.
5. DL and S letter of March 1, 1982.
6. Incomplete letter sent March 5, 1982.
7. DL and S letter of March 5, 1982.
8. Memo to file dated March 12, 1982 - calculations and specific conditions.
9. DL and S letter of March 15, 1982.
10. Memo to file dated March 18, 1982 - design flow rate changes.
11. DL and S letter of March 2, 1982.
12. DL and S letter of March 10, 1982.
13. Applicant's comments dated April 9, 1982.
15. 40 CFR 60, Subpart HH and note sent to the Applicant on April 14, 1982.

PERMIT NO.: AC 60-52317

APPLICANT: Dixie Lime and Stone Company

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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

3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact 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 revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 60-52317
APPLICANT: Dixie Lime and Stone Company

SPECIFIC CONDITIONS:

1. Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb./hr.</u>	<u>Tons/yr.</u>	<u>Emission Limit</u>
Particulate	5.59	22.54	0.02 grains/ACF
Sulfur Dioxide	21.69	7.81	2.0% Sulfur Fuel Oil, 30 days
	5.62	20.65	0.8% Sulfur coal, 306 days
Nitrogen Oxides	1.67	0.60	2.0% Sulfur Fuel Oil, 30 days
	1.67	6.12	0.8% Sulfur coal, 306 days
Carbon Monoxide	1.67	0.60	2.0% Sulfur Fuel Oil, 30 days
	3.70	13.59	0.8% Sulfur coal, 306 days
Volatile Organic Compounds	0.33	0.12	2.0% Sulfur Fuel Oil, 30 days
	1.85	6.79	0.8% Sulfur coal, 306 days

- Hours of operation shall not exceed 24 hours per day, 7 days per week, 48 weeks per year.
- Maximum heat input shall not exceed 50×10^6 BTU./hr., using No. 6 Fuel Oil or coal.
- Maximum sulfur content of the No. 6 Fuel Oil and coal shall not exceed 2.0% and 0.8% by weight, respectively.
- Maximum fuel combustion rate shall not exceed 332.7 gal./hr. of No. 6 Fuel Oil or 1.85 Tons/hr. of coal. The source shall not exceed 30 days on Fuel Oil and 306 days on coal.
- Maximum product (rated capacity) shall not exceed 8.33 Tons per hour, 200 Tons per day, 67,200 Tons per year of 90% CaO.
- The design flow rate is 32,585 ACFM.
- Visible emissions (VE) shall not reach nor exceed 10% opacity. Exceedance reporting shall be in accordance with the NSPS, 40 CFR 60, Subpart HH. Compliance tests shall be DER Method 9 in accordance with Chapter 17-2.700(6)(a)9., FAC.
- A continuous opacity monitor will be installed in accordance with the NSPS, 40 CFR 60, Subpart HH and Chapter 17-2.710, FAC. Exceedance reporting shall be in accordance with the NSPS, 40 CFR 60, Subpart HH, and Chapter 17-2.710, FAC.
- Compliance with the mass emission limitations of Specific Condition No. 1 shall determine using EPA Methods 1,2,3,4,5 & 6 contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 17-2.700, FAC. Sampling facilities, including the angle and eyebolt, source sampling and reporting shall be in accordance with Chapter 17-2.700, FAC, and 40 CFR 60, Appendix A. Compliance tests shall be run at 90-100% rated capacity.
- Compliance tests shall be within 45 days of the first production of 90% CaO product.

PERMIT NO.: AC 60-52317
APPLICANT: Dixie Lime and Stone Company

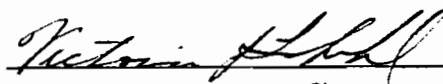
12. Compliance tests, including VE tests, shall be submitted to DER's Southwest District Office-Air Programs within 45 days after completion of the tests.
13. Thirty (30) day notification of the compliance tests to DER's Southwest District Office-Air Programs (within 15 days of first production of 90% CaO product) is required.
14. Fuel accounting to start within 15 days of first production of 90% CaO product.
15. Construction permit may be amended to change fuel usage restrictions if the compliance test data show significant differences from assumed SO₂ removal in process.
16. Monthly reports shall be submitted to DER's Southwest District Office-Air Programs containing type and quantity of fuel fired per day, fuel analysis per vendor, daily production of 90% or better CaO product, and excess opacity readings from the continuous opacity monitor with a description(s) for the cause.
17. Following approval of test results and prior to 90 days before the expiration of this permit, a complete application for an Operating Permit shall be submitted to DER's Southwest District Office-Air Programs. Full operation of the source may then be conducted in compliance with the terms of this permit until the expiration date or receipt of an Operating Permit.

Expiration Date: November 11, 1982

Issued this 3 day of May, 1982

4 Pages Attached.

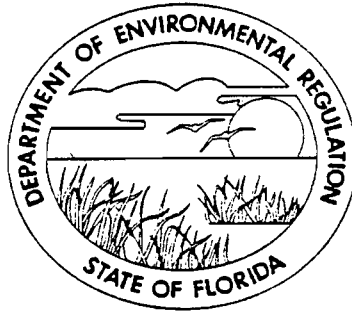
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION



Signature

PAGE 4 OF 4

AC 60-52586



STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 60- 52586

DATE OF ISSUANCE

May 3
~~APRIL 30~~, 1982

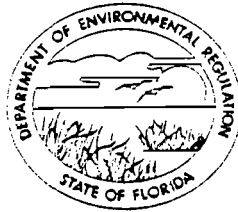
Victor J. Hill

DATE OF EXPIRATION

NOVEMBER 11, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

PERMIT/CERTIFICATION
NO. AC 60-52586

COUNTY: Sumter

PROJECT: Modification
of Existing Lime Kiln
No. 2, oil and coal
fired, with a Fuller
baghouse.

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the modification of existing lime kiln No. 2 to fire No. 6 fuel oil and coal with a maximum 2.0% and 0.8% sulfur content by weight, respectively. Associated control equipment will be a Fuller baghouse system. The UTM coordinates are Zone 17, 397.2 km. east and 3182.6 km. north.

Construction shall be in accordance with the permit application and its amendments, plans, documents, and drawings except as otherwise noted on pages 3 and 4 of "Specific Conditions".

Attachments are as follows:

1. Dixie Lime and Stone Company's (DL&S) letter of December 30, 1981 and General Counsel's response dated January 19, 1982.
2. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.122 (16), and transmittal letter from DER's Southwest District Office.
3. DL and S letter of February 24, 1982.
4. DL and S letter of February 26, 1982.
5. DL and S letter of March 1, 1982.
6. Incomplete letter sent March 5, 1982.
7. DL and S letter of March 5, 1982.
8. Memo to file dated March 12, 1982 - calculations and specific conditions.
9. DL and S letter of March 15, 1982.
10. Memo to file dated March 18, 1982 - design flow rate changes.
11. DL and S letter of March 2, 1982.
12. DL and S letter of March 10, 1982.
13. Applicant's comments dated April 9, 1982.
14. FDER's Southwest District's comment dated April 22, 1982.
15. 40 CFR 60, Subpart HH and note sent to the Applicant on April 14, 1982.

PERMIT NO.: AC 60-52586
APPLICANT: Dixie Lime and Stone Company

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions," and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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

3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact 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 revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 60-52586
APPLICANT: Dixie Lime and Stone Company

SPECIFIC CONDITIONS:

1. Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb./hr.</u>	<u>Tons/yr.</u>	<u>Emission Limit</u>
Particulate Matter	8.02	32.34	0.02 grains/ACF
Sulfur Dioxide	31.31	11.27	2.0% Sulfur Fuel Oil, 30 days
	8.15	29.92	0.8% Sulfur coal, 306 days
Nitrogen Oxides	2.42	0.87	2.0% Sulfur Fuel Oil, 30 days
	2.42	8.87	0.8% Sulfur coal, 306 days
Carbon Monoxide	2.39	0.86	2.0% Sulfur Fuel Oil, 30 days
	5.36	19.68	0.8% Sulfur coal, 306 days
Volatile Organic Compounds	0.47	0.17	2.0% Sulfur Fuel Oil, 30 days
	2.68	9.84	0.8% Sulfur coal, 306 days

- Hours of operation shall not exceed 24 hours per day, 7 days per week, 48 weeks per year.
- Maximum heat input shall not exceed 73×10^6 BTU./hr., using No. 6 Fuel Oil or coal.
- Maximum sulfur content of the No. 6 Fuel Oil and coal shall not exceed 2.0% and 0.8% by weight, respectively.
- Maximum fuel combustion rate shall not exceed 480 gal./hr. of No. 6 Fuel Oil or 2.68 Tons/hr. of coal. The source shall not exceed 30 days on Fuel Oil and 306 days on coal.
- Maximum product (rated capacity) shall not exceed 12.08 Tons per hour, 290 Tons per day, 97,440 Tons per year of 90% CaO.
- The design flow rate is 46,800 ACFM.
- Visible emissions (VE) shall not reach nor exceed 10% opacity. Exceedance reporting shall be in accordance with the NSPS, 40 CFR 60, Subpart HH. Compliance tests shall be DER Method 9 in accordance with Chapter 17-2.700(b)(a)9., FAC.
- A continuous opacity monitor will be installed in accordance with the NSPS, 40 CFR 60, Subpart HH and Chapter 17-2.710, FAC. Exceedance reporting shall be in accordance with the NSPS, 40 CFR 60, Subpart HH, and Chapter 17-2.710, FAC.
- Compliance with the mass emission limitations of Specific Condition No. 1 shall be determined using EPA Methods 1,2,3,4,5 & 6 contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 17-2.700, FAC. Sampling facilities, including the angle and eyebolt, source sampling and reporting shall be in accordance with Chapter 17-2.700, FAC, and 40 CFR 60, Appendix A. Compliance tests shall be run at 90-100% rated capacity.
- Compliance tests shall be within 45 days of the first production at 90% CaO product.

PERMIT NO.: AC 60-52586
APPLICANT: Dixie Lime and Stone Company

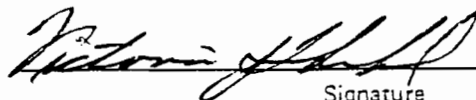
12. Compliance test, including VE tests, shall be submitted to DER's Southwest District Office-Air Programs within 45 days after completion of the tests.
13. Thirty (30) day notification of the compliance tests to DER's Southwest District Office-Air Programs (within 15 days of first production of 90% CaO product) is required.
14. Fuel accounting to start within 15 days of first production of 90% CaO product.
15. Construction permit may be amended to change fuel usage restrictions if the compliance test data show significant differences from assumed SO₂ removal in process.
16. Monthly reports shall be submitted to DER's Southwest District Office-Air Programs containing type and quantity of fuel fired per day, fuel analysis per vendor, daily production of 90% or better CaO product, and excess opacity readings from the continuous opacity monitor with a description(s) for the cause.
17. Following approval of test results and prior to 90 days before the expiration of this permit, a complete application for an Operating Permit shall be submitted to DER's Southwest District Office-Air Programs. Full operation of the source may then be conducted in compliance with the terms of this permit until the expiration date or receipt of an Operating Permit. This permit will at that time replace the existing DER operating permit number AO 60-30853.

Expiration Date: November 11, 1982

Issued this 3 day of May, 1982

4 Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION


Signature

AC 60-52589



STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 60-52589

DATE OF ISSUANCE

May 3
~~April 30~~, 1982

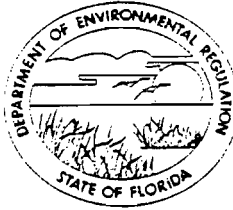
Victor J. Hill

DATE OF EXPIRATION

NOVEMBER 11, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

PERMIT/CERTIFICATION
NO. AC 60-52589

COUNTY: Sumter

PROJECT: Lime kiln No.1
Scavenger System with a
Mikro-Pulsaire baghouse

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of the lime kiln No. 1 scavenger system. Associated control equipment will be a Mikro-Pulsaire baghouse system. The UTM coordinates are Zone 17, 397.2 km. east and 3182.6 km. north.

Construction shall be in accordance with the permit application and its amendments, plans, documents, and drawings except as otherwise noted on pages 3 and 4 of "Specific Conditions".

Attachments are as follows:

1. Dixie Lime and Stone Company's (DL&S) letter of December 30, 1981 and General Counsel's response dated January 19, 1982.
2. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.122 (16), and transmittal letter from DER's Southwest District Office.
3. DL&S letter of February 24, 1982.
4. DL&S letter of February 26, 1982.
5. DL&S letter of March 1, 1982.
6. Incomplete letter sent March 5, 1982.
7. DL&S letter of March 5, 1982.
8. Memo to file dated March 12, 1982-calculations and specific conditions.
9. DL&S letter of March 15, 1982.
10. Memo to file dated March 18, 1982-design flow rate changes.
11. DL&S letter of March 2, 1982.
12. DL&S letter of March 10, 1982.
13. Applicant's comments dated April 9, 1982.

PERMIT NO.: AC 60-52589
APPLICANT: Dixie Lime and Stone Company

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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

3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact 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 revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 60-52589
APPLICANT: Dixie Lime and Stone Company

SPECIFIC CONDITIONS:

1. Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb/hr.</u>	<u>Tons/yr.</u>	<u>Emission Limit</u>
Particulate Matter	0.51	2.06	0.02 grains/ACF

2. Hours of operation shall not exceed 24 hours per day, 7 days per week, 48 weeks per year.
3. The design flow rate is 3,000 ACFM.
4. Rated capacity is 38,000 lbs/hr. lime dust at less than 1% water vapor by weight.
5. Visible emissions (VE) shall not reach nor exceed 20% opacity in accordance with Chapter 17-2.610(b)(2), FAC. Compliance tests (DER Method 9) and reporting shall be in accordance with Chapter 17-2.700, FAC.
6. Compliance with the mass emission limitations of Specific Condition No. 1 shall be determined using EPA Methods 1, 2, 3, 4, and 5 contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 17-2.700, FAC. Sampling facilities, including the angle and eyebolt, source sampling and reporting shall be in accordance with Chapter 17-2.700, FAC, and 40 CFR 60, Appendix A. Compliance tests shall be run at 90-100% rated capacity.
7. Compliance tests, including VE tests, shall be submitted to DER's Southwest District Office-Air Programs within 45 days after completion of the tests.
8. Thirty (30) day notification of the compliance tests to DER's Southwest District Office-Air Programs is required.
9. There shall be no substitution of the compliance tests required in Specific Conditions Nos. 5 and 6, which will also be required annually thereafter.
10. Following approval of test results and prior to 90 days before the expiration of this permit, a complete application for an Operating Permit shall be submitted to DER's Southwest District Office-Air Programs. Full operation of the source may then be conducted in compliance with the terms of this permit until the expiration date or receipt of an Operating Permit.

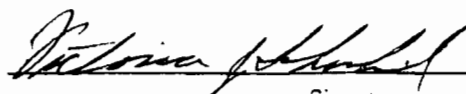
PERMIT NO.: AC 60-52589
APPLICANT: Dixie Lime and Stone Company

Expiration Date: November 11, 1982

Issued this 3 day of May, 1982

4 Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION



Signature

AC 60-52583



STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 60-52583

DATE OF ISSUANCE

May 3
~~APRIL 30, 1982~~

Victor J. Hall

DATE OF EXPIRATION

NOVEMBER 11, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

PERMIT/CERTIFICATION
NO. AC 60-52583

COUNTY: Sumter

PROJECT: Lime kiln No. 1
Fine Coal Handling
System with a Boothe
baghouse.

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of the lime kiln No. 1 fine coal handling system. Associated control equipment will be a Boothe baghouse system. The UTM coordinates are Zone 17, 397.2 km. east and 3182.6 km. north.

Construction shall be in accordance with the permit application and its amendments, plans, documents, and drawings except as otherwise noted on pages 3 and 4 of "Specific Conditions".

Attachments are as follows:

1. Dixie Lime and Stone Company's (DL&S) letter of December 30, 1981 and General Counsel's response dated January 19, 1982.
2. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.122 (16), and transmittal letter from DER's Southwest District Office.
3. DL&S letter of February 24, 1982.
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5. DL&S letter of March 1, 1982.
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PERMIT NO.: AC 60-52583

APPLICANT: Dixie Lime and Stone Company

GENERAL CONDITIONS:

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

3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact 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 revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

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13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 60-52583
APPLICANT: Dixie Lime and Stone Company

SPECIFIC CONDITIONS:

1. Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb/hr.</u>	<u>Tons/yr.</u>	<u>Emission Limit</u>
Particulate Matter	0.10	0.37	0.02 grains/ACF, 306 days

2. Hours of operation shall not exceed 24 hours per day, 7 days per week, 306 days per year.
3. The design flow rate is 600 ACFM.
4. Rated capacity is 5,000 lbs./hr. of coal dust at less than 1% water vapor by weight.
5. Visible emissions (VE) shall not reach nor exceed 20% opacity in accordance with Chapter 17-2.610(b)(2), FAC. Compliance tests (DER Method 9) and reporting shall be in accordance with 17-2.700, FAC.
6. Compliance with the mass emission limitations of Specific Condition No. 1 shall be determined using EPA Methods 1, 2, 3, 4, and 5 contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 17-2.700, FAC. Sampling facilities, including the angle and eyebolt, source sampling and reporting shall be in accordance with Chapter 17-2.700, FAC, and 40 CFR 60, Appendix A. Compliance tests shall be run at 90-100% rated capacity.
7. Compliance tests, including VE tests, shall be submitted to DER's Southwest District Office-Air Programs within 45 days after completion of the tests.
8. Thirty (30) day notification of the compliance tests to DER's Southwest District Office-Air Programs is required.
9. There shall be no substitution of the compliance tests required in Specific Conditions Nos. 5 and 6, which will also be required annually thereafter.
10. Following approval of test results and prior to 90 days before the expiration of this permit, a complete application for an Operating Permit shall be submitted to DER's Southwest District Office-Air Programs. Full operation of the source may then be conducted in compliance with the terms of this permit until the expiration date or receipt of an Operating Permit.

PERMIT NO.: AC 60-52583
APPLICANT: Dixie Lime and Stone Company

Expiration Date: November 11, 1982

Issued this 3 day of Ms, 1982

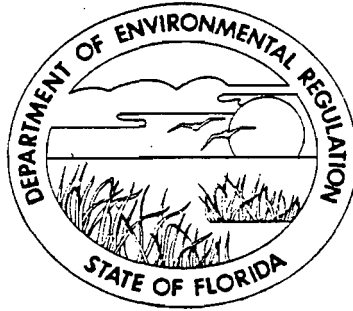
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION


Signature

4 Pages Attached.

PAGE 4 OF 4

AC 60-52787



STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 60-52787

DATE OF ISSUANCE

Ms³
APRIL 30, 1982

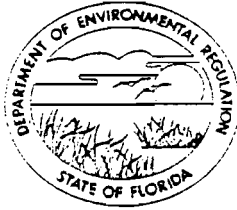
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BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

PERMIT/CERTIFICATION
NO. AC 60-52787

COUNTY: Sumter

PROJECT: Lime kiln No. 2
Fine Coal Handling System
with a Boothe baghouse.

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of the lime kiln No. 2 fine coal handling system. Associated control equipment will be a Boothe baghouse system. The UTM coordinates are Zone 17, 397.2 km. east and 3182.6 km. north. Construction shall be in accordance with the permit application and its amendments, plans, documents, and drawings except as otherwise noted on pages 3 and 4 of "Specific Conditions".

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- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 60-52787
APPLICANT: Dixie Lime and Stone Company

SPECIFIC CONDITIONS:

1. Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb/hr.</u>	<u>Tons/yr.</u>	<u>Emission Limit</u>
Particulate Matter	0.10	0.37	0.02 grains/ACF, 306 days

2. Hours of operation shall not exceed 24 hours per day, 7 days per week, 306 days per year.
3. The design flow rate is 600 ACFM.
4. Rated capacity is 5,000 lbs./hr. of coal dust at less than 1% water vapor by weight.
5. Visible emissions (VE) shall not reach nor exceed 20% opacity in accordance with Chapter 17-2.610(b)(2), FAC. Compliance tests (DER Method 9) and reporting shall be in accordance with 17-2.700, FAC.
6. Compliance with the mass emission limitations of Specific Condition No. 1 shall be determined using EPA Methods 1,2,3,4, and 5 contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 17-2.700, FAC. Sampling facilities, including the angle and eyebolt, source sampling and reporting shall be in accordance with Chapter 17-2.700, FAC, and 40 CFR 60, Appendix A. Compliance tests shall be run at 90-100% rated capacity.
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APPLICANT: Dixie Lime and Stone Company

Expiration Date: November 11, 1982

Issued this 3 day of May, 1982

4 Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. ...
Signature

PAGE 4 OF 4

Attachment
Revised Tables 1, 2, 3

Table 1*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂	NO _x	CO	VOC
								lbs/hr.	TPY	TPY	TPY	TPY	TPY
Lime Kiln No. 2	D-1	22.5/540/189,000	39,250	24	7	50	8,400	24.74	103.91	157.46	18.90	12.08	2.42
Limestone Dryer	D-2	100/2400/576,000	36,500	24	5	48	5,760	36.17	104.17	189.56	76.03	6.34	1.27
Coal Grinding System	D-12	5/120/42,000	7,500	24	7	50	8,400	22.39	94.04				
'A' Screening Dust Collector	D-3		3,000	24	7	52	8,760	0.51	2.23				
'B' Screening Dust Collector	D-4		3,000	24	7	52	8,760	0.51	2.23				
Lime Kiln No. 2 Cooler	D-5		31,064	24	7	50	8,400	24.74	103.91				
Lime Loadout Scavenger Sys.	D-6		6,500	10	5	50	2,500	36.17	45.21				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	10	5	50	2,500	36.17	45.21				
CaCO ₃ Process Scavenger System	D-8		6,000	10	5	50	2,500	34.54	43.18				
CaCO ₃ Loadout Scavenger System	D-9		3,000	10	5	50	2,500	29.83	37.29				
Fugitive Dust Control System	D-10		6,000	10	5	50	2,500	34.54	43.18				
TOTAL								—	624.56	347.02	94.93	18.42	3.69

¹Allowable Emissions: Kiln based on No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, 575.0 maximum gal./hr., and 22.5 TPH² product (CAO); dryer based on No. 5 fuel oil with a maximum of 1.0% sulfur content by weight, 439 maximum gal./hr. (3,291 lbs./hr.), and 100 TPH product. (Summary: FACILITY BEFORE PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on process weight table except for "D-3 and D-4", which are based on 0.02 grains/ACF (manufacturer's specifications).
 SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
 NO_x - Dryer based on AP-42 Table 1.3-1 which gives 60 lbs/10³ gal.
 Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 189,000 TPY).
 CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.
 VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 1: Draft and Final Determination

Table 2*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./ day	days/ week	weeks/ yr.	hrs./ yr.	PM		SO ₂ TPY	NO _x TPY	CO TPY	VOC TPY
								lbs/hr.	TPY				
Lime Kiln No. 2	D-1	12.08/290/8,700	46,800	24	7	30 days	720	8.02	2.89	11.27	0.87	0.86	0.17
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	6,400	18	7	48	6,048	1.10	3.33				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	8	5	48	8,064	1.03	0.99				
TOTAL								—	42.67	68.49	19.88	1.65	0.33

¹Allowable Emissions: Kiln based on 30 days of No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, maximum of 480.0 gal./hr., and 12.08 TPH² product (CAO); dryer based on No. 6 fuel oil with a maximum of 2.2% sulfur content by weight, maximum of 165.0 gal./hr., and 75 TPH product. (Summary: PRESENT FACILITY AFTER CURRENT PERMIT REVISIONS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.) except for the dryer which is based on test data (8.00 lbs./hr.).
SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.
Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 8,700 TPY).
CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs/10³ gal.
VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 2: Revised for the Final Determination on April 27, 1982, and based on the applicant's comments dated April 9, 1982.

Table 3*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂ TPY	NO _x TPY	CO TPY	VOC TPY
								lbs/hr.	TPY				
Lime Kiln No. 1	D-11	8.33/200/67,200	32,585	24	7	48	8,064	5.59	22.54	28.46	6.72	14.19	6.91
Lime Kiln No. 2	D-1	12.08/290/97,440	46,800	24	7	48	8,064	8.02	32.34	41.19	9.74	20.54	10.01
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	6,400	18	7	48	6,048	1.10	3.33				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	8	5	48	8,064	1.03	0.99				
No. 1 Kiln Scavenger System	D-15		3,000	24	7	48	8,064	0.51	2.06				
No. 1 Kiln Fine Coal Handling System	D-16		600	24	7	306 days	7,344	0.10	0.37				
No. 2 Kiln Fine Coal Handling System	D-14		600	24	7	306 days	7,344	0.10	0.37				
TOTAL								—	97.46	126.87	35.47	35.52	17.08

¹Allowable Emissions: Kilns are based on 30 days of No. 6 fuel oil and 306 days of coal with a maximum of 2.0% and 0.8% sulfur content by weight, respectively, except for the dryer which is fired with No. 6 fuel oil only, with a maximum of 2.2% sulfur content by weight. Maximum fuel oil usage in gallons per hour are Kiln No. 1: 332.7; Kiln No. 2: 480.0; Dryer: 165.0. Maximum coal usage in tons per hour are Kiln No. 1: 1.85; Kiln No. 2: 2.68. (Summary: TABLE 2 PLUS PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.), except for the dryer which is based on test data (8.00 lbs./hr.).
 SO₂ - Dryer based on stoichiometric calculations. Kilns based on AP-42 Table 1.1-2 which gives [38 S] lbs./ton of coal burned, where S is the % sulfur content. When firing fuel oil, the emissions are based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
 NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.
 Kilns based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 164,640 TPY).
 CO - Coal from AP-42 Table 1.1-2 which gives 2 lbs./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.
 VOC - Coal from AP-42 Table 1.1-2 which gives 1 lb./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 3: Revised for the Final Determination on April 27, 1982, and based on the applicant's comments dated April 9, 1982.

Attachment 13



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(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

April 9, 1982

Mr. Bill Thomas
Air Quality Management
Dept. of Environmental Regulations
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Mr. Thomas:

I have reviewed the recent applications as agreed upon by DER and Dixie and found that the following minor revisions need to be made:

1. AC 60-44267 (D-10) should be changed from 24 hours/day and 7 days/week to 8 hours/day and 5 days/week. ^{627 RRM 4-26-82 VC}
2. AC 60-49009 (D-12) should be changed from 7500 ACFM at 90 degrees F. to 6400 ACFM at 200 degrees F. This has already been written as memo to Dan Williams dated February 26, 1982.

I hope you will issue the permits as soon as possible.

Sincerely,

DIXIE LIME & STONE COMPANY


4/9/82

V.D. Chapnerkar
Research & Development Mgr.

VDC/jaf

Attachment 14

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION
INTEROFFICE MEMORANDUM

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

TO: Bill Thomas, BAQM

FROM: Dan Williams *DW*

DATE: April 22, 1982

SUBJECT: Preliminary Determination
Dixie Lime & Stone Co.
(AC60-52586)

DER

APR 26 1982

BAQM

We suggest the following language be added to Specific Condition No. 18 of the draft permit number AC60-52586:

18.This permit will at that time replace the existing DER operating permit number AO60-30853.

This would eliminate any misunderstanding regarding the status of the existing operating permit on Lime Kiln No. 2. Should you have any question, please give me a call at Suncom 552-7270.

DAW/rkt

Attachment 15

Subpart HH—Standards of Performance for Lime Manufacturing Plants 45

§ 60.340 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities used in the manufacture of lime: rotary lime kilns and lime hydrators.

(b) The provisions of this subpart are not applicable to facilities used in the manufacture of lime at kraft pulp mills.

(c) Any facility under paragraph (a) of this section that commences construction or modification after May 3, 1977, is subject to the requirements of this part.

§ 60.341 Definitions.

As used in this subpart, all terms not defined herein shall have the same meaning given them in the Act and in subpart A of this part.

(a) "Lime manufacturing plant" includes any plant which produces a lime product from limestone by calcination. Hydration of the lime product is also considered to be part of the source.

(b) "Lime product" means the product of the calcination process including, but not limited to, calcitic lime, dolomitic lime, and dead-burned dolomite.

(c) "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce a lime product from limestone by calcination.

(d) "Lime hydrator" means a unit used to produce hydrated lime product.

§ 60.342 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any rotary lime kiln any gases which:

(i) Contain particulate matter in excess of 0.15 kilogram per megagram of limestone feed (0.30 lb/ton).

(ii) Exhibit 10 percent opacity or greater.

(2) From any lime hydrator any gases which contain particulate matter in excess of 0.075 kilogram per megagram of lime feed (0.15 lb/ton).

§ 60.343 Monitoring of emissions and operations.

(a) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in paragraph (b) of this section, to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from any rotary lime kiln. The span of this system shall be set at 40 percent opacity.

(b) The owner or operator of any rotary lime kiln using a wet scrubbing emission control device subject to the provisions of this subpart shall not be required to monitor the opacity of the gases discharged as required in paragraph (a) of this section, but shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be accurate within ± 250 pascals (one inch of water).

(2) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control device. The monitoring device must be accurate within ± 5 percent of design scrubbing liquid supply pressure.

(c) The owner or operator of any lime hydrator using a wet scrubbing emission control device subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) A monitoring device for the continuous measuring of the scrubbing liquid flow rate. The monitoring device must be accurate within ± 5 percent of design scrubbing liquid flow rate.

(2) A monitoring device for the continuous measurement of the electric current, in amperes, used by the scrubber. The monitoring device must be accurate within ± 10 percent over its normal operating range.

(d) For the purpose of conducting a performance test under § 60.8, the owner or operator of any lime manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device for measuring the mass rate of limestone feed to any affected rotary lime kiln and the mass rate of lime feed to any affected lime hydrator. The measuring device used must be accurate to within ± 5 percent of the mass rate over its operating range.

(e) For the purpose of reports required under § 60.7(c), periods of excess emissions that shall be reported are defined as all six-minute periods during which the average opacity of the plume from any lime kiln subject to paragraph (a) of this subpart is 10 percent or greater.

(Sec. 114 of the Clean Air Act, as amended (42 U.S.C. 7414).)

§ 60.344 Test methods and procedures.

(a) Reference methods in Appendix A of this part, except as provided

under § 60.8(b), shall be used to determine compliance with § 60.322(a) as follows:

(1) Method 5 for the measurement of particulate matter.

(2) Method 1 for sample and velocity traverses.

(3) Method 2 for velocity and volumetric flow rate.

(4) Method 3 for gas analysis.

(5) Method 4 for stack gas moisture, and

(6) Method 9 for visible emissions.

(b) For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 std m³/h, dry basis (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator.

(c) Because of the high moisture content (40 to 85 percent by volume) of the exhaust gases from hydrators, the Method 5 sample train may be modified to include a calibrated orifice immediately following the sample nozzle when testing lime hydrators. In this configuration, the sampling rate necessary for maintaining isokinetic conditions can be directly related to exhaust gas velocity without a correction for moisture content. Extra care should be exercised when cleaning the sample train with the orifice in this position following the test runs.

(Sec. 114 of the Clean Air Act, as amended (42 U.S.C. 7414).)

Proposed/effective
42 FR 22506, 5/3/77

Promulgated
43 FR 9452, 3/7/78 (85)

The opacity monitors shall be required III-69 before receiving the operating permits for lime kilns Nos. 1 and 2. 4/14/82

File and sent to Dr. Vasant Chagnork

4-14-82

Dixie Lime & Stone Co.

cc Don Williams
Southwest District

Bruce Mitchell

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

TO: Victoria J. Tschinkel
FROM: Clair Fancy *Mr. Thomas*
DATE: April 30, 1982
SUBJ: Approval and Signature of Attached Air
Construction Permits Described Below

Attached please find five air construction permits for which the applicant is Dixie Lime and Stone Company.

Day 90, after which the permit would be issued by default, is July 1, 1982. The Bureau recommends your approval and signature.

CF/pa

Attachment

Attachment ...
Revised Tables 1, 2, 3

Table 1*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂	NO _x	CO	VOC
								lbs/hr.	TPY	TPY	TPY	TPY	TPY
Lime Kiln No. 2	D-1	22.5/540/189,000	39,250	24	7	50	8,400	24.74	103.91	157.46	18.90	12.08	2.42
Limestone Dryer	D-2	100/2400/576,000	36,500	24	5	48	5,760	36.17	104.17	189.56	76.03	6.34	1.27
Coal Grinding System	D-12	5/120/42,000	7,500	24	7	50	8,400	22.39	94.04				
'A' Screening Dust Collector	D-3		3,000	24	7	52	8,760	0.51	2.23				
'B' Screening Dust Collector	D-4		3,000	24	7	52	8,760	0.51	2.23				
Lime Kiln No. 2 Cooler	D-5		31,064	24	7	50	8,400	24.74	103.91				
Lime Loadout Scavenger Sys.	D-6		6,500	10	5	50	2,500	36.17	45.21				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	10	5	50	2,500	36.17	45.21				
CaCO ₃ Process Scavenger System	D-8		6,000	10	5	50	2,500	34.54	43.18				
CaCO ₃ Loadout Scavenger System	D-9		3,000	10	5	50	2,500	29.83	37.29				
Fugitive Dust Control System	D-10		6,000	10	5	50	2,500	34.54	43.18				
TOTAL								—	624.56	347.02	94.93	18.42	3.69

¹Allowable Emissions: Kiln based on No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, 575.0 maximum gal./hr., and 22.5 TPH² product (CAO); dryer based on No. 5 fuel oil with a maximum of 1.0% sulfur content by weight, 439 maximum gal./hr. (3,291 lbs./hr.), and 100 TPH product. (Summary: FACILITY BEFORE PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on process weight table except for "D-3 and D-4", which are based on 0.02 grains/ACF (manufacturer's specifications).
SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
NO_x - Dryer based on AP-42 Table 1.3-1 which gives 60 lbs/10³ gal.
Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 189,000 TPY).
CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.
VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 1: Draft and Final Determination

Table 2*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂	NO _x	CO	VOC
								lbs/hr.	TPY	TPY	TPY	TPY	TPY
Lime Kiln No. 2	D-1	12.08/290/8,700	46,800	24	7	30 days	720	8.02	2.89	11.27	0.87	0.86	0.17
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	6,400	18	7	48	6,048	1.10	3.33				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	8	5	48	8,064	1.03	0.99				
TOTAL								—	42.67	68.49	19.88	1.65	0.33

¹Allowable Emissions: Kiln based on 30 days of No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, maximum of 480.0 gal./hr., and 12.08 TPH² product (CAO); dryer based on No. 6 fuel oil with a maximum of 2.2% sulfur content by weight, maximum of 165.0 gal./hr., and 75 TPH product. (Summary: PRESENT FACILITY AFTER CURRENT PERMIT REVISIONS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.) except for the dryer which is based on test data (8.00 lbs./hr.).
 SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
 NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.
 Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 8,700 TPY).
 CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs/10³ gal.
 VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 2: Revised for the Final Determination on April 27, 1982, and based on the applicant's comments dated April 9, 1982.

Table 3*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂ TPY	NO _x TPY	CO TPY	VOC TPY
								lbs/hr.	TPY				
Lime Kiln No. 1	D-11	8.33/200/67,200	32,585	24	7	48	8,064	5.59	22.54	28.46	6.72	14.19	6.91
Lime Kiln No. 2	D-1	12.08/290/97,440	46,800	24	7	48	8,064	8.02	32.34	41.19	9.74	20.54	10.01
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	6,400	18	7	48	6,048	1.10	3.33				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	8	5	48	8,064	1.03	0.99				
No. 1 Kiln Scavenger System	D-15		3,000	24	7	48	8,064	0.51	2.06				
No. 1 Kiln Fine Coal Handling System	D-16		600	24	7	306 days	7,344	0.10	0.37				
No. 2 Kiln Fine Coal Handling System	D-14		600	24	7	306 days	7,344	0.10	0.37				
TOTAL								—	97.46	126.87	35.47	35.52	17.08

¹Allowable Emissions: Kilns are based on 30 days of No. 6 fuel oil and 306 days of coal with a maximum of 2.0% and 0.8% sulfur content by weight, respectively, except for the dryer which is fired with No. 6 fuel oil only, with a maximum of 2.2% sulfur content by weight. Maximum fuel oil usage in gallons per hour are Kiln No. 1: 332.7; Kiln No. 2: 480.0; Dryer: 165.0. Maximum coal usage in tons per hour are Kiln No. 1: 1.85; Kiln No. 2: 2.68. (Summary: TABLE 2 PLUS PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.), except for the dryer which is based on test data (8.00 lbs./hr.).
SO₂ - Dryer based on stoichiometric calculations. Kilns based on AP-42 Table 1.1-2 which gives [38 S] lbs./ton of coal burned, where S is the % sulfur content. When firing fuel oil, the emissions are based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.
Kilns based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 164,640 TPY).
CO - Coal from AP-42 Table 1.1-2 which gives 2 lbs./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.
VOC - Coal from AP-42 Table 1.1-2 which gives 1 lb./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 3: Revised for the Final Determination on April 27, 1982, and based on the applicant's comments dated April 9, 1982.

Attachment 13

→ P 4/11

Check Sheet

Company Name: *Dixie Lime & Stone*
Permit Number: *AC 60-525 83 (1)*
PSD Number: *86 (2)*
County: *87 (3)*
Permit Engineer: *89 (4)*
Others involved: *523 17*

523 17 (5)
49009 (6)

Application:

- Initial Application *(1)-(5)*
- Incompleteness Letters
- Responses
- Final Application (if applicable)
- Waiver of Department Action
- Department Response

modify AC 60-49009 2/26/12

Intent:

- Intent to Issue
- Notice to Public
- Technical Evaluation
- BACT Determination
- Unsigned Permit

Attachments:

-
-
-
- Correspondence with:
 - EPA *17*
 - Park Services *86*
 - County *89*
 - Other *83*
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.) *87*

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination

Post Permit Correspondence:

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

In the folder labeled as follows there are documents, listed below, which were not reproduced in this electronic file. Those documents can be found in the supplementary documents file drawer. Folders in that drawer are arranged alphabetically, then by permit number.

Folder Name: Dixie Lime and Stone
Permit(s) numbered: AC 60-52583
60-52586
60-52587
60-52589
60-52317

Period During Which
DOCUMENT WAS
SUBMITTED
(APPLICATION, PD & TE,
FINAL DETERMINATION,
POST PERMIT)

Detailed Description

1. 24"x36" BLUEPRINT AERIAL
VIEW OF SITE
2. 24"x36" BLUEPRINT MODEL 300
CALCIMATIC KILN TEMPERATURE
& PRESSURE CHART J510 REVA
3. 12"x18" BLUEPRINT
THERMOCOUPLES 16 POINT
RECORDER

Dixie Linc & Stone Co.

AC 60-52583

Kiln #1 Fine Coal Handling Sys. @ Bayhouse

Thomas, B.

SW Dist. 1 Rod 2/17/82

BAQM-CAPS: " 2/19/82 *BA*

copy of review
engineer's file
folder

Op. 24x7x48

Dixie Lime & Stone Co.

AC 60-49009

"Coal Grinding Sys" @ Baghouse

2/16/82 → 9/30/82

Rec'd: BAQM via SW Dist. : 2/19/82 RR
Issued by SWD: 2/16/82

Small wood, S.

Op. 24 x 7 x 50

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.
ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) <i>Clair Fancy</i>	INITIAL
	DATE
2. <i>Bureau of Air Quality Management</i>	INITIAL
	DATE
3.	INITIAL
	DATE
4. <i>RE: Dixie Lime & Stone</i>	INITIAL
	DATE

REMARKS:

Attached are four additional const. permit applications for Dixie. The Lime Kiln #2 filter baghouse is not a new source. The application is to allow Dixie to burn coal and/or oil.

Also attached is a copy of the const. permit we issued to Dixie for a coal grinding system. (OVER)

FROM:

Dean R. Williams

INFORMATION
REVIEW & RETURN
REVIEW & FILE
INITIAL & FORWARD
DISPOSITION
REVIEW & RESPOND
PREPARE RESPONSE
FOR MY SIGNATURE
FOR YOUR SIGNATURE
LET'S DISCUSS
SET UP MEETING
INVESTIGATE & REPORT
INITIAL & FORWARD
DISTRIBUTE
CONCURRENCE
FOR PROCESSING
INITIAL & RETURN

DATE *2-17-82*

PHONE

Rec'd SW Dist
BAQM

Feb 8, 1982
Feb 10, 1982

BACT PSD
✓

Inc. (not done)
2/19/82 letter must be sent
3/7/82

Completion Date: 4/1982

June 1979

Consent Order Jan 1981

Contact: V.O. Chagnerkar, R.E. Asst.
P.O. Drawer 217
Sumterville, Fla 35585

904-793-2063

P.E. Thomas B. Terpening
% Consulting Services, Inc.
P.O. Box 1113
Brooksville, Fla 33512 (Fl. # 4843)

904-796-9646

Op. 24x2x50

Lat. 28° 46' 26" N
Lon. 82° 02' 55" W

Meeting on 2/19/82

BM, BT, CF, MHH;
Dr. Chagnerkar

1. App. is incomplete

- Calc. of all criteria pollutants (show references, calculations, etc.)
- Calc. all "actual emissions" based on "2" yrs. of test data
- If no test data, "potential emissions" shall be used
- b. & c. to October '77 or last "2" years
- Request modification of coal grinding app. to reflect vendors specifications on loading & efficiency

2/22/82 Spoke with Mike ? with ES & E.
Bill

also, BT was on the phone for the discussion. (Explanation of affected pollutants according to PSD)

3/5/82 Incomplete letter sent.



DIXIE LIME AND STONE COMPANY



Best Available Copy

DR. VASANT D. CHAPNERKAR
RESEARCH AND DEVELOPMENT

POST OFFICE DRAWER 217
SUMTERTVILLE, FLORIDA 33585
U. S. A.

OFFICE (904) 793-2063
RES. (813) 961-6823
TELEX: 056-4346

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP		ACTION NO.
		ACTION DUE DATE
1. TO: (NAME, OFFICE, LOCATION)		INITIAL
<i>Mr. Clair Fungy - CAPS</i>		DATE
2.		INITIAL
<i>Bureau of Air Quality Management</i>		DATE
3.		INITIAL
<i>Other</i>		DATE
4.		INITIAL
<i>RE: Dixie Lime & Stone Co.</i>		DATE

REMARKS:

Attached is a const. permit application to reactivate an old lime kiln at Dixie Lime. Per the attached memo from Martha Hall it should be considered as a new source. Several recent permits have been issued to this facility. Since it is a major facility, CAPS should permit. If you have any question give me a call.

Dan J. Williams

INFORMATION
REVIEW & RETURN
REVIEW & FILE
INITIAL & FORWARD
DISPOSITION
REVIEW & RESPOND
PREPARE RESPONSE
FOR MY SIGNATURE
FOR YOUR SIGNATURE
LET'S DISCUSS
SET UP MEETING
INVESTIGATE & REPORT
INITIAL & FORWARD
DISTRIBUTE
CONCURRENCE
FOR PROCESSING
INITIAL & RETURN
DATE <i>2-8-82</i>
PHONE <i>552-7270</i>

Direct Line Stone Co.
Lime kiln #1 in Bayhouse
HC 60-52317

To Bruce
 Date 3-5 Time 9:14
WHILE YOU WERE OUT
 M M. Chapner
 of Alpine Lime & Stone
 Phone 904-793-2063
Area Code Number Extension

TELEPHONED	PLEASE CALL
CALLED TO SEE YOU	WILL CALL AGAIN
WANTS TO SEE YOU	URGENT
RETURNED YOUR CALL	

Message with Bill in
on Incongruities
 Operator Bm

To Bruce Mitchell
 Date 3-3 Time 2:25
WHILE YOU WERE OUT
 M Chapner
 of _____
 Phone _____
Area Code Number Extension

TELEPHONED	PLEASE CALL
CALLED TO SEE YOU	WILL CALL AGAIN
WANTS TO SEE YOU	URGENT
RETURNED YOUR CALL	

Message Permit application
allowable mess
is shown should
be in trust instead
of per hour
 Operator lit

Sorry - he called several times for you -

Dixie Lime & Stone Co.

AC 60-52589

Unit #1 Scavenging Sys w/ Baghouse

SW Dist: Red 2/17/82

BAQM-CAPS: " 2/19/82 GR

Op. 24 x 7 x #8

Dixie Lumber & Stone Co.

AC 60-52587

Kiln #2. Fine Coal Handling Sys w/ Bayhouse

SW Dist: Recd 2/17/82

BAQM-CAPS: " 2/19/82 *for*

Svec, J.

Dp. 24 x 7 x 48

Dixie Lime & Stone Co.

AC 60-52586

Lime Hill #2: Finding of F.O. Coal @ Bighouse

S.W. Dist. : Red 2/17/82

BAQM-CAPS: " 2/19/82 *for*

Strickland, O.

P 408 530 297

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Parke R. Wagner	
Street and No.	
P.O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date 9/19/84	

PS Form 3800, Feb. 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

September 18, 1984

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Parke R. Wagner
Plant Manager
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

Dear Mr. Wagner:

Re: Amending the Air Construction Permits:
Nos. AC 60-52317 (No. 1 Lime Kiln) and AC 60-52586
(No. 2 Lime Kiln)

The department is in receipt of your letter dated July 27, 1984, in which you requested the deletion of the restriction on the type of fuel combusted in the referenced lime kilns, while agreeing to a five pounds per hour (5 lbs/hr) mass emission limit of the pollutant sulfur dioxide (SO₂) per source. Based on the requests of the applicant, the recommendations of the Southwest District, and in accordance with Specific Condition No. 15 in the referenced permits, the department will make the following changes and additions:

Permit No. AC 60-52317: No. 1 Lime Kiln

Specific Condition:

No. 1:

From: Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb/hr</u>	<u>tons/yr</u>	<u>Emission Limit</u>
Particulate	5.59	22.54	0.02 grains/ACF
Sulfur Dioxide	21.69	7.81	2.0% Sulfur Fuel Oil, 30 days
	5.62	20.65	0.8% Sulfur coal, 306 days
Nitrogen Oxides	1.67	0.60	2.0% Sulfur Fuel Oil, 30 days
	1.67	6.12	0.8% Sulfur coal, 306 days

Mr. Parke Wagner
Page Two
September 18, 1984

Carbon Monoxide	1.67	0.60	2.0% Sulfur Fuel Oil, 30 days
	3.70	13.59	0.8% Sulfur coal, 306 days
Volatile Organic Compounds	0.33	0.12	2.0% Sulfur Fuel Oil, 30 days
	1.85	6.79	0.8% Sulfur coal, 306 days

To: Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb/hr</u>	<u>tons/yr</u>	<u>Emission Limit</u>
Particulate	5.6	22.5	0.02 grains/ACF
Sulfur Dioxide	5.0	20.2	2.0% Sulfur Fuel Oil
	5.0	20.2	0.8% Sulfur coal
Nitrogen Oxides	1.7	6.7	2.0% Sulfur Fuel Oil
	1.7	6.7	0.8% Sulfur coal
Carbon Monoxide	1.7	6.7	2.0% Sulfur Fuel Oil
	3.7	14.9	0.8% Sulfur coal
Volatile Organic Compounds	0.3	1.3	2.0% Sulfur Fuel Oil
	1.9	7.5	0.8% Sulfur coal

No. 5:

From: Maximum fuel combustion rate shall not exceed 332.7 gal/hr of No. 6 Fuel Oil or 1.85 Tons/hr of coal. The source shall not exceed 30 days on Fuel Oil and 306 days on coal.

To: Maximum fuel combustion rate shall not exceed 332.7 gal/hr of No. 6 Fuel Oil or 1.85 Tons/hr of coal.

No. 18: (new Specific Condition)

To: All references to the term "fuel oil" shall be replaced with the term "new fuel oil", which means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives.

Attachment to be Incorporated:

19. Mr. Parke Wagner's letter dated July 27, 1984.

Permit No. AC 60-52586: No. 2 Lime Kiln

Mr. Parke Wagner
Page Three
September 18, 1984

Specific Condition:

No. 1:

From: Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb/hr</u>	<u>tons/yr</u>	<u>Emission Limit</u>
Particulate	8.87	35.76	0.02 grains/ACF
Sulfur Dioxide	31.31	11.27	2.0% Sulfur Fuel Oil, 30 days
	8.15	29.92	0.8% Sulfur coal, 306 days
Nitrogen Oxides	2.42	0.87	2.0% Sulfur Fuel Oil, 30 days
	2.42	8.87	0.8% Sulfur coal, 306 days
Carbon Monoxide	2.39	0.86	2.0% Sulfur Fuel Oil, 30 days
	5.36	19.68	0.8% Sulfur coal, 306 days
Volatile Organic Compounds	0.47	0.17	2.0% Sulfur Fuel Oil, 30 days
	2.68	9.84	0.8% Sulfur coal, 306 days

To: Maximum allowable emissions shall be:

<u>Pollutant</u>	<u>lb/hr</u>	<u>tons/yr</u>	<u>Emission Limit</u>
Particulate	8.9	35.8	0.02 grains/ACF
Sulfur Dioxide	5.0	20.2	2.0% Sulfur Fuel Oil
	5.0	20.2	0.8% Sulfur coal
Nitrogen Oxides	2.4	9.7	2.0% Sulfur Fuel Oil
	2.4	9.7	0.8% Sulfur coal
Carbon Monoxide	2.4	9.7	2.0% Sulfur Fuel Oil
	5.4	21.8	0.8% Sulfur coal
Volatile Organic Compounds	0.5	2.0	2.0% Sulfur Fuel Oil
	2.7	10.9	0.8% Sulfur coal

No. 5:

From: Maximum fuel combustion rate shall not exceed 480 gal/hr of No. 6 Fuel Oil or 2.68 Tons/hr of coal. The source shall not exceed 30 days on Fuel Oil and 306 days on coal.

Mr. Parke Wagner
Page Four
September 18, 1984

To: Maximum fuel combustion rate shall not exceed 480 gal/hr
of No. 6 Fuel Oil or 2.68 Tons/hr of coal.

No. 18: (new Specific Condition)

To: All references to the term "fuel oil" shall be replaced
with the term "new fuel oil", which means an oil which has
been refined from crude oil and has not been used, and
which may or may not contain additives.

Attachment to be Incorporated:

19. Mr. Parke Wagner's letter dated July 27, 1984.

This letter and attachment must be attached to your air
construction permits, No. AC 60-52317 and AC 60-52586, and shall
become a part of those permits.

Sincerely,



Victoria J. Tschinkel
Secretary

VJT/ks


cc: Dan Thompson
Nancy Wright
George Richardson, SW District
Bill Thomas, SW District

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

TO: Victoria J. Tschinkel

FROM: C. H. Fancy, Deputy Bureau Chief, BAQM 

DATE: September 17, 1984

SUBJ: Approval and signature of amendments to the construction permits, Nos. AC 60-52317 and AC 60-52586, for Dixie Lime and Stone Company, issued May 3, 1982. Permit No. AC 60-52317 was amended February 11, 1983, September 1, 1983, and July 6, 1983. Permit No. AC 60-52586 was amended July 12, 1982, February 11, 1983, September 1, 1983, April 17, 1984, and July 6, 1984.

Enclosed are amendments to the referenced construction permits and the bureau recommends approval.

CHF/BM/s

enclosure



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

DER
JUL 30 1984
BAQM

July 27, 1984

Mr. R. Bruce Mitchell, Engineer
Bureau of Air Quality Management
Florida Dept. of Environmental Regulation
2600 Blairstone Road
Twin Towers Office Bldg.
Tallahassee, FL 32301

RE: Air Construction Permits, Nos. AC60-52317 (No.1 lime kiln)
and AC60-52586 (No.2 lime kiln)

Dear Mr. Mitchell:

Provided there are no restrictions placed on us concerning the type of fuel burned in the kilns, we hereby agree to limit our SO₂ emissions from the kilns to five pounds per hour (5 lbs./hr.)

Sincerely,

DIXIE LIME AND STONE COMPANY

Parke R. Wagner
Plant Manager

/jw

cc: Mr. George W. Richardson, Engineer
Air Permitting
Fla. Dept. of Environmental Regulations
7601 Highway 301 North
Tampa, FL 33610

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

TO: Victoria J. Tschinkel

FROM: C. H. Fancy, Deputy Chief, BAQM

DATE: July 6, 1984

SUBJ: Approval and signature of an amendment to the construction permit, Nos. AC 60-52317, and -52586, for Dixie Lime and Stone Company, issued May 3, 1982, and modified February 11, 1983, and September 1, 1983 (expiration date extensions). Permit No. AC 60-52586 was also amended May 3, 1984 (expiration date extension).

Enclosed are amendments to the referenced construction permit and the bureau recommends approval.

CHF/BM/s

enclosure

DER

JUL 10 1984

BAQM

RECEIVED

JUL 6 1984

Office of the Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

July 6, 1984

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Parke R. Wagner
Plant Manager
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

Re: Amendments to Air Construction Permits, Nos. AC 60-52317
(No. 1 lime kiln) and AC 60-52586 (No. 2 lime kiln)

Dear Mr. Wagner:

The department is in receipt of your letter dated April 2, 1984, requesting a review of the applicability of 40 CFR 60, Subpart HH to your recently constructed lime kilns (referenced above). The basis of your requests is that you feel the design of your kilns exempts them from the subpart.

The bureau referred the matter to the rule development branch of the USEPA located at Research Triangle Park, North Carolina. Their response was that the subpart would not be applicable because of the design and that the background research document targeted the typical rotary inclined lime kiln.

Therefore, the bureau will amend the above referenced air construction permits and make the following changes and additions:

Specific Conditions:

No. 8:

From: Visible emissions (VE) shall not reach nor exceed 10% opacity. Exceedance reporting shall be in accordance with the NSPS, 40 CFR 60, Subpart HH. Compliance tests shall be DER Method 9 in accordance with Chapter 17-2.700(6)(a)9., FAC.

Mr. Parke R. Wagner
Page Two
July 6, 1984

To: Visible emissions shall not exceed 15% opacity. Reporting shall be in accordance with FAC Rules 17-2.250 and 17-2.700. Compliance visible emissions tests shall be conducted annually and performed using DER Method 9 in accordance with FAC Rule 17-2.700(6)(a)9.

No. 9:

From: A continuous opacity monitor will be installed in accordance with the NSPS, 40 CFR 60, Subpart HH and Chapter 17-2.710, FAC. Exceedance reporting shall be in accordance with the NSPS, 40 CFR 60, Subpart HH, and Chapter 17-2.710, FAC.

To: deleted

No. 10:

From: Compliance with the mass emission limitations of Specific Condition No. 1 shall be determined using EPA Methods 1, 2, 3, 4, 5, and 6 contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 17-2.700, FAC. Sampling facilities, including the angle and eyebolt, source sampling and reporting shall be in accordance with Chapter 17-2.700, FAC, and 40 CFR 60, Appendix A. Compliance tests shall be run at 90-100% rated capacity.

To: Compliance tests shall be conducted for the pollutants particulate matter and sulfur dioxide using EPA Methods 1-5 and 6, respectively, as contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 17-2.700, FAC. Sampling facilities, including the angle and eyebolt, source sampling and reporting shall be in accordance with Chapter 17-2.700, FAC, and 40 CFR 60, Appendix A. Compliance tests shall be run at 90-100% rated capacity.

Attachment to be incorporated:

18. Parke R. Wagner's letter dated April 2, 1984

Mr. Parke R. Wagner
Page Three
July 6, 1984

This letter and attachment must be attached to your air construction permits, Nos. AC 60-52317 and AC 60-52586, and shall become a part of those permits.

Sincerely,

Terry Cole for
Victoria J. Tschinkel
Secretary

VJT/s

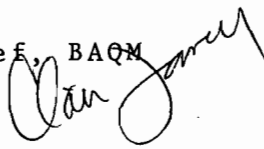
cc: Bill Thomas, Southwest District
Nancy Wright, Office of General Counsel

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

TO: Victoria J. Tschinkel

FROM: C. H. Fancy, Deputy Chief, BAQM 

DATE: April 17, 1984

SUBJ: Approval and signature of an amendment to the construction permit, No. AC 60-52586, for Dixie Lime and Stone Company, issued May 3, 1982, and modified February 11, 1983, and September 1, 1983 (expiration date extension).

Enclosed is an amendment to the referenced construction permit and the bureau recommends approval.

CHF/BM/s

enclosure

No. 0157497

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO			
Mr. Parke R. Wagner			
STREET AND NO.			
P.O., STATE AND ZIP CODE			
POSTAGE	\$		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢	
	SPECIAL DELIVERY	¢	
	RESTRICTED DELIVERY	¢	
	OPTIONAL SERVICES	RETURN RECEIPT SERVICE	¢
		SHOW TO WHOM AND DATE DELIVERED	¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢		
TOTAL POSTAGE AND FEES	\$		
POSTMARK OR DATE			
5/1/84			

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

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

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

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

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mr. Parke R. Wagner
P. O. Drawer 217
Sumterville, FL 33585

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157497	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

Dray Clark

4. DATE OF DELIVERY
5-7-84

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS
AS

SUMTERVILLE, FL
POSTMARK
MAY 7 1984

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

April 17, 1984

CERTIFIED MAIL - RECEIPT REQUESTED

Mr. Parke R. Wagner
Plant Manager
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

Re: Extension of the Expiration Date on Construction Permit
No. AC 60-52586 (No. 2 Lime Kiln)

Dear Mr. Wagner:

The department is in receipt of your letter dated April 2, 1984, requesting an extension of the expiration date in the above referenced construction permit. The Bureau of Air Quality Management finds the request acceptable and the conditions are changed and added as follows:

Expiration Date:

From: April 1, 1984
To: October 1, 1984

Attachment to be incorporated:

18. Parke R. Wagner's letter dated April 2, 1984.

This letter and attachment must be attached to your air construction permit, No. AC 60-52586, and shall become a part of that permit.

Sincerely,


Victoria J. Tschinkel
Secretary

VJT/s
cc: Bill Thomas - SW District
Nancy Wright

George
WLS



BOB BAKER ENGINEERING CO.

521 Northeast Boulevard, Gainesville, Florida 32601 (904) 376-2974

April 3, 1984 DER

Engineering and Sampling of Industrial:
Hazardous Waste
Air Pollution
Wastewater
Noise

JUL 30 1984

BAQM

Mr. Bill Thomas
Florida Department of Environmental Regulation
7601 Highway 301 North
Tampa, FL 33610

D. E. R.

APR 06 1984

RE: DIXIE LIME & STONE COMPANY

Dear Bill:

**SOUTH WEST DISTRICT
TAMPA**

I am writing to summarize our meeting of 4/2/84 and to express my thanks for a very productive meeting.

The points of summary are:

- 1 - The request for dropping stack testing in permits AC60-39124 (lime loadout scavenger system #D-6), AC60-39495 (lime crusher and scavenger system #D-7), and AC60-52863 (CaCO₃ fugitive dust control system #D-10) has already been approved by FDER on 2/14/84. A 5 % opacity limit was placed on the source in lieu of the stack testing. VE tests results will be submitted later this week.
- 2 - The status of the operating and construction permits is that all construction permits have been complied with, except for lime kiln #2 (for which a request for a 6 month extension was made on 4/2/84). Applications for operating permits were submitted for lime kiln #1 (AC60-52317 #D-11), coal grinding system (AC60-49009 #D-12), lime kiln #1 fine coal handling system (AC60-52583 #D-16) and lime kiln #2 fine coal handling system (AC60-52787 #D-14).

Submitted were SO₂ stack test report for kiln #1 (particulate test to be submitted next week); particulate stack test report for coal grinding system with VE results; VE test results for both fine coal handling systems (the process information for these 6 stacks will be submitted this week).

The limestone dryer (AO60-24513) was stack tested last week and a report will be submitted shortly.

- 3 - A letter was sent to Mr. Bruce Mitchell of FDER in Tallahassee requesting a review of the applicability of

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

BRUCE MITCHELL

Initial

Date

2.

BAQM

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

*BRUCE,
TALKED WITH MR. PACE
WAGNER PLANT MGR., PIXIE
LINE HE SAID HE WOULD
SEND YOU A LETTER ON
THE REQUESTED SO2
ALLOWABLE.*

THANKS

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

GEORGE RICHARDSON TRA SC 552 7270

DATE

PHONE

40 CFR 60 Subpart HH to the lime kilns. It is intended to delete the construction permits' requirements for opacity monitors. The 4/2/84 letter, also requested a 6 month extension of the construction permit for the #2 lime kiln.

- 4 - It is requested that on the operating permits for the kilns that the restriction of 30 days of burning 2% sulfur oil and 306 days of burning 0.8% sulfur coal be changed to a SO₂ emission rate. It is suggested that a hourly limit be established based on a reasonably attainable capture efficiency of about 90 % and the 28.46 TPY (kiln #1) and the 41.19 TPY (kiln #2) of potential emissions listed in the construction permits. The stack tests show SO₂ reduction efficiencies of 99%+.

Also requested is that the future particulate stack testing of the kilns be performed on coal. Concurrent SO₂ tests will be performed for compliance purposes.

- 5 - Due to the low emission rates, it is requested that VE tests replace the requirement for annual particulate tests on the coal grinding system's operating permit.
- 6 - The scavenger system on the #1 lime kiln was not built and its construction permit should be terminated. The 2.06 TPY of particulate emissions should be credited to the plant's emission inventory.
- 7 - The monthly reporting permit requirements are being complied with by Dixie Lime and will probably remain in force until sufficient information about the operations is received. However, it should not remain for the life of the facilities.
- 8 - Stack tests will be performed 4/3-4/84 on the #2 lime kiln system.

I appreciate the time and effort of yourself and Mr. George Richardson in clarifying these matters and I trust if you have any questions, you will contact Mr. Parke Wagner or me.

Sincerely,



Robert A. Baker, P.E.
Engineer



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346



SUBSIDIARY OF
AMCAR, INC.

April 2, 1984

Mr. Bruce Mitchell
Florida Department of
Environmental Regulations
2600 Blairstone Road
Twin Tower Office Bldg.
Tallahassee, Florida 32301

DER
APR 04 1984
BAQM

Dear Mr. Mitchell:

After a meeting today with Mr. Bill Thomas and Mr. George Richardson of your Tampa office, I am requesting the following:

1) PERMIT AC60-52586 (No. 2 Lime Kiln)

Due to equipment and design problems, we have not been able to get the process to an acceptable status. We are currently trying to reduce air leakage and improve the fine coal bins for more stable operations. This will take approximately six (6) months to design, construct and shake-down. Therefore, I am requesting a six (6) months extension to this permit which expired on April 1, 1984.

7/14/84

2) PERMITS AC60-52317^{Mojo/1/84} and AC60-52586 (No. 1 & 2 Lime Kilns)

The construction permits require that "a continuous opacity monitor will be installed in accordance with the NSPS, 40 CFR 60, Subpart HH and Chapter 17-2.710, FAC". After a review of 40CFR60, Subpart HH, I believe it deals with rotary inclined lime kilns and not Calcimatic kilns (not inclined and rotating horizontally). Due to the high costs of CEM equipment (>\$15,000), I am requesting that you review the applicability of these requirements. In order to assist, I am enclosing a drawing of the kiln system.

Date Rec'd: 2/2/84 4/23/84

Page Two

I trust that if you have any questions, you will contact me.

Sincerely,

DIXIE LIME AND STONE COMPANY

A handwritten signature in black ink, appearing to read 'Parke R. Wagner', written in a cursive style.

Parke R. Wagner
Plant Manager

PRW/psr

Enclosures

cc: R.A. Baker
Bob Baker Engineering

Mr. Bill Thomas
DER - Tampa

Mr. George Richardson
DER - Tampa

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

TO: Victoria J. Tschinkel, Secretary

FROM: C. H. Fancy, Deputy Bureau Chief, *CF* BAQM

DATE: September 1, 1983

SUBJ: Approval and signature of modifications to construction permits, No. AC 60-52317, -52583, -52586, -52587 and -52589, for Dixie Lime and Stone Company, issued May 3, 1982 and modified February 11, 1983. Construction permit No. AC 60-52586 was also modified on July 12, 1982.

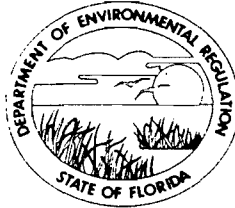
Enclosed are amendments to the referenced construction permits and the bureau recommends approval.

CF/ks

Enclosure

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

September 1, 1983

Dr. V. D. Chapnerkar
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

Dear Dr. Chapnerkar:

The bureau is in receipt of your request to extend the expiration date of the construction permits, No. AC 60-52317, -52583, -52586, -52587, and -52589. The request is acceptable and the following condition is changed:

Expiration Date:

From: October 1, 1983
To: April 1, 1984

Attachment to be incorporated is:

17. Dr. V. D. Chapnerkar's letter dated August 23, 1983.

This letter and attachment shall be attached to your permits, No. AC 60-52317, -52583, -52586, -52587, and -52589, and shall become a part of the permits.

Sincerely,

Terry Cole
Victoria J. Tschinkel
Secretary

VJT/s

cc: Bill Thomas, Southwest District

ATTACHMENT 17



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346



SUBSIDIARY OF
AMCAR, INC.

August 23, 1983

Mr. C.H. Fancy
Bureau of Air Management
State of Florida
Dept. of Environmental Regulations
2600 Blair Stone Road,
Twin Towers Office Building
Tallahassee, Florida 32301

DER
AUG 25 1983
BAQM

Re: AC 60-52317, -52583, -52586, - 52⁵87 and -52589

Dear Mr. Fancy:

We have been still experiencing problems in bringing our new coal system on line. This being a new type of system, not tried before, needs a lot of major modifications which are being conducted and, hence, has caused us to fall behind schedule as stated in our letter on the same subject dated December 30, 1982, to Mr. Bruce Mitchell.

Following is what we expect the new schedule to be:

Completion of installation	1 month
Checking the system	1 month
Compliance Test	1 month
Report on compliance test	1 month
Application for operating permit	3 months
Any delay	<u>1 month</u>
	8 months

Based on the above schedule, we would like all the above permits extended through April 1, 1984.

It is imperative for us to get the coal system operational because of the excessive cost of operating on oil. Hence, we are doing our best to get the coal system on line.

Sincerely,

V.D. Chapnerkar

VDC/psr

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

RECEIVED
FEB 11 1983

TO: Victoria J. Tschinkel, Secretary

FROM: C. H. Fancy, Deputy Bureau Chief, BAOM
C. H. Fancy of the Secretary

DATE: February 11, 1983

SUBJ: Approval and signature of modifications to construction permits, Nos. AC 60-52317, -52583, -52586, -52587 and -52589, for Dixie Lime and Stone Company, issued May 3, 1982. Construction permit No. AC 60-52586 was modified on July 12, 1982.

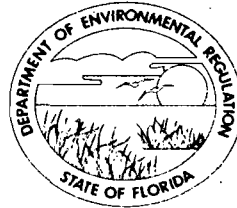
Enclosed are amendments to the referenced construction permits and the Bureau recommends approval.

CF/rbm

Enclosure

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

February 11, 1983

Dr. V. D. Chapnerkar
Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

Dear Dr. Chapnerkar:

The Department is in receipt of your request for modifications of your construction permits, Nos. AC 60-52317, -52583, -52586, -52587 and -52589, issued May 3, 1982. This request is acceptable and the conditions are changed and added as follows:

A. Expiration Date:

From: November 11, 1982
To: October 1, 1983

B. Specific Conditions:

AC 60-52583:

No. 3:

From: The design flow rate is 600 ACFM.
To: The design flow rate is 600 ACFM per bag-house system (2) and only one can be operating at a time due to operational constraints.

AC 60-52587:

No. 3:

From: The design flow rate is 600 ACFM.
To: The design flow rate is 600 ACFM per bag-house system (4) and only one can be operating at a time due to operational constraints.

C. Attachments to be included are as follows:

14. Request letter for modifications from V. D. Chapnerkar dated December 30, 1982.

Dr. V. D. Chapnerkar
February 11, 1983
Page Two

15. Letter from C. H. Fancy dated January 4, 1983.
16. Letter from V. D. Chapnerkar dated January 14, 1983.

D. Construction Permit front page General Descriptions:
AC 60-52583:

Project:

From: Lime Kiln No. 1 Fine Coal Handling System with a Boothe baghouse.
To: Lime Kiln No. 1 Fine Coal Handling System with 2 Baghouse Systems (600 ACFM per system).

General Description:

From: Associated control equipment will be a Boothe baghouse system.
To: Associated control equipment will be 2 baghouse systems, each rated at 600 ACFM, and each with its own stack.

AC 60-52587:

Permit/Certification No.:

From: AC 60-52787
To: AC 60-52587

Project:

From: Lime Kiln No. 2 Fine Coal Handling System with a Boothe baghouse.
To: Lime Kiln No. 2 Fine Coal Handling System with 4 Baghouse Systems (600 ACFM per system).


General Description:

From: Associated control equipment will be a Boothe baghouse system.
To: Associated control equipment will be 4 baghouse systems, each rated at 600 ACFM, and each with its own stack.

Dr. V. D. Chapnerkar
February 11, 1983
Page Three

This letter and attachments must be attached to the applicable permits, Nos. AC 60-52317, -52583, -52586, -52587 and -52589, and shall become a part of these permits.

Sincerely,


Victoria J. Tschinkel
Secretary

VJT/bjm

cc: Dan Williams/Bill Thomas - Southwest District
Martha Hall - General Counsel ~



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

January 14, 1983

DER
JAN 20 1983
BAQM

C.H. Fancy, P.E.
Deputy Bureau Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Fancy:

As per your letter dated January 4, 1983, I am supplying the following data in order for you to modify our permits AC60-52317, - 52583, -52586, - 52787 and -52589:

1. There will be a stack on each new baghouse proposed, similiar to that shown in AC60-52583.
2. The attached drawings show the location of the new baghouses for Kiln No. 1 and 2.

Again, I would like to emphasize that installation of these new baghouses will not change the total emission since only one bin with baghouse can be filled at a time.

We appreciate your prompt attention to our request for extensions and modifications of the permits.

Sincerely,

DIXIE LIME AND STONE COMPANY

V.D. Chapnerkar
1/14/83
V.D. Chapnerkar

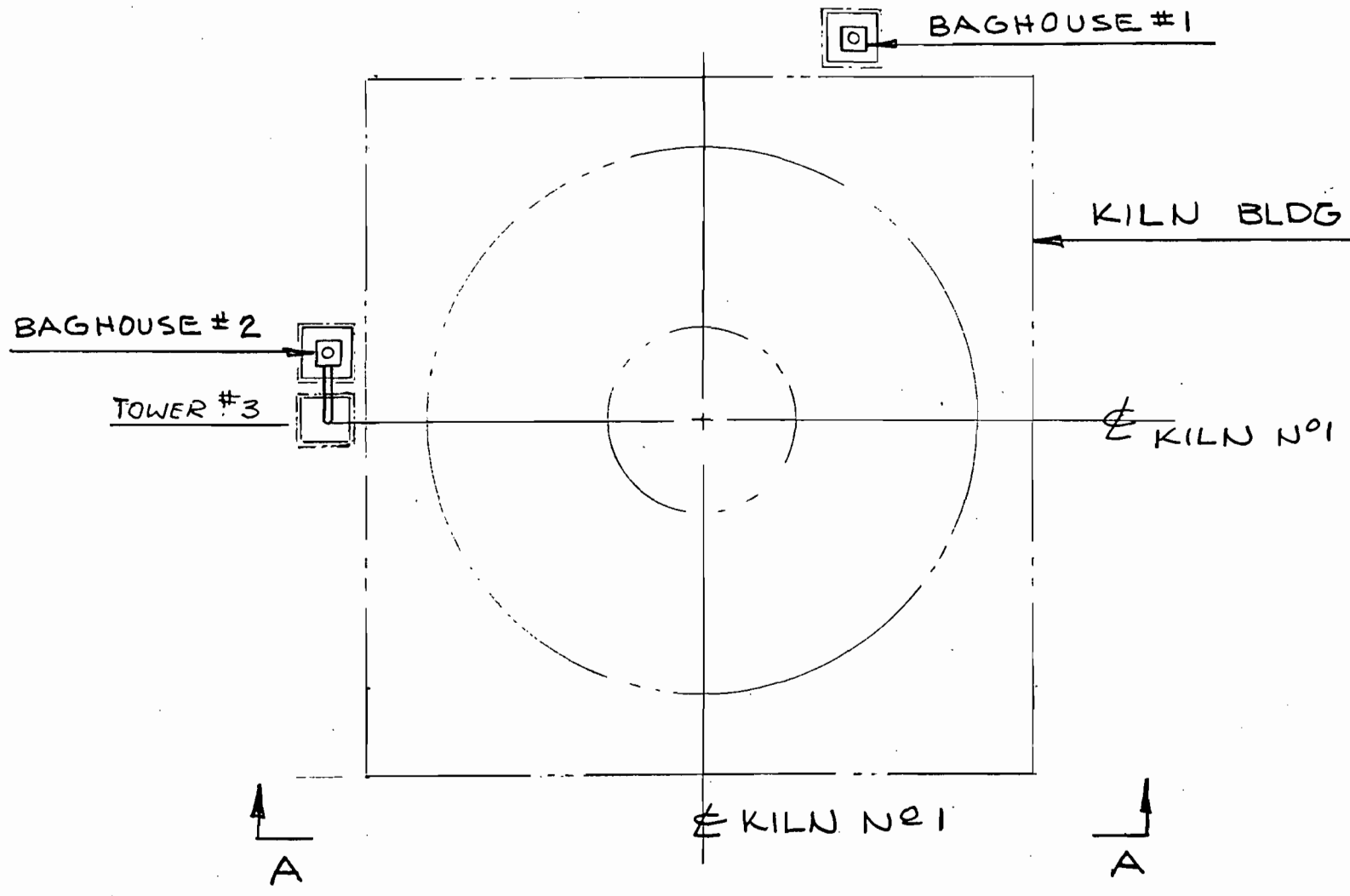
VDC/psr

Encl.

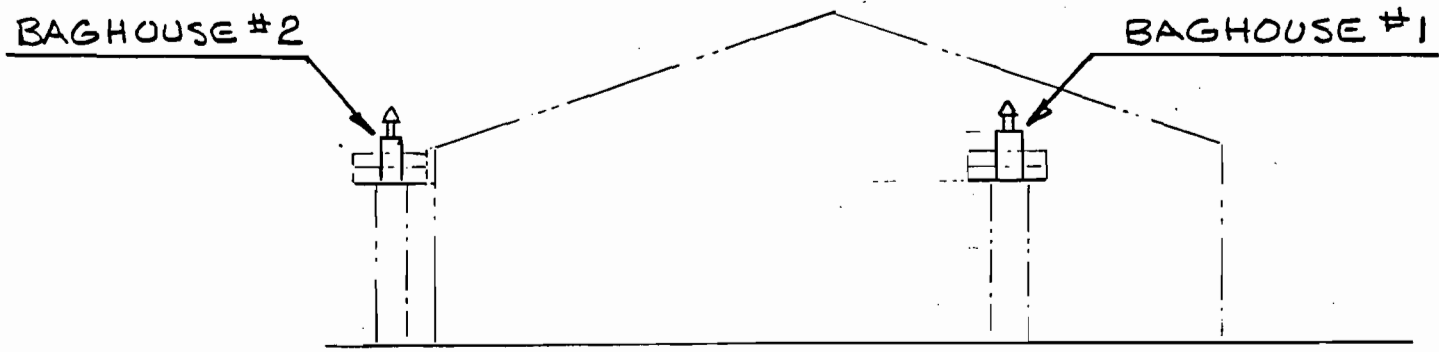
cc: R.V. Allen
J.P. Gheur

KILN NO 1

LOCATION OF BAGHOUSES FOR COAL FIRING



PLAN



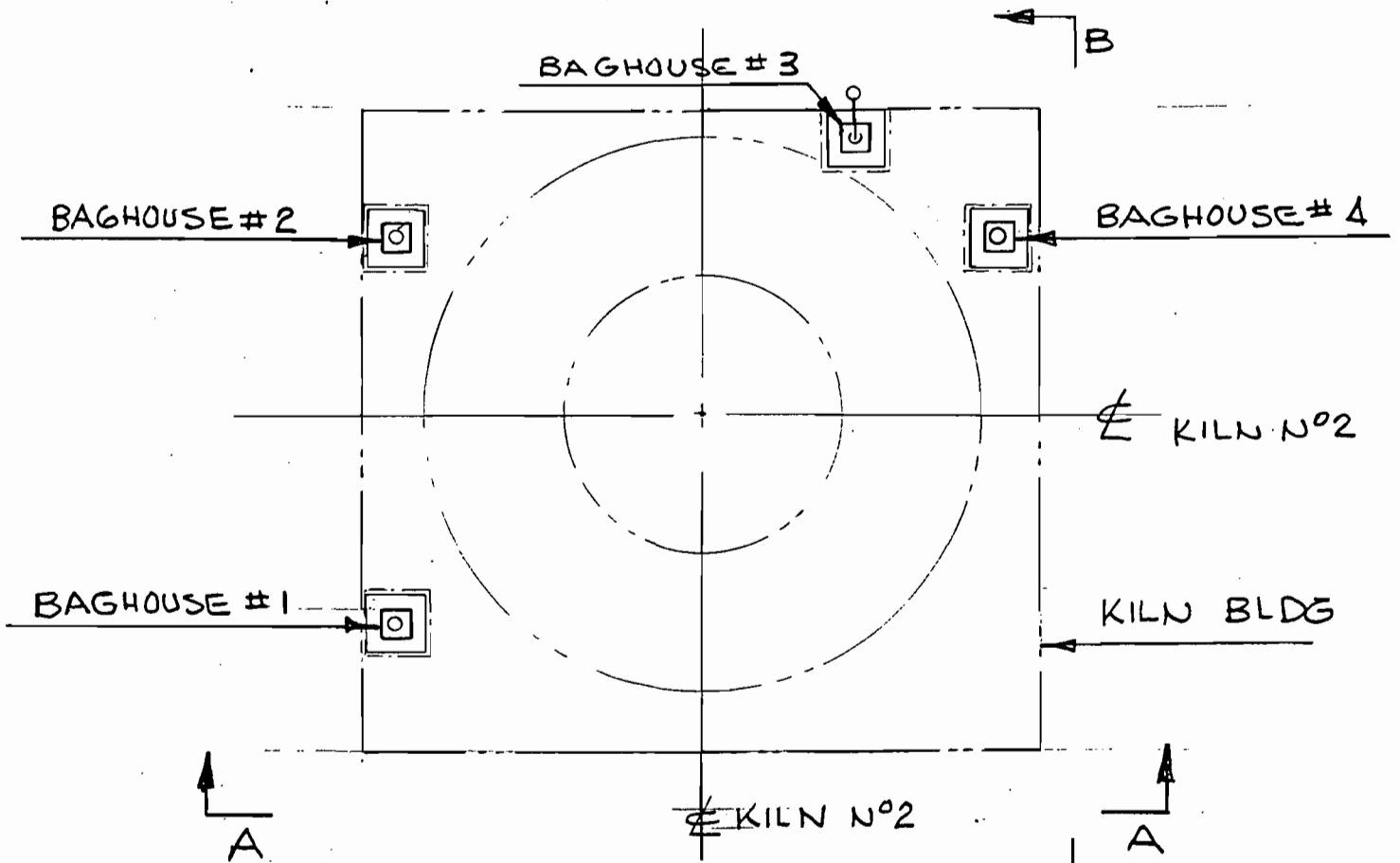
ELEVATION A-A

SK-120-81-04

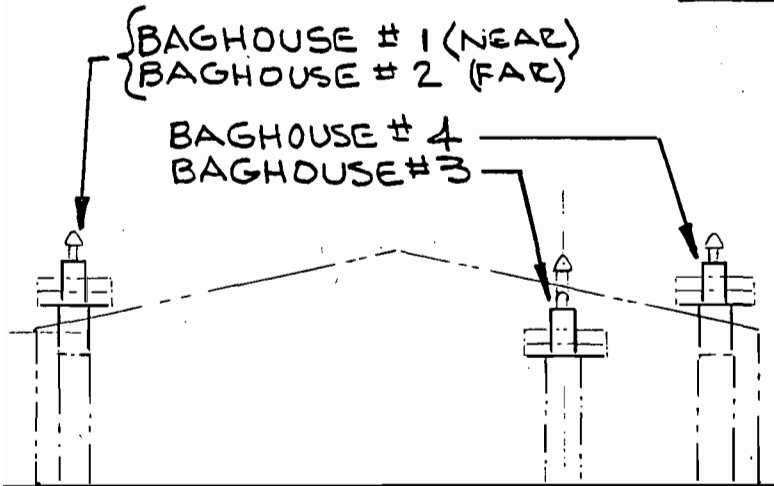
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KILN N° 2

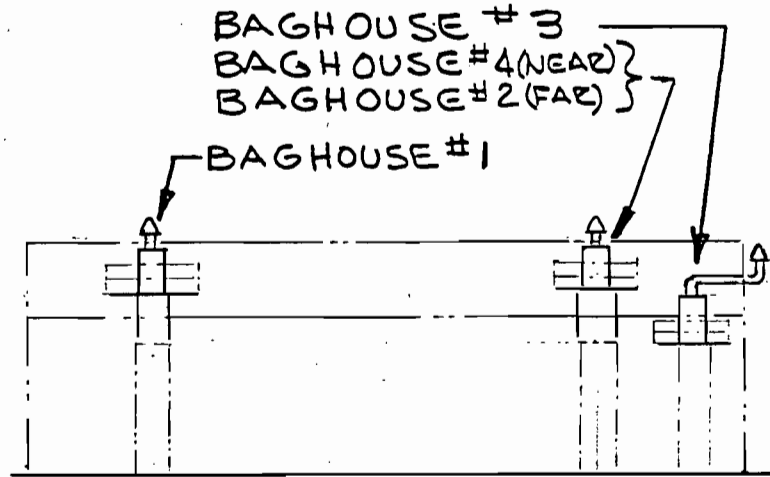
LOCATION OF BAGHOUSES FOR COAL FIRING



PLAN



ELEVATION A-A



ELEVATION B-B

SK-120-81-05

JCT 1-14-83

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

File
Dixie Lime & Stone

January 4, 1983

Dr. V. D. Chapnerkar
Research and Development Manager
Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

Re: Request to Modify Construction Permits Nos. AC 60-52317
-52583
-52586
-52787
-52589

Dear Dr. Chapnerkar:

The Department is in receipt of your request, dated December 30, 1982, for a modification to the above referenced permits. In order to process the request, submit the following data to the Bureau:

1. Will each new baghouse have its own stack? Will there be any common stacks?
2. Identify and show by diagram the location of each stack and what part of the system that vents to it?

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

Sincerely,

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

BR/ks

cc: Dan Williams
Bill Thomas
Martha Hall



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904)793-2063 • TELEX:056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

DER

JAN 3 1983

BAQM

December 30, 1982

Mr. R. Bruce Mitchell, Engineer
Bureau of Air Quality Management
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, FL 32301

Re: AC 60-52317, 52583, 52586, 52787 and 52589

Dear Mr. Mitchell,

We have been experiencing problems in bringing our coal system on line. The problem is in transferring the powdered coal to the kiln burners. Because of this, we are requesting extension of the construction permits mentioned above. All except AC 60-52589 are for operating the coal system. We have not yet installed the baghouse for Permit No. 52589 because we are unsure whether it will be needed due to the fact that the big baghouse (AC 60-52317) may be able to handle the load.

Following is what we expect the new schedule would be:

Completion of installation	2 months
Checking of the system	1 month
Compliance Test	1 month
Report on Compliance Test	1 month
Application of operating permit	3 months
Any delay	<u>1 month</u>
	9 months

So based on the above schedule, we would like all the above construction permits extended through October 1, 1983.

We are also requesting to modify Permits AC 60-52583 and AC 60-52787. Attached sketch shows the diagram of the present and proposed systems. We have presently installed one baghouse for each kiln coal handling system. We have found that this system is not workable because of problems in transferring powdered coal from one bin to the next because of distance involved. This we believe can be corrected by feeding coal to each bin directly (unless they are very close to each other) and vent the air through a baghouse. This necessitates installation of four more baghouses.

PAGE TWO

In fact, the system design is such that only one bin can be filled at a time so there can be only one source of emission at any given time.

AC60-52583 - No. 1 Kiln Fine Load Coal Handling System

We propose two baghouses instead of one. One will operate one third of the time (8 hrs/day) and the other will operate two thirds of the time (16 hrs/day). The total emission per unit time (or per year) will be the same as described in the permit application. The other baghouse will be identical to the existing baghouse.

AC60-52787 - No. 2 Kiln Fine Coal Handling System

We propose four baghouses instead of one. Each one will operate one fourth of the time (6 hrs/day). The total emission per unit time (or peryear) will be the same as described in the permit application. The other baghouses will be identical to the existing baghouse.

Sincerely,

DIXIE LIME AND STONE COMPANY

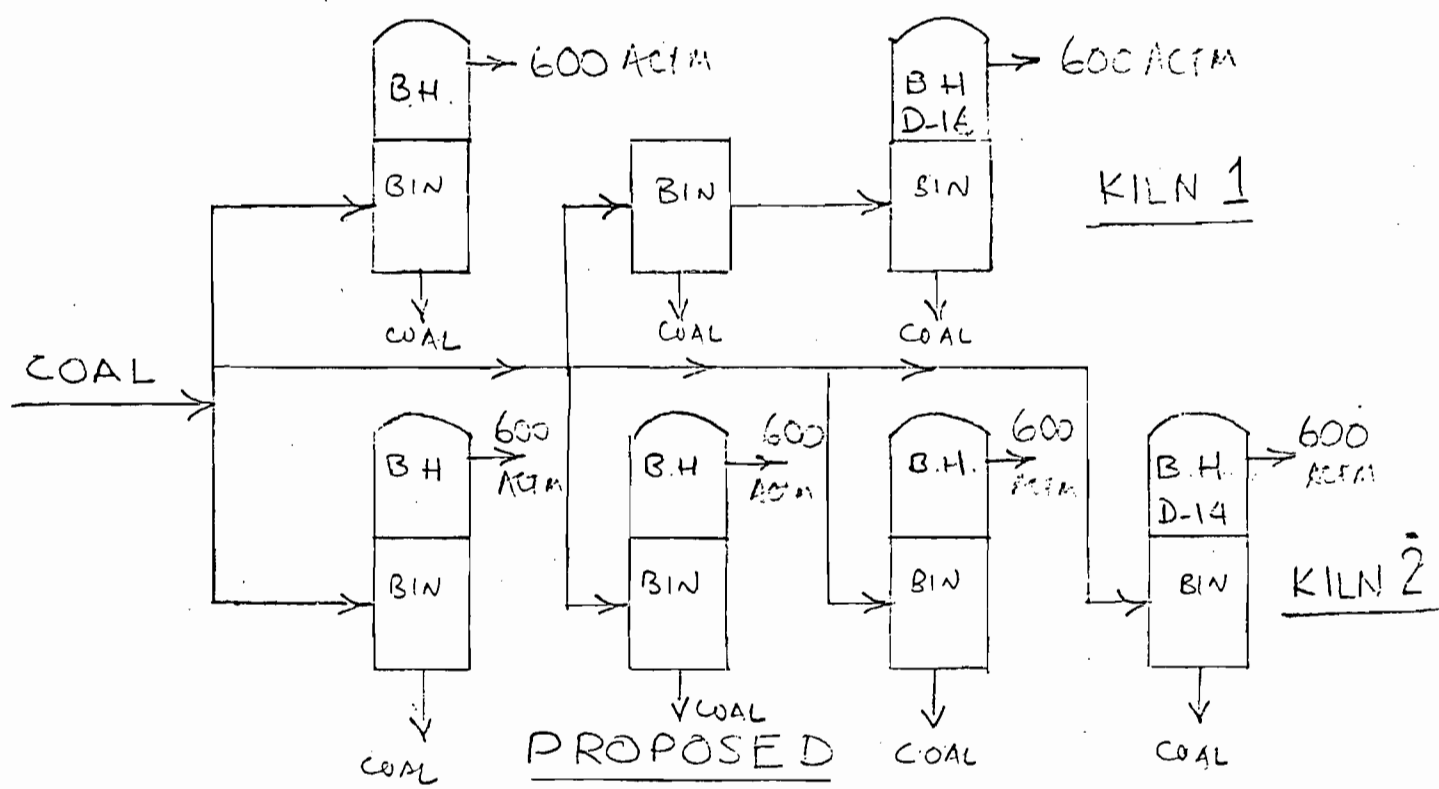
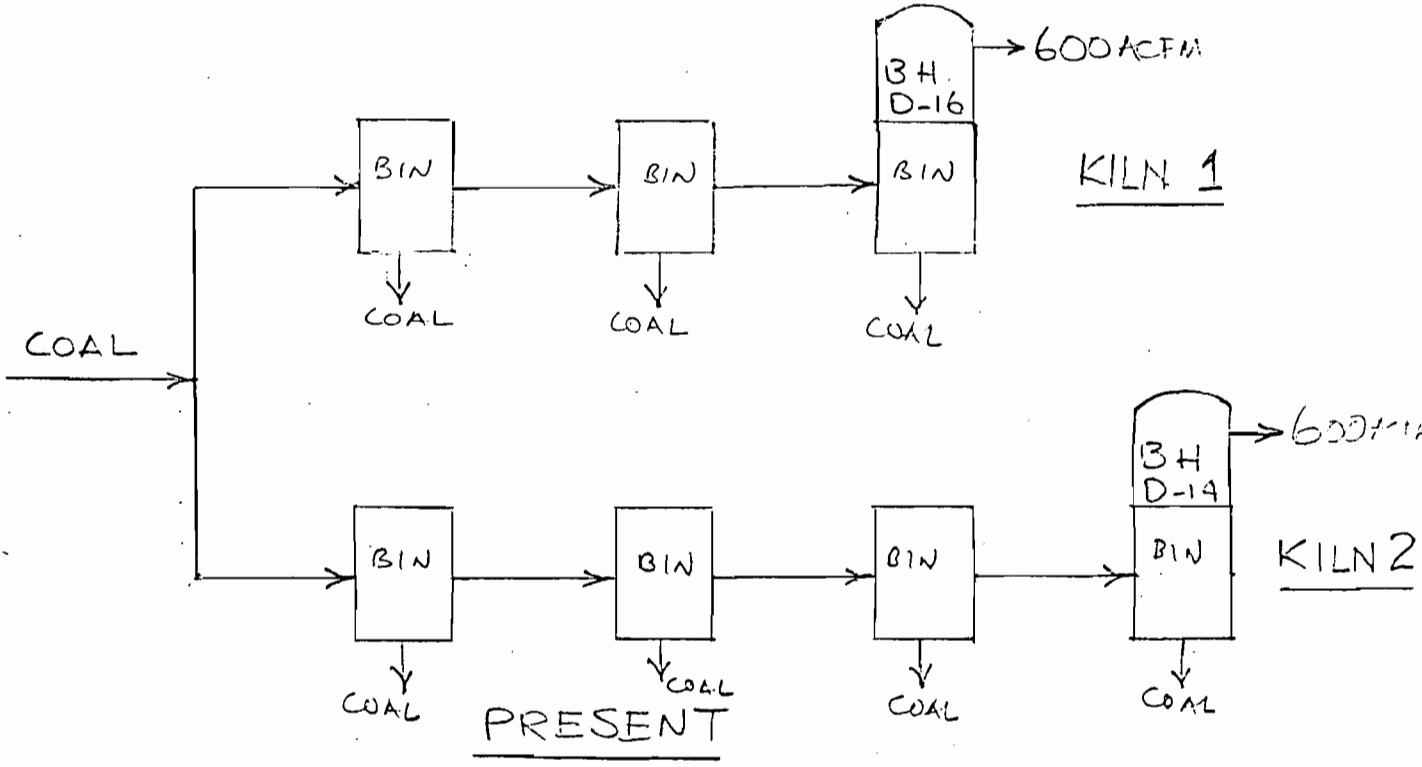
Vasant
12/31/82

V.D. Chapnerkar

VDC/psr

Attach.

DIXIE LIME



B.H. - BAG HOUSE

VDC
12/20/87

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION
INTEROFFICE MEMORANDUM

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

TO: Victoria J. Tschinkel, Secretary

FROM: Steve Smallwood *BT for* Chief, BAQM

DATE: July 12, 1982

SUBJECT: Approval and signature of a modification to the construction permit, No. AC 60-52586, for Dixie Lime and Stone Company, issued April 30, 1982.

RECEIVED

JUL 13 1982

Office of the Secretary

Enclosed is an amendment to the referenced construction permit that has been approved by the Department.

SS:RBM:ras

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

July 12, 1982

Dr. Vasant Chapnerkar
Research and Development Manager
c/o Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

Dear Dr. Chapnerkar:

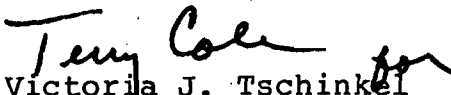
The Department is in receipt of your request for a modification of your construction permit, No. AC 60-52586. This request is acceptable and the conditions are changed as follows:

<u>Specific Condition</u>	<u>Allowable Emissions</u>	<u>Emission Limit</u>
No. 1 - Particulate Matter (PM)	From: 8.02 lbs/hr 32.34 TPY	0.02 grains/ACF
	To: 8.87 lbs/hr 35.76 TPY	0.0221 grains/ACF

The requested maximum allowable emissions and emission limit are based on actual stack test results conducted on May 25 and 26, 1982. The increase of 3.42 TPY of PM will bring the total facility PM emissions to 100.88 TPY. Therefore, the facility will be a major emitting facility for this pollutant. The existing facility is already a major emitting facility for the pollutant SO₂ at 126.87 TPY, total facility maximum allowable emissions.

This letter must be attached to your permit and shall become a part of that permit.

Sincerely,


Victoria J. Tschinkel
Secretary

VJT:rms

cc: Dan Williams, S.W. District - Tampa
Martha Harrell Hall, General Counsel



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346



SUBSIDIARY OF
AMCAR, INC.

July 6, 1982

Mr. R. Bruce Mitchell
Engineer
Bureau of Air Quality Management
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32301

DER

JUL 08 1982

BAQM

Dear Bruce:

Attached you will find the reports on stack tests conducted on Kiln No. 2 using oil. Based on these results, I will appreciate it if you would amend permit Number AC-6052586 to reflect allowable particulate emission to be 9.00 #/hr. This revision will still keep us under 100 tpy particulate emission and hence a minor facility.

Thank you for your continued cooperation.

Sincerely,

DIXIE LIME & STONE COMPANY

Vasant

7/6/82

Vasant D. Chapnerkar
Research & Development Mgr.

VDC/jaj

Attch: 2 report folders

SOURCE TEST REPORT

DIXIE LIME AND STONE COMPANY
Sumterville, Florida

No. 2 Cooler Baghouse
No. 2 Kiln Exhaust Baghouse

Particulate and SO₂ Emissions

Prepared for:

Dixie Lime and Stone Company
Sumterville, Florida

Prepared by:

Environmental Science and Engineering, Inc.
Source Engineering Group
PO Box ESE
Gainesville, Florida

ESE No. 82 128 100
June 1982

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2.0	<u>SUMMARY AND DISCUSSION OF RESULTS</u>	2
3.0	<u>PROCESS DESCRIPTION AND OPERATION</u>	5
4.0	<u>SAMPLING POINT LOCATION</u>	7
5.0	<u>FIELD AND ANALYTICAL PROCEDURES</u>	9
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APPENDIX B--FIELD DATA SHEETS
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1.0 INTRODUCTION

Particulate and SO₂ emission testing was performed by ESE at Dixie Lime and Stone Company in Sumterville, Florida. The No. 2 kiln exhaust baghouse was tested for particulate and SO₂ emissions. The No. 2 cooler baghouse stack was tested for particulate emissions.

All emission tests were conducted using the United States Environmental Protection Agency (EPA) Method 5 sampling train and procedures. A modification was made for kiln testing that substituted water for 100 ml of 3 percent hydrogen peroxide (H₂O₂) in the first two impingers.

Testing was coordinated by Ms. Doris Reynolds of Dixie Lime and Stone and observed by Mr. Louis Fernandez of the Florida Department of Environmental Regulation (FDER).

2.0 SUMMARY AND DISCUSSION OF RESULTS

Results of the particulate emission testing are summarized in Table 1. Complete emission data and stack gas parameters are included in Appendix A.

Average particulate emissions were equal to 8.86 and 0.96 pounds per hour (lb/hour) for the No. 2 kiln exhaust and No. 2 cooler stacks, respectively. The allowable emission rate was 28.08 lbs/hour for both the No. 2 kiln exhaust and No. 2 cooler stacks. Allowable emission rates were calculated based on the feed process rates as stated in the Rules of the FDER, Chapter 17-2.610(1).

Both units sampled were in compliance with particulate emission standards during the test period.

Kiln SO₂ emissions were evaluated for background data only and are presented in Table 2.

Table 1. Particulate Emission Summary: No. 2 Cooler and No. 2 Kiln, Baghouse Stacks, Dixie Lime and Stone Sumterville, Florida

Source Tested	Run Number	Date (1982)	Time (Start-Finish)		Volumetric Flow Rate		Stack Temp (°F)	O (%)	H2O (%)	ISO (%)	Emission Rate (lb/hr)	
					ACFM	SCFM					Actual	Allowable
Kiln	1	5-25	1100	1110	49,900	30,200	322	10.0	10.49	99.7	8.38	28.08
	2	5-25	1145	1247	49,800	29,600	327	10.2	11.58	100.8	10.33	28.08
	3	5-25	1320	1422	49,900	29,600	330	10.0	11.49	102.1	7.87	28.08
Average					49,900	29,800	326	10.1	11.20	101.0	8.86	28.08
Cooler	1	5-26	0845	0949	33,500	25,300	225	21.0	2.64	101.6	1.15	28.08
	2	5-26	1017	1120	33,700	25,100	230	21.0	3.04	99.9	1.11	28.08
	3	5-26	1153	1255	33,600	24,900	236	21.0	2.95	99.9	0.62	28.08
Average					33,600	25,100	230	21.0	2.88	100.5	0.96	28.08

Source: ESE, 1982

Table 2. SO₂ Emissions, No. 2 Kiln

Stack	Run Number	Date	Stack Temp (°F)	Flow Rate (SCFMD)	H ₂ O (%)	Emissions	
						ppm (wet)	lb/hr
Kiln	1*	5/25/82	322	30210	10.54	12	4.09*
No. 2	2	5/25/82	327	29627	11.64	45	14.89
	3	5/25/82	331	29578	11.55	48	15.84
Average			329	29602	11.59	46.5	15.36

*Sample loss in transit to lab voids Run 1 on kiln stack. Run 1 is not included in average.

Source: ESE, 1982

3.0 PROCESS DESCRIPTION AND OPERATION

The kiln system is used to calcine limerock. The hearth-type kiln and cooler schematic is presented in Figure 1. The system is designed to preheat the rock and the combustion air before they enter the kiln.

During the No. 2 kiln and the No. 2 cooler stack tests on May 25 and 26, 1982, the feed rate was 27.6 tons per hour (TPH), and the fuel rate was 452.7 gallons per hour (gal/hr) of No. 6 fuel oil.

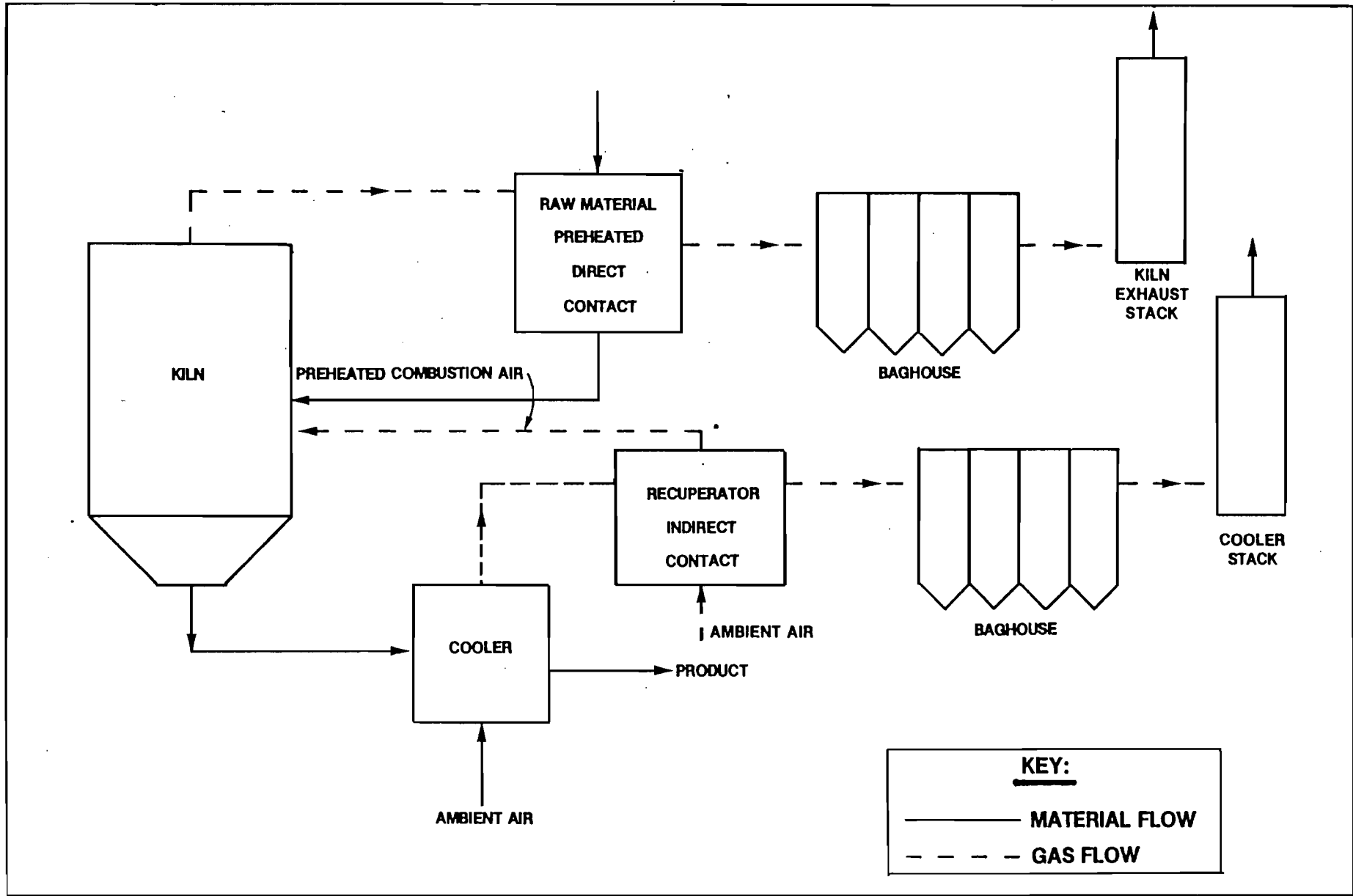
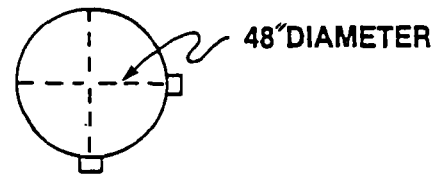
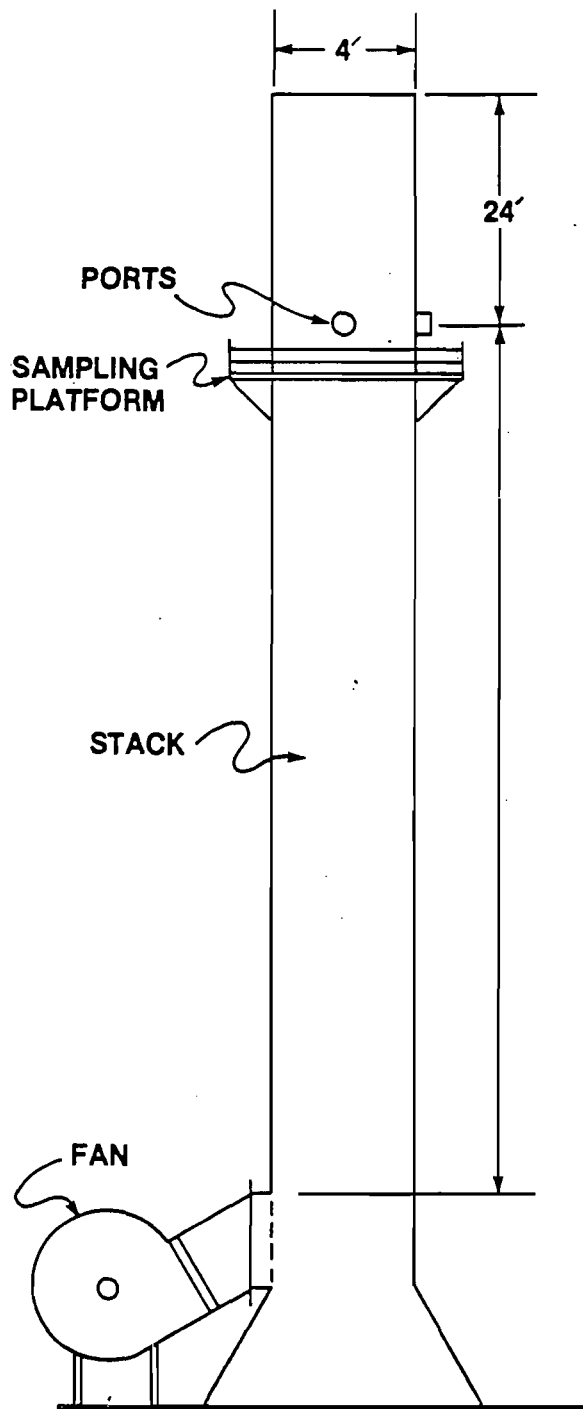


Figure 1
KILN SYSTEM SCHEMATIC
SOURCE: ESE, 1982

DIXIE LIME AND STONE COMPANY

4.0 SAMPLING POINT LOCATION

A schematic of the No. 2 cooler stack and No. 2 kiln exhaust stack is presented in Figure 2. The No. 2 cooler and No. 2 kiln exhaust stacks have identical dimensions.



SAMPLING POINTS

POINT NUMBER	INCHES FROM STACK WALL
1	2.112
2	7.008
3	14.304
4	33.792
5	40.992
6	45.888

Note: The No.2 cooler and No. 2 kiln exhaust stacks have identical dimensions.

Figure 2
SAMPLING POINT SCHEMATIC

SOURCE: ESE, 1982

**DIXIE LIME AND STONE
COMPANY**

5.0 FIELD AND ANALYTICAL PROCEDURES

5.1 SAMPLING

The sampling and analytical procedures used follow the procedures as outlined in EPA Method 5, in the Code of Federal Regulations, Chapter I, Title 40, Part 60, Appendix A, Method 5, revised as of July 1, 1979.

The sampling equipment consisted of the following:

1. Pitobe Assembly
 - a. Nozzle--Stainless steel with a sharp, tapered leading edge.
 - b. Probe--Stainless steel sheath with a 5/8-inch OD Pyrex® glass insert wrapped with nichrome wire; rheostat controlled and capable of maintaining a minimum temperature of 250°F.
 - c. Pitot--Type "S" constructed and attached to probe according to specifications outlined in the Code of Federal Regulations, Chapter I, Title 40, Part 60, Appendix A, Method 2.
 - d. Orsat Probe--Stainless steel 1/4-inch tubing attached to pitot tube in an interference-free arrangement.
 - e. Thermocouple--Type "K" attached to the pitot tube such that the tip has no contact with metal and does not interfere with the pitot tube face openings.
2. Filter Holder--Pyrex® glass with fritted glass filter support.
3. Filter Heating Assembly--Controlled heating element in aluminum module attached to end of probe; capable of maintaining 250°F±25°F.
4. Impingers--Four impingers connected in series with glass ball joint fittings and placed in an ice bath. The first, third, and fourth impingers are the modified Greenburg-Smith design. The second impinger is the Greenburg-Smith design with a standard tip. Final gas exit temperature is measured to within ±5° with a dial thermometer immersed in the gas stream.
5. Control Box--Module containing vacuum gage, leak-free pump, thermometers capable of measuring temperature to within ±5°.

dry gas meter with a minimum of 2 percent accuracy, valves and related equipment as required to maintain an isokinetic sampling rate and to determine sample volume.

6. Nomograph--To determine isokinetic sampling rate.

A schematic of the sampling train is shown in Figure 3.

Prior to leaving the laboratory, glass fiber filters were numbered for identification, heated for 2 hours at 105 degrees C, desiccated for 2 hours, and preweighed to the nearest 0.1 mg. Silica gel (indicating type, 6-16 Mesh) was also preweighed to approximately 200 grams after drying for 2 hours.

Upon arrival at the sampling site, the control box was leak-checked from pump to orifice at 5 to 7 inches of water.

The sample train was prepared in the following manner: 100 ml of hydrogen peroxide was added to each of the first two impingers. The third impinger was left empty to act as a moisture trap, and the preweighed silica gel was added to the fourth impinger. After assembling the train with the pitotube as shown in the schematic, the system was leak-checked by plugging the inlet to the probe nozzle and pulling a 15-inch Hg vacuum. A leakage rate not in excess of 0.02 cfm was considered acceptable. The pitot tube system was also leak-checked at 2-3 inches of water, and any leaks found were corrected.

The inside dimensions of each stack were measured and recorded. The number of sampling points and the location of these points on a traverse were determined by the guidelines set forth in the Code of Federal Regulations, Chapter I, Title 40, Part 60, Appendix A, Method 1. These points were then marked on the probe for easy visibility.

A preliminary traverse was conducted to determine the range of velocity head and the pressure of the stack. An approximate stack temperature

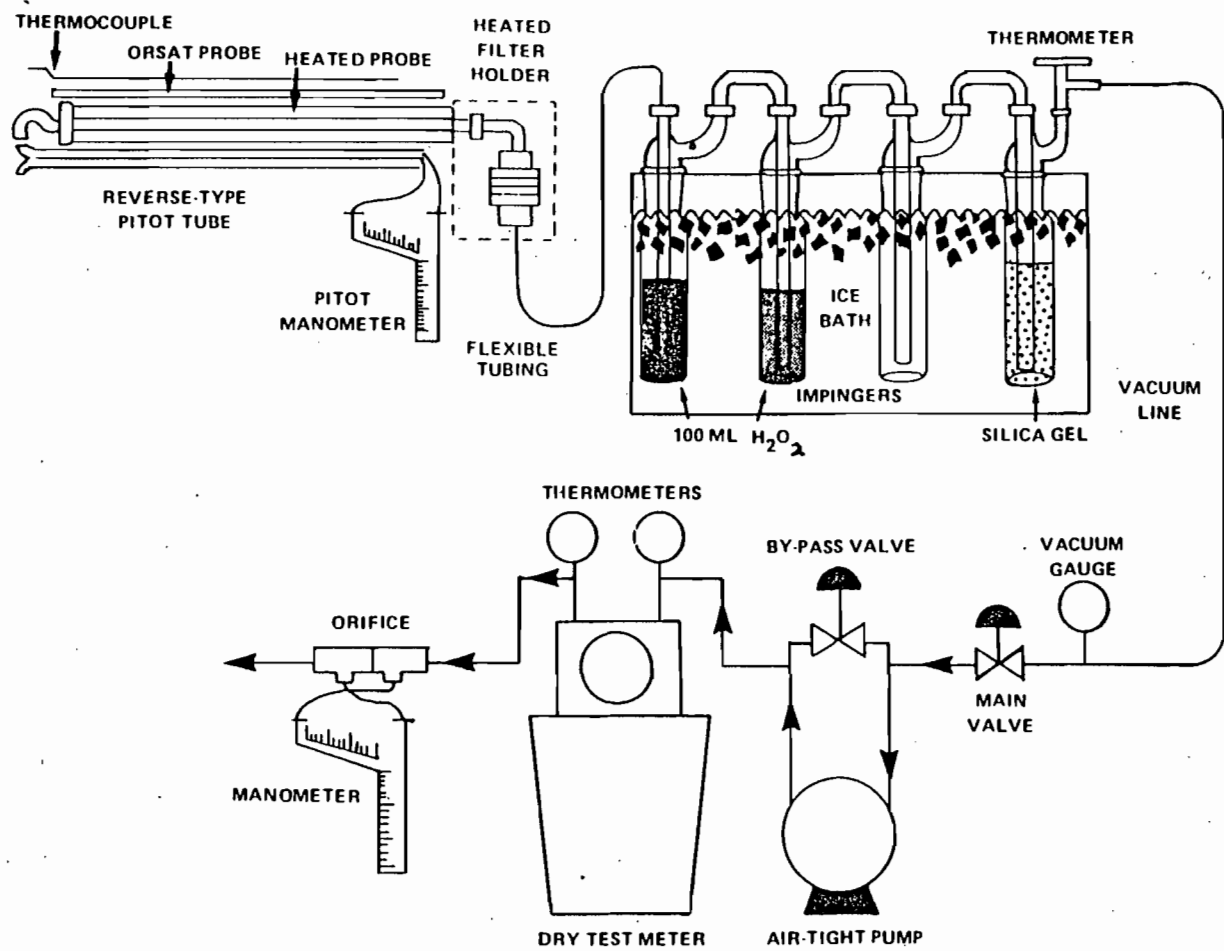


Figure 3
EPA METHOD 5 SAMPLING TRAIN (MOD.)
SOURCE: ESE, 1982

DIXIE LIME AND STONE COMPANY

was obtained taking a traverse, and an approximate moisture content was estimated based on prior testing experience. From these data, the correct nozzle size and the nomograph correction factor were determined.

The probe was attached and the heater was adjusted to provide a gas temperature of approximately 250 degrees F. The filter heating system was turned on, and crushed ice was placed around the impingers. After a suitable warmup period, the nozzle was placed on the first traverse point with the tip pointing directly into the gas stream. The pump was started and the flow adjusted to isokinetic conditions. After the required time interval had elapsed, the probe was repositioned to the next traverse point, and isokinetic sampling was reestablished. This was done for each point on the traverse until the run was completed. Readings were taken at least every 5 minutes or when significant changes in stack conditions necessitated additional adjustments in flow rate. At the conclusion of each run, the pump was turned off and the final readings were recorded. A final leak check of the system was performed as previously described at the highest vacuum encountered during testing, and a leak check of the pitot system was repeated.

5.2 SAMPLE RECOVERY

The collection train was carefully moved to a convenient sample recovery area in order to minimize the loss of collected sample or the gain of extraneous particulate matter. The volume of condensate in the first three impingers was measured and recorded on the field data sheet. The contents were then placed in a clean sample bottle and the impingers were washed with distilled water. The washings were added and the level of sample marked to insure none would be lost in transit. The probe, nozzle, and all sample-exposed surfaces were washed with reagent grade acetone and put into a clean sample bottle marked "prefilter". A brush was used to loosen any adhering particulate matter, and subsequent washings were put into the "prefilter" container. The filter was carefully removed from the fritted glass support and placed in its original container. The silica gel was removed from the fourth impinger and transferred to its original container. A sample of the acetone used in washing the probe was saved for a blank laboratory analysis.

5.3 ANALYTICAL PROCEDURES

The filter and any loose particulate matter were transferred from the sample bottle to a clean, tared glass weighing dish. The filter was placed in an oven at 105 degrees C for 2 hours, desiccated for 2 hours, and then weighed. The original weight of the filter was deducted, and the weight gain was recorded to the nearest 0.1 mg.

The "prefilter" and blank solutions were transferred to clean, tared beakers, then evaporated to dryness and desiccated to a constant weight. The blank correction was made, and the weight gain was recorded to the nearest 0.1 mg. The silica gel was weighed, and the weight gain was recorded to the nearest 0.1 gram.

The impinger sample was carefully transferred to the laboratory site and the volume checked. A suitable aliquot was added to 100 percent isopropanol with two to four drops of thorin indicator. The solution was then titrated with nominal 0.0100 N barium perchlorate to a pink end point. This was repeated until samples agreed within 1 percent.

5.4 CO₂ and O₂ SAMPLING AND ANALYSIS

For sources requiring an "F" factor calculation or emission adjustment, CO₂ and O₂ samples were collected by an integrated bag system. The Orsat sampling system consisted of a stainless steel probe, sample line from probe to a condenser, a small vacuum pump with a rotometer, and a Tedlar bag enclosed in a 13-gallon plastic bottle.

The Orsat sampling procedure consists of the following leak-check and sampling techniques. Prior to sampling, the bag was leak-checked at 2 to 4 inches of water. The inlet to the condenser was plugged, and a vacuum of 10 inches of Hg was pulled. The outlet of the pump was then plugged and the pump shut off. The vacuum held steady for at least 30 seconds. The sample line was then purged with stack gas and the bag was connected. Sampling was conducted at an appropriate constant rate at the same points and for the same length of time as the particulate sampling. At the conclusion of the run, the pump was shut off and the bag secured.

After leak checking the Orsat gas analyzer, an average value for each gas was determined. The gas was measured until two values were obtained that fell within the specified variance of the gas tested. Data were recorded on the field data sheet, and the bag was evacuated for the next sample run.

APPENDIX A
COMPLETE EMISSION DATA

EPA PARTICULATE NOMENCLATURE SHEET

VIC--total volume of condensate collected in impingers and silica gel, ml
VWSTD--total volume of water collected in standard gas phase, scf
VM--volume of dry gas sampled, acf
PB--barometric pressure, in Hg
 ΔH --average pressure drop across the meter orifice, in H₂O
Y-factor--dry gas meter correction factor
VMSTD--volume of dry gas sampled at standard conditions, scf
BWO--proportion by volume of water vapor in gas stream
%CO₂--percent carbon dioxide by volume, dry basis
%O₂--percent oxygen by volume, dry basis
%CO--percent carbon monoxide by volume, dry basis
%N₂--percent nitrogen by volume, dry basis
MD--stack gas molecular weight, dry basis, lb/lb-mole
MS--stack gas molecular weight, wet basis, lb/lb-mole
%EA--percent of excess air in stack gas
 $\sqrt{\Delta P}$ --average square root of velocity head of stack gas, (in H₂O)^{1/2}
TS--average absolute stack gas temperature, °R
PS--absolute stack gas pressure, in Hg
VS--average stack gas velocity, fps
AS--cross-sectional area of stack, sf
QA--volumetric flow rate at standard conditions, dry basis, scfmd
T--net time of test, min
AN--cross-sectional area of nozzle, sf
%I--average percent isokinetic sampling rate
MN--total net mass of particulate catch, mg
CA--particulate concentration, grains/acf
CS--particulate concentration at standard conditions, grains/scf
EM--particulate emission rate, lbs/hr
E--particulate emission rate, lbs/mm Btu

EQUATIONS FOR CALCULATING PARTICULATE EMISSIONS

$$VWSTD = (0.0472) \times (VIC)$$

$$VMSTD = (17.65) \times (VM) \times \left(PB + \frac{\Delta H}{13.6} \right) \times (Y\text{-factor})$$

$$BWO = \left[\frac{VWSTD}{VWSTD \times VMSTD} \right]$$

$$MD = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times \%CO) + (0.28 \times \%N_2)$$

$$MS = [MD \times (1 - BWO)] + (18 \times VIC)$$

$$EA = \frac{[100 \times (\%O_2 - \frac{\%CO}{2})]}{[(0.266 \times \%N_2) - (O_2 - \frac{\%CO}{2})]}$$

$$VS = (85.48) \times (CP) \times \sqrt{\Delta P} \times \left[\frac{TS}{(PS \times MS)} \right]^{1/2}$$

$$QA = (60) \times (VS) \times (AS)$$

$$QD = (QA) \times (1 - BWO)$$

$$QS = (17.65) \times (QD) \times \left(\frac{PS}{TS} \right)$$

$$ZI = \left[\frac{(1.667) \times (TS) \times (0.00267 \times VIC \times \frac{VMSTD}{17.65})}{(T) \times (VS) \times (PS) \times (AN)} \right]$$

$$CS = (0.0154) \times \left(\frac{MN}{VMSTD} \right)$$

$$CA = (17.65) \times (CS) \times (1 - BWO) \times \left(\frac{PS}{TS} \right)$$

$$EM = (1.323 \times 10^{-4}) \times \left(\frac{MN}{VMSTD} \right) \times (QS)$$

$$E = \frac{(CS) \times (F\text{-factor})}{7,000} \times \left[\frac{20.9}{20.9 - \%O_2} \right]$$

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PLANT NAME - DIXIE LIME & STONE

LOCATION -

STACK ID - NO. 2 WILD EXHAUST BAGHO SAMPLING TRAIN - PARTICULATES

- ENGLISH UNITS -

	RUN 1	RUN 2	RUN 3	AVG
DATE OF RUN	5/25/82	5/25/82	5/25/82	
STARTING TIME (HRS)	1000	1145	1320	
ENDING TIME (HRS)	1110	1247	1422	
NET TIME OF RUN (MIN)	60.	60.	60.	
NUMBER OF POINTS	12.	12.	12.	
BAROMETRIC PRESSURE (IN HG)	30.04	30.04	30.04	
STACK PRESSURE (IN HG)	30.01	30.01	30.01	
PITOT TUBE COEF.	0.840	0.840	0.840	
METER BOX NUMBER	5	5	5	
Y-FACTOR	1.0000	1.0000	1.0000	
STACK CROSS-SEC. AREA (SF)	12.57	12.57	12.57	
EFF. STACK CROSS-SEC. AREA (SF)	12.57	12.57	12.57	
NOZZLE DIAMETER (IN)	0.2450	0.2450	0.2450	
NOZZLE AREA (SF)	0.000327	0.000327	0.000327	
METER TEMP. (DEG F)	86.3	95.6	97.0	
STACK TEMP. (DEG F)	322.1	327.1	330.8	326.67
VOL. DRY GAS SMPL. (ACF)	48.251	48.665	49.310	
VOL. DRY GAS SMPL. STD. COND. (SCFD)	47.08	46.69	47.18	
CONDENSATE COLLECTED (ML)	117.0	129.7	130.0	
% H2O PRELIM. SPEC. (%)	0.00	0.00	0.00	
% H2O CALCULATED (%)	10.49	11.58	11.49	11.19
% H2O @ SATURATION (%)	100.00	100.00	100.00	100.00
% CARBON DIOXIDE (%)	12.5	12.5	12.6	12.53
% OXYGEN (%)	10.0	10.2	10.0	10.07
% CARBON MONOXIDE (%)	0.0	0.0	0.0	0.00
% EXCESS AIR	91.7	95.3	91.7	92.9
MOLECULAR WT., DRY (LB/LB-MOLE)	30.40	30.41	30.42	30.41
MOLECULAR WT., WET (LB/LB-MOLE)	29.10	28.97	28.99	29.02
DELTA H AVG, ORIFICE (IN H2O)	2.242	2.208	2.217	
SQRT DELTA P AVG, PITOT (IN H2O)	0.973	0.967	0.967	
AVG. VELOCITY, STACK GAS (F/S)	66.13	66.09	66.18	66.14
ACTUAL FLOW RATE (ACFM)	49864.	49830.	49900.	49865.
ACTUAL FLOW RATE, DRY (ACFMD)	44636.	44050.	44154.	44286.
VOL. FLOW RATE @ STD. COND. (SCFMD)	30225.	29646.	29575.	29815.
EFF. FLOW RATE @ STD. COND. (SCFMD)	30225.	29646.	29575.	
% ISOKINETIC	99.67	100.76	102.08	100.84
TOTAL FILTER CATCH (MG)	68.80	87.70	65.30	
TOTAL WASH CATCH (MG)	29.90	35.30	29.60	
TOTAL CATCH (MG)	98.70	123.00	94.90	
PARTICULATE CONCENTRATION (LB/SCFD)	4.62E-06	5.81E-06	4.43E-06	
PARTICULATE CONCENTRATION (GRAINS/ACF)	0.0196	0.0241	0.0184	0.0207
PARTICULATE CONCENTRATION (GRAINS/SCFD)	0.0325	0.0406	0.0310	0.0346
PARTICULATE EMISSION RATE (LB/HR)	8.38	10.33	7.87	8.86

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PLANT NAME - DIXIE LIME & STONE

LOCATION -

STACK ID - NO. 2 COOLER BAGHOUSE

SAMPLING TRAIN - PARTICULATES

- ENGLISH UNITS -

	RUN 1	RUN 2	RUN 3	AVG
DATE OF RUN	5/26/82	5/26/82	5/26/82	
STARTING TIME (HRS)	845	1017	1153	
ENDING TIME (HRS)	949	1120	1255	
NET TIME OF RUN (MIN)	60.	60.	60.	
NUMBER OF POINTS	12.	12.	12.	
BAROMETRIC PRESSURE (IN HG)	30.04	30.04	30.04	
STACK PRESSURE (IN HG)	30.01	30.01	30.01	
PITOT TUBE COEF.	0.840	0.840	0.840	
METER BOX NUMBER	5	5	5	
Y-FACTOR	1.0000	1.0000	1.0000	
STACK CROSS-SEC. AREA (SF)	12.57	12.57	12.57	
EFF. STACK CROSS-SEC. AREA (SF)	12.57	12.57	12.57	
NOZZLE DIAMETER (IN)	0.2450	0.2450	0.2450	
NOZZLE AREA (SF)	0.000327	0.000327	0.000327	
METER TEMP. (DEG F)	74.4	80.3	82.5	
STACK TEMP. (DEG F)	224.5	230.0	235.8	230.11
VOL. DRY GAS SMPL. (ACF)	40.314	39.754	39.608	
VOL. DRY GAS SMPL. STD. COND. (SCFD)	40.13	39.14	38.84	
CONDENSATE COLLECTED (ML)	23.1	26.0	25.0	
% H2O PRELIM. SPEC. (%)	0.00	0.00	0.00	
% H2O CALCULATED (%)	2.64	3.04	2.95	2.87
% H2O @ SATURATION (%)	100.00	100.00	100.00	100.00
% CARBON DIOXIDE (%)	0.0	0.0	0.0	0.00
% OXYGEN (%)	21.0	21.0	21.0	21.00
% CARBON MONOXIDE (%)	0.0	0.0	0.0	0.00
% EXCESS AIR	N/A	N/A	N/A	
MOLECULAR WT., DRY (LB/LB-MOLE)	28.84	28.84	28.84	28.84
MOLECULAR WT., WET (LB/LB-MOLE)	28.55	28.51	28.52	28.53
DELTA H AVG, ORIFICE (IN H2O)	1.412	1.412	1.397	
SOFT DELTA P AVG, PITOT (IN H2O)	0.693	0.692	0.689	
AVG. VELOCITY, STACK GAS (F/S)	44.49	44.64	44.62	44.58
ACTUAL FLOW RATE (ACFM)	33544.	33661.	33643.	33616.
ACTUAL FLOW RATE, DRY (ACFMD)	32658.	32639.	32652.	32650.
VOL. FLOW RATE @ STD. COND. (SCFMD)	25267.	25051.	24851.	25056.
EFF. FLOW RATE @ STD. COND. (SCFMD)	25267.	25051.	24851.	
% ISOKINETIC	101.62	99.98	99.99	100.53
TOTAL FILTER CATCH (MG)	3.50	3.50	3.00	
TOTAL WASH CATCH (MG)	10.30	9.60	4.30	
TOTAL CATCH (MG)	13.80	13.10	7.30	
PARTICULATE CONCENTRATION (LB/SCFD)	7.58E-07	7.38E-07	4.14E-07	
PARTICULATE CONCENTRATION (GRAINS/ACF)	0.0040	0.0038	0.0021	0.0033
PARTICULATE CONCENTRATION (GRAINS/SCFD)	0.0053	0.0052	0.0029	0.0044
PARTICULATE EMISSION RATE (LB/HR)	1.15	1.11	0.62	0.96

SAMPLE CALCULATIONS

STACK ID: NO. 2 COOLER BAGHOUSE

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SULFUR DIOXIDE EMISSION DATA

PLANT NAME - DIXIE LIME & STONE
STACK ID - NO. 2 KILN EXHAUST BAGHO

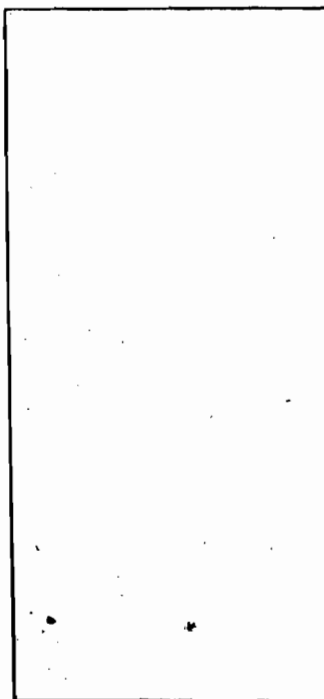
RUN NO.	1	2	3
DATE	5/25/82	5/25/82	5/25/82
TIME OF SAMPLE	1000-1110	1145-1247	1320-1422
BAROMETRIC PRESSURE, "HG	30.04	30.74	30.04
VOLUME OF METER	48.251	49.665	49.310
AVERAGE STACK TEMP. DEG R	782.1	787.1	790.8
AVERAGE METER TEMP. DEG R	646.3	655.6	657.0
GAS VOLUME SAMPLED, FT ³ , VSTPD	46.622	46.433	46.930
% MOISTURE AT SATURATION	100.00	100.00	100.00
% MOISTURE CALCULATED	10.54	11.64	11.55
% OXYGEN	10.00	10.20	10.00
SQRT DELTA P AVG	0.973	0.967	0.967
SO2 CONC., LB/FT ³	2.26E-06	8.38E-06	8.93E-06
SO2 CONC. DRY, PPM	13.64	50.60	53.93
SO2 CONC. WET, PPM	12.21	44.72	47.70
QS, (ACFM)	49870.	49832.	49934.
QS, (SCFMD)	30210.	29627.	29578.
SO2 EMISSION RATE, LB/HR	4.09	14.89	15.84

APPENDIX B
FIELD DATA SHEETS

SOURCE SAMPLING FIELD DATA SHEET

Plant Dixie Lime + Stone
 Sampling Location NO. 2 Kiln Exhaust Baghouse
 Type of Sampling Train EPA-5 SO₂
 Type of Samples Particulate, SO₂
 Date 5-25-82 Run No. 1
 Time Start 09:12 1000 Time End 1110
 Sample Time 5/12 min/pt 60 Total min
 DB ___ °F, WB ___ °F, VP @ DP ___ "Hg
 Bar. Press. 30.04 "Hg Stack Press. 30.01 "Hg
 Assumed Moisture 10%, FDA ___ Gas Density Factor ___
 Weather Slight Hazy
 Temp. 85 °F, W/D ___ Meter Box No. 5
 Meter V H@ 1.66 Pitot Corr. Factor .84
 Nozzle Dia. 0.245 in Probe Length 6 ft
 Probe Heater Setting 70 Nomograph C₁ 1.0 = 2.35
 Stack Dimensions 48 in
 Stack Area 12.566 ft²
 Effective Stack Area 12.566 ft²
 Stack Height ~ 50 ft

NOZ. 0.246, 0.244, 0.245



Mat'l Processing Rate Raw Feed 33 Tn/hr
 Final Gas Meter Reading 391.553 ft³
 Initial Gas Meter Reading 343.302 ft³
 Net Gas Volume Sampled 48.251 ft³
 Condensate Increase in Impingers 104.0 ml
 Moisture in Silica Gel 13.0 gm
 Total Condensate 117.0 ml
 Silica Gel Container No. ___ Filter No. 068

Orsat:	% CO ₂	<u>12.5</u>			
	% O ₂	<u>10.0</u>			
	% CO				
	% N ₂				
	% Excess Air				

Test Conducted By: Reshard, Czarniak

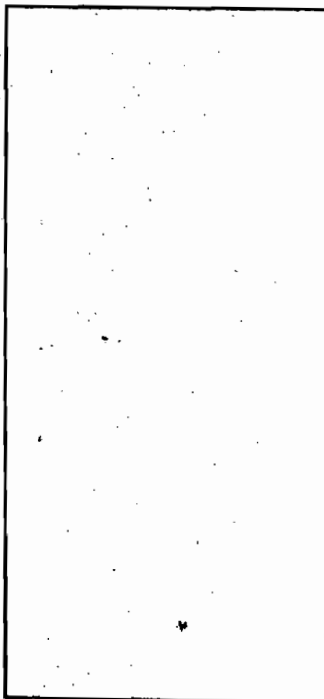
Sample Train Leak Check @ 15" Hg 0.000 CFM
 FINAL @ 10 " Hg 0.000 CFM
 Remarks: _____

Louis Fernandez D.E.R.

Port and Traverse Point No.	Distance From Inside Stack Wall (in.)	Clock Time	Gas Meter Reading (ft ³)	Stack Velocity Head ("H ₂ O)	Meter Orifice Press. Diff. ("H ₂ O)		Stack Gas Temp. (°F)	Gas Sample Temp. @ Dry Gas Meter (°F)		Sample Box Or Filter Temp. (°F)	Leak Impinger Temp. (°F)	Vacuum On Sample Train ("Hg)
					Calc.	Actual		In	Out			
		<u>1000</u>	<u>343.302</u>									
<u>W-1</u>		<u>1005</u>	<u>346.910</u>	<u>.75</u>	<u>1.8</u>		<u>315</u>	<u>80</u>	<u>275</u>	<u>SS</u>	<u>5.0</u>	
<u>2</u>		<u>1010</u>	<u>351.030</u>	<u>.90</u>	<u>2.1</u>		<u>325</u>	<u>80</u>	<u>275</u>	<u>SS</u>	<u>4.8</u>	
<u>3</u>		<u>1015</u>	<u>355.450</u>	<u>1.0</u>	<u>2.35</u>		<u>325</u>	<u>81</u>	<u>275</u>	<u>SS</u>	<u>5.0</u>	
<u>4</u>		<u>1020</u>	<u>360.025</u>	<u>1.1</u>	2.35 <u>2.6</u>		<u>330</u>	<u>83</u>	<u>275</u>	<u>SS</u>	<u>5.6</u>	
<u>5</u>		<u>1025</u>	<u>364.525</u>	<u>1.05</u>	<u>2.5</u>		<u>325</u>	<u>84</u>	<u>275</u>	<u>SS</u>	<u>5.8</u>	
<u>6</u>		<u>1030</u>	<u>368.909</u>	<u>1.0</u>	<u>2.35</u>		<u>325</u>	<u>86</u>	<u>275</u>	<u>SS</u>	<u>5.9</u>	
				<u>.98</u>								

SOURCE SAMPLING FIELD DATA SHEET

Plant Dixie Lime + Stone
 Sampling Location No. 2 Kiln Exhaust Baghouse
 Type of Sampling Train EPA-5
 Type of Samples Particulate, SO₂
 Date 5-25-82 Run No. 2
 Time Start 1145 Time End 1247
 Sample Time 5/12 min/pt 60 Total min
 DB °F, WB °F, VP @ DP "Hg
 Bar. Press. 30.04 "Hg Stack Press. 30.01 "Hg
 Assumed Moisture 10 %, FDA Gas Density Factor
 Weather Overcast
 Temp. 85 °F, W/D Meter Box No. 5
 Meter V H₀ 1.66 Pitot Corr. Factor .84
 Nozzle Dia. 0.245 in Probe Length 6 ft
 Probe Heater Setting 70 Nomograph C₁ 1.0 = 2.35
 Stack Dimensions 48 in
 Stack Area 12.566 ft²
 Effective Stack Area 12.566 ft²
 Stack Height ~ 50 ft



Mat'l Processing Rate
 Final Gas Meter Reading 447.870 ft³
 Initial Gas Meter Reading 399.205 ft³
 Net Gas Volume Sampled 48.665 ft³
 Condensate Increase in Impingers 118.0 ml
 Moisture in Silica Gel 11.7 gm
 Total Condensate 129.7 ml

Silica Gel Container No. Filter No. 066

Orat:	% CO ₂	<u>12.5</u>			
	% O ₂	<u>10.2</u>			
	% CO				
	% N ₂				
	% Excess Air				

Test Conducted By: Reshard Czarniak

Sample Train Leak Check @ 15" Hg 0.000 CFM
 Remarks: FINAL @ 10" Hg 0.000 CFM

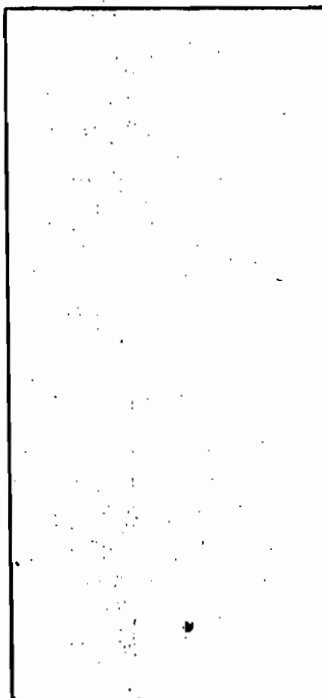
Port and Traverse Point No.	Distance From Inside Stack Wall (in.)	Clock Time	Gas Meter Reading (ft ³)	Stack Velocity Head ("H ₂ O)	Meter Orifice Pres. Diff. ("H ₂ O)		Stack Gas Temp. (°F)	Gas Sample Temp. @ Dry' Gas Meter (°F)		Sample Box Or Filter Temp. (°F)	Leak Impinger Temp. (°F)	Vacuum On Sample Train ("Hg)
					Calc.	Actual		In	Out			
		<u>1145</u>	<u>399.205</u>									
<u>N - 1</u>		<u>1150</u>	<u>403.065</u>	<u>.80</u>	<u>1.9</u>		<u>320</u>	<u>91</u>	<u>275</u>	<u>55</u>	<u>5.0</u>	
<u>2</u>		<u>1155</u>	<u>406.990</u>	<u>.90</u>	<u>2.1</u>		<u>325</u>	<u>92</u>	<u>275</u>	<u>55</u>	<u>5.1</u>	
<u>3</u>		<u>1200</u>	<u>411.140</u>	<u>1.0</u>	<u>2.35</u>		<u>325</u>	<u>93</u>	<u>275</u>	<u>55</u>	<u>5.5</u>	
<u>4</u>		<u>1205</u>	<u>415.210</u>	<u>1.0</u>	<u>2.35</u>		<u>330</u>	<u>94</u>	<u>275</u>	<u>56</u>	<u>5.5</u>	
<u>5</u>		<u>1210</u>	<u>419.165</u>	<u>.95</u>	<u>2.25</u>		<u>330</u>	<u>95</u>	<u>275</u>	<u>56</u>	<u>5.2</u>	
<u>6</u>		<u>1215</u>	<u>422.950</u>	<u>.85</u>	<u>2.0</u>		<u>325</u>	<u>96</u>	<u>275</u>	<u>56</u>	<u>5.0</u>	

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
Gainesville, Florida

98 %

SOURCE SAMPLING FIELD DATA SHEET

Plant Dixie Lime + Stone
 Sampling Location No. 2 Kiln Exhaust Baghouse
 Type of Sampling Train EPA-5
 Type of Samples Particulate, SO₂
 Date 5-25-82 Run No. 3
 Time Start 1320 Time End 14
 Sample Time 5/12 min/pt 60 Total min
 DB °F, WB °F, VP @ DP "Hg
 Bar. Press. 30.04 "Hg Stack Press. 30.01 "Hg
 Assumed Moisture 10 % FDA Gas Density Factor
 Weather Partly Cloudy
 Temp. 90 °F, W/D , Meter Box No. 5
 Meter V H₀ 1.66 Pitot Corr. Factor .84
 Nozzle Dia. 0.245 in Probe Length 6 ft
 Probe Heater Setting 70 Nomograph C₁ 1.0 = 2.35
 Stack Dimensions 48 in
 Stack Area 12.566 ft²
 Effective Stack Area 12.566 ft²
 Stack Height ~50 ft



Metal Processing Rate
 Final Gas Meter Reading 504.925 ft³
 Initial Gas Meter Reading 455.615 ft³
 Net Gas Volume Sampled 49.310 ft³
 Condensate Increase in Impingers 116.0 ml
 Moisture in Silica Gel 14.0 gm
 Total Condensate 130.0 ml
 Silica Gel Container No. Filter No. 067

Orsat:	% CO ₂	12.6			
	% O ₂	10.0			
	% CO				
	% N ₂				
	% Excess Air				

Test Conducted By: Reshard Czorniak

Sample Train Leak Check @ 15" Hg 0.000 CFM
 FINAL @ 10.0" Hg 0.000 CFM
 Remarks:

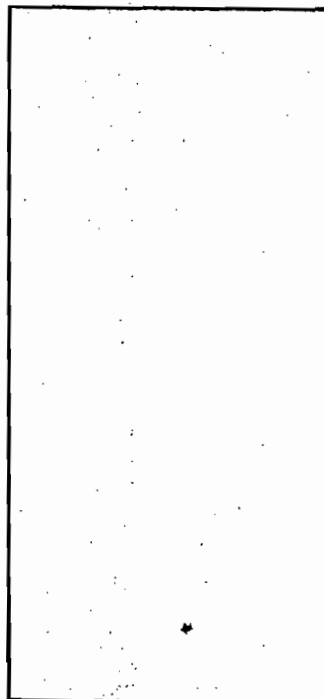
Port and Traverse Point No.	Distance From Inside Stack Wall (in.)	Clock Time	Gas Meter Reading (ft ³)	Stack Velocity Head ("H ₂ O)	Meter Orifice Press. Diff. ("H ₂ O)		Stack Gas Temp. (F°)	Gas Sample Temp. @ Dry Gas Meter (F°)		Sample Box Or Filter Temp. (F°)	Lost Impinger Temp. (F°)	Vacuum On Sample Train ("Hg)
					Calc.	Actual		In	Out			
		1320	455.615									
W-1		1325	459.285	.75	1.8		330	95	275	60	5.0	
2		1330	463.265	.80	1.9		330	95	275	60	5.0	
3		1335	467.560	.95	2.25		335	96	275	60	5.2	
4		1340	471.885	1.0	2.35		335	96	275	60	5.4	
5		1345	476.340	1.05	2.5		330	97	275	60	6.0	
6		1350	480.386	.90	2.1		325	97	275	60	5.4	

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Gainesville, Florida

100%

SOURCE SAMPLING FIELD DATA SHEET

Plant Dixie Lime + Stone
 Sampling Location NO.2 Cooler Baghouse
 Type of Sampling Train EPA-5
 Type of Samples Particulate
 Date 5-26-82 Run No. 1
 Time Start 0845 Time End 0949
 Sample Time 5/12 min/pt 60 Total min
 DB ___ °F, WB ___ °F, VP @ DP ___ "Hg
 Bar. Press. 30.04 "Hg Stack Press. 30.01 "Hg
 Assumed Moisture 2%, FDA ___ Gas Density Factor ___
 Weather Overcast
 Temp. 70 °F, W/D ___, Meter Box No. 5
 Meter V H @ 1.66 Pilot Corr. Factor .84
 Nozzle Dia. 0.245 in Probe Length 6 ft
 Probe Heater Setting 70 Nomograph C₁ 1.0 = 2.85
 Stack Dimensions 48 in
 Stack Area 12.566 ft²
 Effective Stack Area 12.566 ft²
 Stack Height ~60 ft



Mat'l Processing Rate _____
 Final Gas Meter Reading 552.768 ft³
 Initial Gas Meter Reading 512.454 ft³
 Net Gas Volume Sampled 40.314 ft³
 Condensate Increase in Impingers 14.0 ml
 Moisture in Silica Gel 9.1 gm
 Total Condensate 23.1 ml

Silica Gel Container No. _____ Filter No. 069

Orsat:	% CO ₂	<u>0</u>			
	% O ₂	<u>21</u>			
	% CO				
	% N ₂				
	% Excess Air				

Test Conducted By: Reshard, Czarniak

Sample Train Leak Check @ 15" Hg 0.000 CFM
 Remarks: FINAL @ 10.0 " Hg 0.000 CFM

Port and Traverse Point No.	Distance From Inside Stack Wall (in.)	Clock Time	Gas Meter Reading (ft ³)	Stack Velocity Head ("H ₂ O)	Meter Orifice Press. Diff. ("H ₂ O)		Stack Gas Temp. (°F)	Gas Sample Temp. @ Dry' Gas Meter (°F)		Sample Box Or Filter Temp. (°F)	Last Impinger Temp. (°F)	Vacuum On Sample Train ("Hg)
					Calc.	Actual		In	Out			
S - 1		0845	512.454									
2		0850	515.570	.40	1.18		220	72	275	55	3.5	
3		0855	518.845	.43	1.28		225	72	275	55	3.6	
4		0900	522.250	.46	1.35		228	73	275	55	3.8	
5		0905	525.950	.56	1.63		228	74	275	55	4.4	
6		0910	529.225	.54	1.58		225	74	275	55	4.2	
		0915	533.086	.50	1.45		220	75	275	55	4.0	

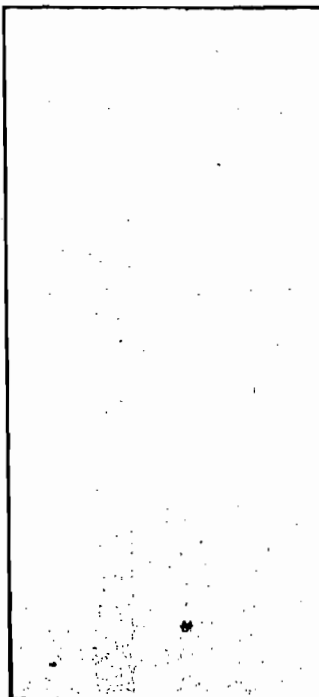
ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.

Gainesville, Florida

100%

SOURCE SAMPLING FIELD DATA SHEET

Plant Dixie Lime + Stone
 Sampling Location NO. 2 Cooler Baghouse
 Type of Sampling Train EPA-5
 Type of Samples Particulate
 Date 5-26-82 Run No. 2
 Time Start 1017 Time End 1120
 Sample Time 15/12 min/pt 60 Total min
 DB °F, WB °F, VP @ DP "Hg
 Bar. Press. 30.04 "Hg Stack Press. 30.01 "Hg
 Assumed Moisture 2%, FDA Gas Density Factor
 Weather Overcast
 Temp. 75 °F, W/D , Meter Box No. 5
 Meter V_i@ 1.66 Pitot Corr. Factor .84
 Nozzle Dia. 0.245 in Probe Length 6 ft
 Probe Heater Setting 70 Nomograph C_i 1.0 = 2.85
 Stack Dimensions 48 in
 Stack Area 17.566 ft²
 Effective Stack Area 17.566 ft²
 Stack Height 2 60 ft



Mat'l Processing Rate
 Final Gas Meter Reading 599.758 ft³
 Initial Gas Meter Reading 560.004 ft³
 Net Gas Volume Sampled 39.754 ft³
 Condensate Increase in Impingers 16.0 ml
 Moisture in Silica Gel 10.0 gm
 Total Condensate 26.0 ml
 Silica Gel Container No. Filter No. 070

Orsat:	% CO ₂	<u>0</u>			
	% O ₂	<u>21</u>			
	% CO				
	% N ₂				
	% Excess Air				

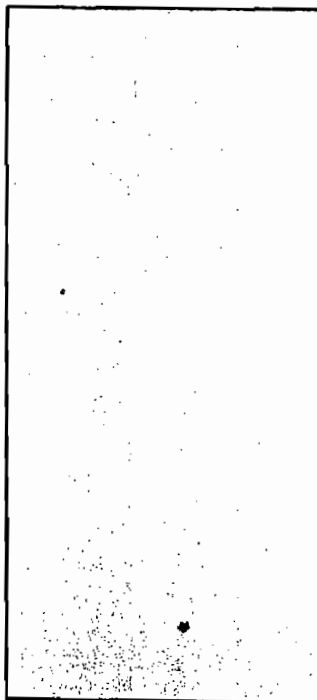
Test Conducted By: Reshard, Czarniak

Sample Train Leak Check @ 15" Hg 0.000 CFM
 Remarks: FINAL @ 10 " Hg 0.000 CFM

Port and Traverse Point No.	Distance From Inside Stack Wall (in.)	Clock Time	Gas Meter Reading (ft ³)	Stack Velocity Head ("H ₂ O)	Meter Orifice Press. Diff. ("H ₂ O)		Stack Gas Temp. (F°)	Gas Sample Temp. @ Dry' Gas Meter (F°)		Sample Box Or Filter Temp. (F°)	Leak Impinger Temp. (F°)	Vacuum On Sample Train ("Hg)
					Calc.	Actual		In	Out			
		<u>1017</u>	<u>560.004</u>									
<u>W-1</u>		<u>1022</u>	<u>563.010</u>	<u>.36</u>	<u>1.08</u>		<u>225</u>	<u>77</u>	<u>275</u>	<u>60</u>	<u>3.2</u>	
<u>2</u>		<u>1027</u>	<u>566.295</u>	<u>.46</u>	<u>1.35</u>		<u>225</u>	<u>78</u>	<u>275</u>	<u>60</u>	<u>3.6</u>	
<u>3</u>		<u>1032</u>	<u>569.880</u>	<u>.54</u>	<u>1.58</u>		<u>230</u>	<u>78</u>	<u>275</u>	<u>60</u>	<u>4.0</u>	
<u>4</u>		<u>1037</u>	<u>572.910</u>	<u>.54</u>	<u>1.58</u>		<u>230</u>	<u>79</u>	<u>275</u>	<u>60</u>	<u>4.0</u>	
<u>5</u>		<u>1042</u>	<u>576.990</u>	<u>.53</u>	<u>1.55</u>		<u>230</u>	<u>79</u>	<u>275</u>	<u>60</u>	<u>3.9</u>	
<u>6</u>		<u>1047</u>	<u>580.518</u>	<u>.50</u>	<u>1.45</u>		<u>225</u>	<u>80</u>	<u>275</u>	<u>60</u>	<u>3.8</u>	

SOURCE SAMPLING FIELD DATA SHEET

Plant Dixie Lime & Stone
 Sampling Location NO. 2 Cooler Baghouse
 Type of Sampling Train EPA-5
 Type of Samples Particulate
 Date 5-26-82 Run No. 3
 Time Start 1153 Time End 1255
 Sample Time 5/12 min/pt 66 Total min
 DB °F, WB °F, VP DP "Hg
 Bar. Press. 30.04 "Hg Stack Press. 30.01 "Hg
 Assumed Moisture 2 % FDA Gas Density Factor
 Weather Overcast
 Temp. 80 °F, W/D Meter Box No.
 Meter V H 1.66 Pitot Corr. Factor 0.84
 Nozzle Dia. 0.245 in Probe Length 6 ft
 Probe Heater Setting 70 Nomograph C₁ 1.0 = 2.85
 Stack Dimensions 48 in
 Stack Area 12.566 ft²
 Effective Stack Area 12.566 ft²
 Stack Height 64 ft



Mat'l Processing Rate
 Final Gas Meter Reading 647.110 ft³
 Initial Gas Meter Reading 607.502 ft³
 Net Gas Volume Sampled 39.698 ft³
 Condensate Increase in Impingers 16.0 ml
 Moisture in Silica Gel 9.0 gm
 Total Condensate 25.0 ml
 Silica Gel Container No. Filter No. 071

Orsat:	% CO ₂	<u>0</u>			
	% O ₂	<u>21</u>			
	% CO				
	% N ₂				
	% Excess Air				

Test Conducted By: Keshard Czarniak

Sample Train Leak Check @ 15" Hg 0.000 CFM

Remarks: FINAL @ 10.0" Hg 0.000 CFM

Port and Traverse Point No.	Distance From Inside Stack Wall (in.)	Clock Time	Gas Meter Reading (ft ³)	Stack Velocity Head ("H ₂ O)	Meter Orifice Press. Diff. ("H ₂ O)		Stack Gas Temp. (°F)	Gas Sample Temp. @ Dry Gas Meter (°F)		Sample Box Or Filter Temp. (°F)	Lost Impinger Temp. (°F)	Vacuum On Sample Train ("Hg)
					Calc.	Actual		In	Out			
S-1		1153	607.502									
2		1158	610.820	.36	1.08		230	82	275	60	3.2	
3		1203	613.585	.43	1.28		235	82	275	60	3.5	
4		1208	616.920	.48	1.4		240	82	275	60	4.0	
5		1213	620.430	.54	1.58		240	83	275	60	4.2	
6		1218	623.910	.53	1.55		240	83	275	60	4.2	
		1223	627.069	.46	1.35		235	83	275	60	4.0	

APPENDIX C
LABORATORY ANALYSIS

LABORATORY ANALYSIS

Project Name: Dixie Lime Kiln
 Project No.: 82 128 100

Date Sampled: 5-25-82
 Date Analyzed: 6-4-82
 Analyzed By: Reshard

All analysis performed within guidelines set by EPA
 Federal Register, Thursday, August 18, 1977. Part II-

Run No. 1
 Beaker No. 223
 Beaker Vol. 200 ml
 Final Wt. 108.4267g
 Tare Wt. 108.3936 g
 Wt. Gain 33.1 mg
 Blk. Corr. 3.2mg
 Net Wt. 29.9 mg

Run No. 2
 Beaker No. 91
 Beaker Vol. 200 ml
 Final Wt. 117.5874g
 Tare Wt. 107.5489g
 Wt. Gain 38.5 mg
 Blk. Corr. 3.2mg
 Net Wt. 35.3 mg

Run No. 3
 Beaker No. 86
 Beaker Vol. 200 ml
 Final Wt. 106.8208g
 Tare Wt. 106.7880 g
 Wt. Gain 32.8mg
 Blk. Corr. 3.2mg
 Net Wt. 29.6 mg

Run No. BLANK
 Beaker No. 2
 Beaker Vol. 200 ml
 Final Wt. 105.5969g
 Tare Wt. 105.5937g
 Wt. Gain 3.2mg
 Blk. Corr. 3.2 mg
 Net Wt. _____ mg

Filter No. 801068
 Final Wt. 0.4721 g
 Tare Wt. 0.4033 g
 Wt. Gain 68.8 mg
 Blk. Corr. _____ mg
 Net Wt. 68.8 mg

Filter No. 801066
 Final Wt. 0.4832 g
 Tare Wt. 0.3955 g
 Wt. Gain 87.7 mg
 Blk. Corr. _____ mg
 Net Wt. 87.7 mg

Filter No. 801067
 Final Wt. 0.4686 g
 Tare Wt. 0.4033 g
 Wt. Gain 65.3 mg
 Blk. Corr. _____ mg
 Net Wt. 65.3 mg

Filter No. _____
 Final Wt. _____ g
 Tare Wt. _____ g
 Wt. Gain _____ mg
 Blk. Corr. _____ mg
 Net Wt. _____ mg

Total Particulate Wts.
 Filter 68.8 mg
 Wash 29.9 mg
 Total 98.7 mg

Total Particulate Wts.
 Filter 87.7 mg
 Wash 35.3 mg
 Total 123.0 mg

Total Particulate Wts.
 Filter 65.3 mg
 Wash 29.6 mg
 Total 94.9 mg

Total Particulate Wts.
 Filter _____ mg
 Wash _____ mg
 Total _____ mg

SO₂
LAB DATA

Plant Name Dixie Lime Date Analyzed 6-11-82

Analyzed By D. Fick

Stack	Sample No.	V.T.	V.T.B.	N.	V.Soln.	V.A.
Run 1		65/6.7	.1	.0096	48	2 ml
2	5-25-82	4.5/4.7	↓	↓	255	2 ml
3		10.3/10.5	↓	↓	240	2 ml

- V.T. = Volume of Barium perchlorate titrant used for sample (ml)
- V.T.B. = Volume of Barium perchlorate titrant used for blank (ml)
- N. = Normality of Barium perchlorate
- V.Soln. = Total solution volume
- V.A. = Volume of sample aliquot titrated (ml)

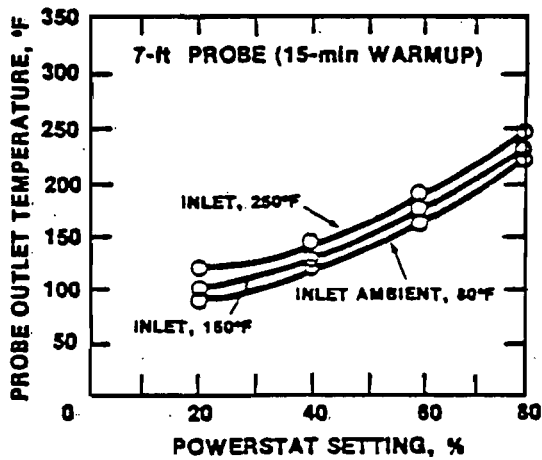
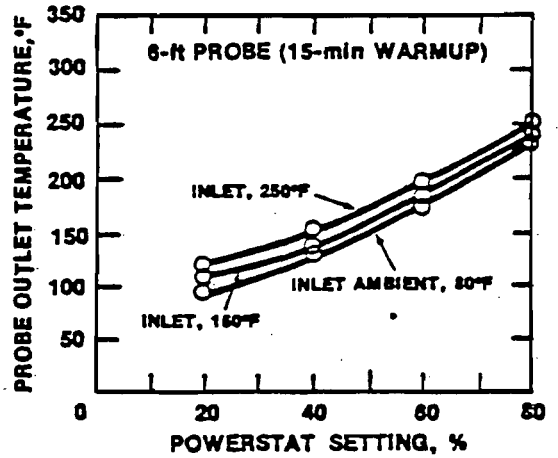
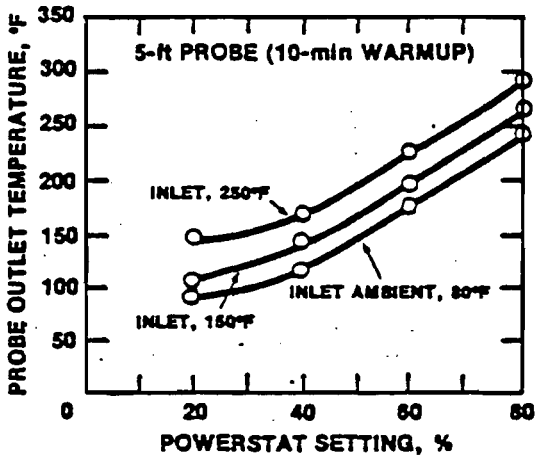
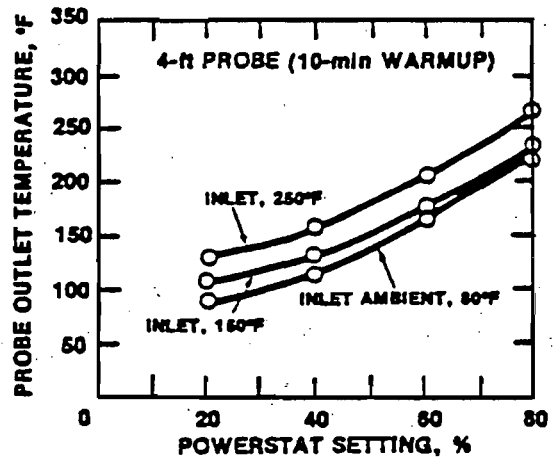
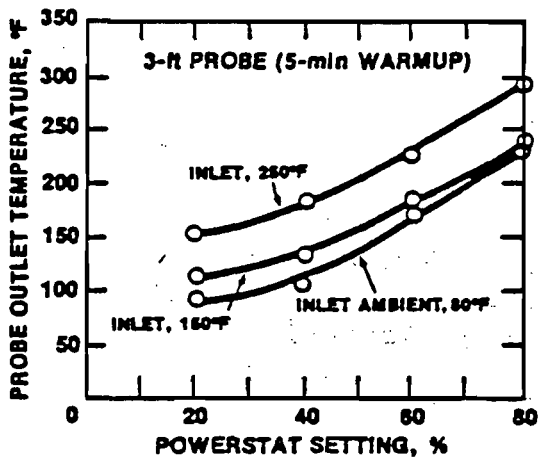
APPENDIX D
CALIBRATION DATA

PROBE TEMPERATURE CALIBRATION

The sample probe used during the test was constructed as outlined in EPA Reference 1 of "Maintenance, Calibration, and Operation of Isokinetic Source-Sampling Equipment," March 1972. The probe heater setting was determined therefore by the graphs of Figure 21 of the reference method.

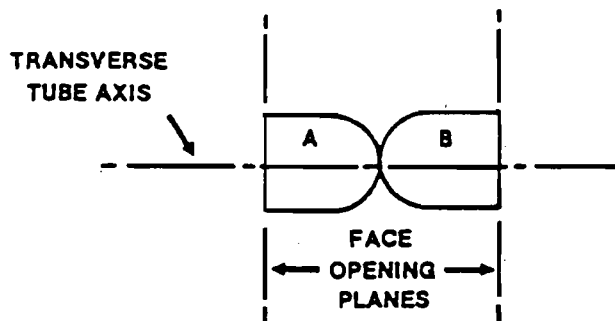
PITOT TUBE CALIBRATION

All ESE pitot tubes have been inspected and modified to correspond with requirements contained in the August 18, 1977 Edition of the Federal Register. Because the pitot tubes are within specified regulation, a coefficient (Cf) value of 0.84 has been assigned to them as per the Federal Register.

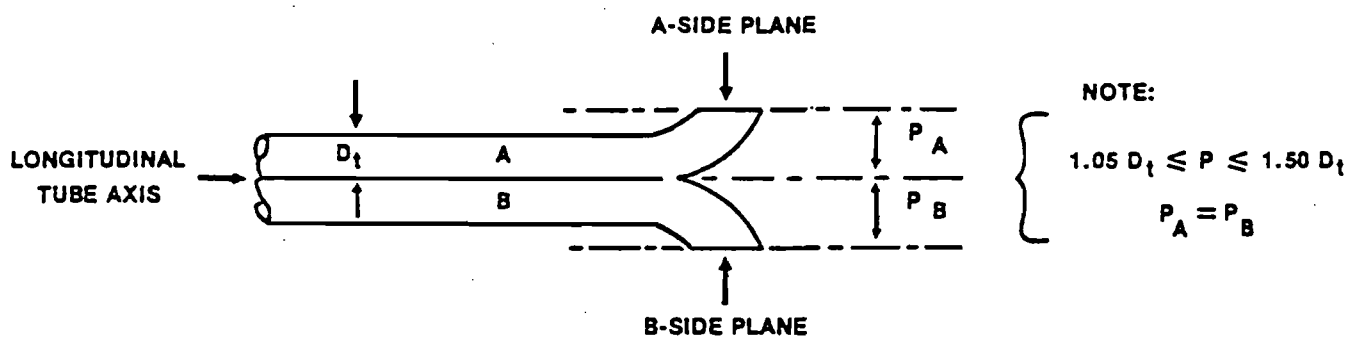


NOTE: Flow rate held constant at 0.75: 50% change in flow rate has little effect on probe temperature.

PROBE TEMPERATURES

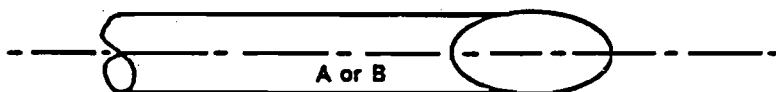


(a)



NOTE:
 $1.05 D_t \leq P \leq 1.50 D_t$
 $P_A = P_B$

(b)



(c)

PROPERLY CONSTRUCTED TYPE S PITOT TUBE, SHOWN IN:
 (a) END VIEW; FACE OPENING PLANES PERPENDICULAR TO
 TRANSVERSE AXIS; (b) TOP VIEW; FACE OPENING PLANES
 PARALLEL TO LONGITUDINAL AXIS; (c) SIDE VIEW; BOTH
 LEGS OF EQUAL LENGTH AND CENTERLINES COINCIDENT,
 WHEN VIEWED FROM BOTH SIDES. BASELINE COEFFICIENT
 VALUES OF 0.84 MAY BE ASSIGNED TO PITOT TUBES
 CONSTRUCTED THIS WAY

METER BOX CALIBRATION DATA AND CALCULATION FORM

(English units)

Date 5 November 1981

Meter box number 5

Barometric pressure, $P_b = 29.99$ in. Hg Calibrated by J. Dickey

Orifice manometer setting (ΔH), in. H ₂ O	Gas volume		Temperature				Time (θ), min	Y_i	$\Delta H@_i$ in. H ₂ O
	Wet test meter (V_w), ft ³	Dry gas meter (V_d), ft ³	Wet test meter (t_w), °F	Dry gas meter					
				Inlet (t_{d_i}), °F	Outlet (t_{d_o}), °F	Avg ^a (t_d), °F			
0.5	2.127	2.099	77.5			81.0	5	1.019	1.437
1.0	2.941	2.903	77.5			81.5	5	1.018	1.587
1.5	3.530	3.507	77.5			82.0	5	1.011	1.681
2.0	4.033	4.023	77.5			82.5	5	1.004	1.687
3.0	4.971	5.013	77.5			83.5	5.1	0.995	1.764
4.0	5.601	5.711	77.5			84.0	5	0.983	1.773
							Avg	1.005	1.655

$\frac{\Delta H, \text{in. H}_2\text{O}}{z}$	$\frac{\Delta H}{13.6}$	$Y_i = \frac{V_w P_b (t_d + 460)}{V_d (P_b + \frac{\Delta H}{13.6}) (t_w + 460)}$	$\Delta H@_i = \frac{0.0317 \Delta H}{P_b (t_d + 460)} \left[\frac{(t_w + 460) \theta}{V_w} \right]^2$
0.5	0.0368		
1.0	0.0737		
1.5	0.110		
2.0	0.147		
3.0	0.221		
4.0	0.294		

^a If there is only one thermometer on the dry gas meter, record the temperature under t_d .

POSTTEST DRY GAS METER CALIBRATION DATA FORM (English units)

Test number 82-128-100 Date 6-7-82 Meter box number 5 Plant Dixie Lime + Stone
 Barometric pressure, $P_b = 30.01$ in. Hg Dry gas meter number 5 Pretest Y 1.0

Orifice manometer setting, (ΔH), in. H ₂ O	Gas volume		Temperature				Time (θ), min	Vacuum setting, in. Hg	Y_i	$Y_i \frac{V_w P_b (t_d + 460)}{V_d (P_b + \frac{\Delta H}{13.6})(t_w + 460)}$
	Wet test meter (V_w), ft ³	Dry gas meter (V_d), ft ³	Wet test meter (t_w), °F	Dry gas meter						
				Inlet (t_{d_i}), °F	Outlet (t_{d_o}), °F	Average (t_d), °F				
3	5.288	5.306	75	—	78	5	4.5		.99488318	
3	5.296	5.315	75	—	78	5	4.5		.99470111	
3	5.301	5.310	75	—	78	5	4.5		.99657771	
									Y = .995	

^a If there is only one thermometer on the dry gas meter, record the temperature under t_d where

V_w = Gas volume passing through the wet test meter, ft³.

V_d = Gas volume passing through the dry gas meter, ft³.

t_w = Temperature of the gas in the wet test meter, °F.

t_{d_i} = Temperature of the inlet gas of the dry gas meter, °F.

t_{d_o} = Temperature of the outlet gas of the dry gas meter, °F.

t_d = Average temperature of the gas in the dry gas meter, obtained by the average of t_{d_i} and t_{d_o} , °F.

ΔH = Pressure differential across orifice, in. H₂O.

Y_i = Ratio of accuracy of wet test meter to dry gas meter for each run.

Y = Average ratio of accuracy of wet test meter to dry gas meter for all three runs; tolerance = pretest Y $\pm 0.05Y$.

P_b = Barometric pressure, in. Hg.

θ = Time of calibration run, min.

APPENDIX E
PROJECT PARTICIPANTS

PROJECT PARTICIPANTS

ESE Source Testing Personnel

Charles Reshard
Norman Czarniak

Laboratory Analysis/Report Preparation
Environmental Technician

Dixie Lime and Stone Company Personnel

Doris Reynolds

Project Coordinator

Department of Environmental Regulation

Louis Fernandez

Observer

Table 1*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂	NO _x	CO	VOC
								lbs/hr.	TPY	TPY	TPY	TPY	TPY
Lime Kiln No. 2	D-1	22.5/540/189,000	39,250	24	7	50	8,400	24.74	103.91	157.46	18.90	12.08	2.42
Limestone Dryer	D-2	100/2400/576,000	36,500	24	5	48	5,760	36.17	104.17	189.56	76.03	6.34	1.27
Coal Grinding System	D-12	5/120/42,000	7,500	24	7	50	8,400	22.39	94.04				
'A' Screening Dust Collector	D-3		3,000	24	7	52	8,760	0.51	2.23				
'B' Screening Dust Collector	D-4		3,000	24	7	52	8,760	0.51	2.23				
Lime Kiln No. 2 Cooler	D-5		31,064	24	7	50	8,400	24.74	103.91				
Lime Loadout Scavenger Sys.	D-6		6,500	10	5	50	2,500	36.17	45.21				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	10	5	50	2,500	36.17	45.21				
CaCO ₃ Process Scavenger System	D-8		6,000	10	5	50	2,500	34.54	43.18				
CaCO ₃ Loadout Scavenger System	D-9		3,000	10	5	50	2,500	29.83	37.29				
Fugitive Dust Control System	D-10		6,000	10	5	50	2,500	34.54	43.18				
TOTAL								—	624.56	347.02	94.93	18.42	3.69

¹Allowable Emissions: Kiln based on No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, 575.0 maximum gal./hr., and 22.5 TPH² product (CAO); dryer based on No. 5 fuel oil with a maximum of 1.0% sulfur content by weight, 439 maximum gal./hr. (3,291 lbs./hr.), and 100 TPH product. (Summary: FACILITY BEFORE PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on process weight table except for "D-3 and D-4", which are based on 0.02 grains/ACF (manufacturer's specifications).
 SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
 NO_x - Dryer based on AP-42 Table 1.3-1 which gives 60 lbs/10³ gal.
 Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 189,000 TPY).
 CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.
 VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 1: Draft and Final Determination

Table 2*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂	NO _x	CO	VOC
								lbs/hr.	TPY	TPY	TPY	TPY	TPY
Lime Kiln No. 2	D-1	12.08/290/8,700	46,800	24	7	30 days	720	8.02	2.89	11.27	0.87	0.86	0.17
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	7,500	18	7	48	6,048	1.29	3.90				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	24	7	48	8,064	1.03	4.15				
TOTAL								—	46.40	68.49	19.88	1.65	0.33

¹Allowable Emissions: Kiln based on 30 days of No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, maximum of 480.0 gal./hr., and 12.08 TPH² product (CAO); dryer based on No. 6 fuel oil with a maximum of 2.2% sulfur content by weight, maximum of 165.0 gal./hr., and 75 TPH product. (Summary: PRESENT FACILITY AFTER CURRENT PERMIT REVISIONS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.) except for the dryer which is based on test data (8.00 lbs./hr.)
SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.
Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 8,700 TPY).
CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs/10³ gal.
VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 2: Draft Determination

Table 2*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂ TPY	NO _x TPY	CO TPY	VOC TPY
								lbs/hr.	TPY				
Lime Kiln No. 2	D-1	12.08/290/8,700	46,800	24	7	30 days	720	8.02	2.89	11.27	0.87	0.86	0.17
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	6,400	18	7	48	6,048	1.10	3.33				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	8	5	48	8,064	1.03	0.99				
TOTAL								—	42.67	68.49	19.88	1.65	0.33

¹Allowable Emissions: Kiln based on 30 days of No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, maximum of 480.0 gal./hr., and 12.08 TPH² product (CAO); dryer based on No. 6 fuel oil with a maximum of 2.2% sulfur content by weight, maximum of 165.0 gal./hr., and 75 TPH product. (Summary: PRESENT FACILITY AFTER CURRENT PERMIT REVISIONS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.) except for the dryer which is based on test data (8.00 lbs./hr.).
SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.
Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 8,700 TPY).
CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs/10³ gal.
VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 2: Revised for the Final Determination on April 27, 1982, and based on the applicant's comments dated April 9, 1982.

Table 3*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂	NO _x	CO	VOC
				lbs/hr.	TPY	TPY	TPY	TPY	TPY	TPY	TPY		
Lime Kiln No. 1	D-11	8.33/200/67,200	32,585	24	7	48	8,064	5.59	22.54	28.46	6.72	14.19	6.91
Lime Kiln No. 2	D-1	12.08/290/97,440	46,800	24	7	48	8,064	8.02	32.34	41.19	9.74	20.54	10.01
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	7,500	18	7	48	6,048	1.29	3.90				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	24	7	48	8,064	1.03	4.15				
No. 1 Kiln Scavenger System	D-15		3,000	24	7	48	8,064	0.51	2.06				
No. 1 Kiln Fine Coal Handling System	D-16		600	24	7	306 days	7,344	0.10	0.37				
No. 2 Kiln Fine Coal Handling System	D-14		600	24	7	306 days	7,344	0.10	0.37				
TOTAL								—	101.19	126.87	35.47	35.52	17.08

¹Allowable Emissions: Kilns are based on 30 days of No. 6 fuel oil and 306 days of coal with a maximum of 2.0% and 0.8% sulfur content by weight, respectively, except for the dryer which is fired with No. 6 fuel oil only, with a maximum of 2.2% sulfur content by weight. Maximum fuel oil usage in gallons per hour are Kiln No. 1: 332.7; Kiln No. 2: 480.0; Dryer: 165.0. Maximum coal usage in tons per hour are Kiln No. 1: 1.85; Kiln No. 2: 2.68. (Summary: TABLE 2 PLUS PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.), except for the dryer which is based on test data (8.00 lbs./hr.).
 SO₂ - Dryer based on stoichiometric calculations. Kilns based on AP-42 Table 1.1-2 which gives [38 S] lbs./ton of coal burned, where S is the % sulfur content. When firing fuel oil, the emissions are based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
 NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs./10³ gal. at >0.5% nitrogen content. Kilns based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 164,640 TPY).
 CO - Coal from AP-42 Table 1.1-2 which gives 2 lbs./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.
 VOC - Coal from AP-42 Table 1.1-2 which gives 1 lb./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 3: Draft Determination

Table 3*
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂	NO _x	CO	VOC
								lbs/hr.	TPY	TPY	TPY	TPY	TPY
Lime Kiln No. 1	D-11	8.33/200/67,200	32,585	24	7	48	8,064	5.59	22.54	28.46	6.72	14.19	6.91
Lime Kiln No. 2	D-1	12.08/290/97,440	46,800	24	7	48	8,064	8.02	32.34	41.19	9.74	20.54	10.01
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	6,400	18	7	48	6,048	1.10	3.33				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	8	5	48	8,064	1.03	0.99				
No. 1 Kiln Scavenger System	D-15		3,000	24	7	48	8,064	0.51	2.06				
No. 1 Kiln Fine Coal Handling System	D-16		600	24	7	306 days	7,344	0.10	0.37				
No. 2 Kiln Fine Coal Handling System	D-14		600	24	7	306 days	7,344	0.10	0.37				
TOTAL								—	97.46	126.87	35.47	35.52	17.08

¹Allowable Emissions: Kilns are based on 30 days of No. 6 fuel oil and 306 days of coal with a maximum of 2.0% and 0.8% sulfur content by weight, respectively, except for the dryer which is fired with No. 6 fuel oil only, with a maximum of 2.2% sulfur content by weight. Maximum fuel oil usage in gallons per hour are Kiln No. 1: 332.7; Kiln No. 2: 480.0; Dryer: 165.0. Maximum coal usage in tons per hour are Kiln No. 1: 1.85; Kiln No. 2: 2.68. (Summary: TABLE 2 PLUS PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.), except for the dryer which is based on test data (8.00 lbs./hr.). SO₂ - Dryer based on stoichiometric calculations. Kilns based on AP-42 Table 1.1-2 which gives [38 S] lbs./ton of coal burned, where S is the % sulfur content. When firing fuel oil, the emissions are based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.

NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.

Kilns based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 164,640 TPY).

CO - Coal from AP-42 Table 1.1-2 which gives 2 lbs./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.

VOC - Coal from AP-42 Table 1.1-2 which gives 1 lb./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

*Table 3: Revised for the Final Determination on April 27, 1982, and based on the applicant's comments dated April 9, 1982.

Subpart HH—Standards of Performance for Lime Manufacturing Plants 85

§ 60.340 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities used in the manufacture of lime: rotary lime kilns and lime hydrators.

(b) The provisions of this subpart are not applicable to facilities used in the manufacture of lime at kraft pulp mills.

(c) Any facility under paragraph (a) of this section that commences construction or modification after May 3, 1977, is subject to the requirements of this part.

§ 60.341 Definitions.

As used in this subpart, all terms not defined herein shall have the same meaning given them in the Act and in subpart A of this part.

(a) "Lime manufacturing plant" includes any plant which produces a lime product from limestone by calcination. Hydration of the lime product is also considered to be part of the source.

(b) "Lime product" means the product of the calcination process including, but not limited to, calcitic lime, dolomitic lime, and dead-burned dolomite.

(c) "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce a lime product from limestone by calcination.

(d) "Lime hydrator" means a unit used to produce hydrated lime product.

§ 60.342 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any rotary lime kiln any gases which:

(i) Contain particulate matter in excess of 0.15 kilogram per megagram of limestone feed (0.30 lb/ton).

(ii) Exhibit 10 percent opacity or greater.

(2) From any lime hydrator any gases which contain particulate matter in excess of 0.075 kilogram per megagram of lime feed (0.15 lb/ton).

§ 60.343 Monitoring of emissions and operations.

(a) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in paragraph (b) of this section, to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from any rotary lime kiln. The span of this system shall be set at 40 percent opacity.

(b) The owner or operator of any rotary lime kiln using a wet scrubbing emission control device subject to the provisions of this subpart shall not be required to monitor the opacity of the gases discharged as required in paragraph (a) of this section, but shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be accurate within ± 250 pascals (one inch of water).

(2) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control device. The monitoring device must be accurate within ± 5 percent of design scrubbing liquid supply pressure.

(c) The owner or operator of any lime hydrator using a wet scrubbing emission control device subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) A monitoring device for the continuous measuring of the scrubbing liquid flow rate. The monitoring device must be accurate within ± 5 percent of design scrubbing liquid flow rate.

(2) A monitoring device for the continuous measurement of the electric current, in amperes, used by the scrubber. The monitoring device must be accurate within ± 10 percent over its normal operating range.

(d) For the purpose of conducting a performance test under § 60.8, the owner or operator of any lime manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device for measuring the mass rate of limestone feed to any affected rotary lime kiln and the mass rate of lime feed to any affected lime hydrator. The measuring device used must be accurate to within ± 5 percent of the mass rate over its operating range.

(e) For the purpose of reports required under § 60.7(c), periods of excess emissions that shall be reported are defined as all six-minute periods during which the average opacity of the plume from any lime kiln subject to paragraph (a) of this subpart is 10 percent or greater.

(Sec. 114 of the Clean Air Act, as amended (42 U.S.C. 7414).)

§ 60.344 Test methods and procedures.

(a) Reference methods in Appendix A of this part, except as provided

under § 60.8(b), shall be used to determine compliance with § 60.322(a) as follows:

(1) Method 5 for the measurement of particulate matter,

(2) Method 1 for sample and velocity traverses,

(3) Method 2 for velocity and volumetric flow rate,

(4) Method 3 for gas analysis,

(5) Method 4 for stack gas moisture, and

(6) Method 9 for visible emissions.

(b) For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 std m³/h, dry basis (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator.

(c) Because of the high moisture content (40 to 85 percent by volume) of the exhaust gases from hydrators, the Method 5 sample train may be modified to include a calibrated orifice immediately following the sample nozzle when testing lime hydrators. In this configuration, the sampling rate necessary for maintaining isokinetic conditions can be directly related to exhaust gas velocity without a correction for moisture content. Extra care should be exercised when cleaning the sample train with the orifice in this position following the test runs.

(Sec. 114 of the Clean Air Act, as amended (42 U.S.C. 7414).)

Proposed/effective
42 FR 22506, 5/3/77

Promulgated
43 FR 9452, 3/7/78 (85)

The opacity monitors shall be required III-69 before receiving the operating permits for lime kilns Nos. 1 and 2. 4/14/82

File and sent to Dr. Vasant Chagnerna

4-14-82

Dixie Lime & Stone Co.

Bruce Mitchell

cc. Don Williams
Southwest District

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

TO: Bill Thomas, BAQM

FROM: Dan Williams *DW*

DATE: April 22, 1982

SUBJECT: Preliminary Determination
Dixie Lime & Stone Co.
(AC60-52586)

DER

APR 26 1982

BAQM

We suggest the following language be added to Specific Condition No. 18 of the draft permit number AC60-52586:

18.This permit will at that time replace the existing DER operating permit number AO60-30853.

This would eliminate any misunderstanding regarding the status of the existing operating permit on Lime Kiln No. 2. Should you have any question, please give me a call at Suncom 552-7270.

DAW/rkt

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Bill Thomas

INITIAL

DATE

2.

Bruce ^{filed} 4/26/82 PM

INITIAL

DATE

3.

INITIAL

DATE

4.

INITIAL

DATE

REMARKS:

INFORMATION

REVIEW & RETURN

REVIEW & FILE

INITIAL & FORWARD

DISPOSITION

REVIEW & RESPOND

PREPARE RESPONSE

FOR MY SIGNATURE

FOR YOUR SIGNATURE

LET'S DISCUSS

SET UP MEETING

INVESTIGATE & REPT

INITIAL & FORWARD

DISTRIBUTE

CONCURRENCE

FOR PROCESSING

INITIAL & RETURN

Don Williams

FROM:

Janice

DATE

4/22/82

PHONE



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904)793-2063 • TELEX:056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

DER

APR 13 1982

BAQM

April 9, 1982

Mr. Bill Thomas
Air Quality Management
Dept. of Environmental Regulations
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Mr. Thomas:

I have reviewed the recent applications as agreed upon by DER and Dixie and found that the following minor revisions need to be made:

1. AC 60-44267 (D-10) should be changed from 24 hours/day and 7 days/week to 8 hours/day and 5 days/week. ^{627 PPM 4-26-82 OK VC}
2. AC 60-49009 (D-12) should be changed from 7500 ACFM at 90 degrees F. to 6400 ACFM at 200 degrees F. This has already been written as memo to Dan Williams dated February 26, 1982.

I hope you will issue the permits as soon as possible.

Sincerely,

DIXIE LIME & STONE COMPANY


4/9/82

V.D. Chapnerkar
Research & Development Mgr.

VDC/jaf



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
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MS

SUBSIDIARY OF
AMCAR, INC.

March 29, 1982

DER

MAR 31 1982

BAQM

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulations
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Bruce:

Attached is Proof of Publication from the Sumter County Times, Bushnell, Florida, of the intent to construct a lime kiln capable of firing fuel oil and coal, and the construction/modification of existing fuel oil fired lime kiln.

If further information is required, please advise.

Sincerely yours,

DIXIE LIME AND STONE COMPANY

Vasant
3/29/82

Vasant D. Chapnerkar
Research & Development Manager

VDC/et

Attch:

Proof of Publication

from the
SUMTER COUNTY TIMES
Bushnell, Sumter County, Florida
PUBLISHED WEEKLY

STATE OF FLORIDA
COUNTY OF SUMTER

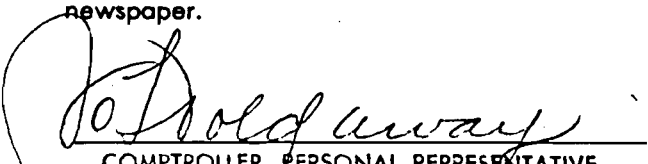
Before the undersigned authority personally
appeared DAVID S. ARTHURS, PUBLISHER

of the Sumter County Times, a newspaper
published weekly on Thursday at Bushnell in
Sumter County, Florida; that the attached copy of
advertisement being a public notice in the matter
of the NOTICE OF PROPOSED AGENCY ACTION.

DEPARTMENT of ENVIRONMENTAL REGULATION
GIVES NOTICE OF ITS INTENT TO ISSUE A PERMIT
TO DIXIE LIME & STONE CO. FOR LIME KILN.

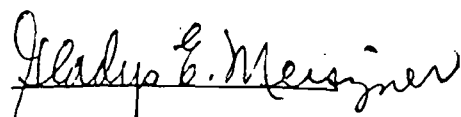
Court, was published in said newspaper in the
issues of MARCH 25, 1982.

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


COMPROLLER, PERSONAL REPRESENTATIVE
OF DAVID S. ARTHURS, PUBLISHER.

Sworn to and subscribed before me this 25th
day of MARCH A.D. 19 82.

(SEAL) Notary Public



Notary Public State of Florida at Large.
My Commission Expires Nov. 29, 1984

PUBLIC NOTICE SCT 3759-0325

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Dixie Lime and Stone Company for the construction of a lime kiln (No. 1), capable of firing fuel oil and coal, with associated control equipment, the construction/modification of the existing fuel oil fired lime kiln No. 2, to have the capability to fire coal, the construction of a fine coal handling system with associated control equipment for each lime kiln (Nos. 1 and 2), and a scavenging system with associated control equipment for lime kiln No. 1 at its existing facility in Sumterville, Florida. A determination of Best Available Control Technology (BACT) was not required.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

The application, technical evaluation and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

DER, Bureau of Air Quality
Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

DER
Southwest District Off
7601 Highway 301 North
Tampa, Florida 33610

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

Published one time in the Sumter County Times March 25, 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

MEMORANDUM

TO: Vasant D. Chapnerkar, Dixie Lime and Stone Co.
Jon F. Hamlin, Consulting Service, Inc.
Dan Williams, FDER, Southwest District Office

FROM: C. H. Fancy, Deputy Chief, Bureau of Air
Quality Management *C. H. Fancy*

DATE: March 26, 1982

SUBJ: Preliminary Determination - Dixie Lime and Stone Co.
(AC 60-52317, 60-52586, 60-52589, 60-52583, 60-52587)

Attached is one copy of the application, Technical Evaluation and Preliminary Determination, and proposed permit for each of the above referenced permit applications.

Please submit any comments which you wish to have considered concerning these actions, in writing, to Bill Thomas of the Bureau of Air Quality Management.

CHF:pa

Attachment

Technical Evaluation
and
Preliminary Determination

Dixie Lime and Stone Company
Sumterville, Florida

Application Number:

AC 60-52317
AC 60-52586
AC 60-52589
AC 60-52583
AC 60-52587

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Dixie Lime and Stone Company for the construction of a lime kiln (No. 1), capable of firing fuel oil and coal, with associated control equipment, the construction/modification of the existing fuel oil fired lime kiln No. 2 to have the capability to fire coal, the construction of a fine coal handling system with associated control equipment for each lime kiln (Nos. 1 and 2), and a scavenging system with associated control equipment for lime kiln No. 1 at its existing facility in Sumterville, Florida. A determination of Best Available Control Technology (BACT) was not required.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

The application, technical evaluation and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

DER, Bureau of Air Quality Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

DER
Southwest District Office
7601 Highway 301 North
Tampa, Florida 33610

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

I. Project Description

A. Applicant

Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

B. Project and Location

The applicant plans to construct a lime kiln (No. 1), capable of firing fuel oil and coal, with associated control equipment, to construct/modify the existing fuel oil fired lime kiln No. 2 to have the capability of firing coal, to construct a fine coal handling system with associated control equipment for each lime kiln (Nos. 1 & 2), and a scavenging system with associated control equipment for lime kiln No. 1.

The proposed projects will take place at the company's existing facility located in Sumterville, Sumter County, Florida. The UTM coordinates are Zone 17, 397.2 km. east and 3182.6 km. north.

C. Process and Controls

The fuel oil fired in the kilns will be a residual (No. 6) and shall have a maximum 2.0% sulfur content by weight. The coal shall have a maximum 0.8% sulfur content by weight. No. 1 and 2 lime kilns shall have a maximum 50 and 73×10^6 Btu hour heat input, respectively. Each lime kiln shall have maximum days of operation of 30 days on fuel oil and 306 days on coal. Maximum product (CaO) shall not exceed 200 tons per day (TPD) for lime kiln No. 1 and 290 TPD for lime kiln No. 2. The associated control equipment will be baghouse systems.

The fine coal handling system involves air conveying fine coal to the kiln from the coal grinding operation and the collection of particulate matter (PM) along the transfer. The control equipment will be a baghouse system. A separate system will be installed for each lime kiln, Nos. 1 and 2.

A scavenging system and associated control equipment, a baghouse system, will be installed for lime kiln No. 1. Removal of PM from the scraper and the bucket elevator is the purpose of this system.

There will be an operational change associated with the dryer which involves the switch from a fuel oil maximum of 1% to a 2.2% sulfur content by weight. Maximum product shall not exceed 75 tons per hour (TPH), 600 TPD, and 144,000 tons per year (TPY). The process requires 2.2 gallons of fuel oil per ton of product. Maximum heat input shall not exceed 25.08×10^6 Btu/hour. Pollutant emissions will be controlled by a multicone separator followed by a wet venturi scrubber.

II. Rule Applicability

The proposed projects (See Figure 1) are subject to preconstruction/premodification review under the provisions of Chapter 403, Florida Statutes and Chapter 17-2, Florida Administrative Code (FAC). The five applications, amendments to the applications, and memos to the file reflecting the applicant's requested changes are located in Attachments 1-5, 7-10.

The existing facility is located in Sumter County, which is classified as an attainment area for all criteria pollutants. The facility is a major emitting facility for particulate matter (PM) and SO₂ under their current operating and construction permits (See Figure 2 and Table 1). However, after revising the current operating and construction permits (See Table 2), as requested by the applicant (See Attachments 2-5, 7-10) and which shall become conditions of the permits, the facility becomes a minor facility according to Chapter 17-2.100 (100), FAC.

The purposes of revising the current operating and construction permits are to substitute actual emissions or emission specifications by the control equipment manufacturer for the process weight table because they are more representative of the plant's operations, and these changes will place the current plant into the minor facility category. Therefore, the applications and amendments recently received will be processed as modifications to a minor facility according to Chapter 17-2.100(102), FAC. Although the proposed projects will themselves be minor sources, the facility will become major for PM and SO₂ according to Chapter 17-2.100(95), FAC (See Table 3).

Since lime manufacturing plants have new source performance standards (NSPS), 40 CFR 60, Subpart HH, and the State has adopted the standard by reference according to Chapter 17-2.660 (2)(a), FAC, the review should be conducted in accordance with the NSPS or any applicable emission limiting standard in Chapter 17-2.610, FAC, with precedence going to the more restrictive limit(s). For PM, however, the emissions are based on 0.02 grains/ACF (manufacturer's specifications) for all sources except the limestone dryer, in which 8.00 lbs/hr. shall be the emissions limit imposed based on actual test results (See Tables 2 and 3). Furthermore, these emission limits are more stringent than the previously mentioned standard and rule.

Emissions of SO₂ shall be restricted by imposing limits on the maximum percent sulfur content by weight per type of fuel to be fired, meaning the lime kilns (Nos. 1 and 2) can fire 30 days per year on No. 6 Fuel Oil and 306 days per year on coal with a maximum 2.0% and 0.8% sulfur content by weight, respectively. The limestone dryer is permitted to fire fuel oil only, No. 6 by application amendment request (See Attachments 7,8,9), with a maximum 2.2% sulfur content by weight. SO₂ emission reductions were given for scrubbing action inside the lime kilns and are

based on Table 8.15-1, AP-42 (Compilation of Air Pollutant Emission Factors). See Table 3.

Emissions of NO_x for the lime kilns (Nos. 1 and 2) are based on AP-42 Table 8.15-1, and for the limestone dryer, AP-42 Table 1.3-1. CO and VOC emissions are based on AP-42 Tables 1.1-2 and 1.3-1. See Table 3.

Visible Emissions (VE) for the lime kilns (Nos. 1 and 2) shall be in accordance with the NSPS, 40 CFR 60, Subpart HH, which states that no owner or operator shall cause to be discharged into the atmosphere any gases of 10% opacity or greater (1/2 on the Ringelmann Chart). VE for the No. 1 lime kiln Fine Coal Handling System, No. 2 lime kiln Fine Coal Handling System, and the No. 1 lime kiln Scavenger System shall be regulated according to Chapter 17-2.610(b)(2), FAC, which states that no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere any air pollutants from new, or existing sources, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart the opacity of which is equal to or greater than 20%. Opacity compliance tests shall be DER Method 9 and in accordance with Chapter 17-2.700, FAC.

According to the NSPS, 40 CFR 60, Subpart HH, the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from any rotary lime kiln. Therefore, lime kilns No. 1 and 2 shall require the installation of said opacity monitoring systems. Excess emissions are defined as all six-minute periods during which the average opacity of the plume is 10% or greater, in accordance with the NSPS, 40 CFR 60, Subpart HH and adopted by reference in Chapter 17-2.660, FAC. Source monitoring requirements shall be met by the applicant according to Chapter 17-2.710, FAC, and 40 CFR 60, Subpart HH.

Compliance tests shall be conducted using EPA methods 1, 2, 3, 4, 5 and 6 as found in 40 CFR 60, Appendix A, and adopted by reference in Chapter 17-2.700, FAC, and will be required for lime kiln No. 1, lime kiln No. 2, No. 1 lime kiln Fine Coal Handling System, No. 2 lime kiln Fine Coal Handling System, and No. 1 lime kiln Scavenger System. Sampling facilities shall include the eyebolt and angle and be in accordance with the requirements of Chapter 17-2.700, FAC.

Compliance tests shall be conducted at 90-100% of the rated capacity. For lime kilns No. 1 and 2, a compliance test shall be required within 45 days upon achieving 90% CaO product. A 30 day notice to the DER's Southwest District Office-Air Section shall be required before testing.

Fuel accounting shall begin within 15 days of the first 90% CaO product.

Monthly reports containing type of fuel fired, the fuel quantity fired per source, supplier's fuel analysis, and the quantity of product manufactured per unit shall be submitted to the DER's Southwest District Office-Air Section.

The Construction Permits may be amended to change fuel usage restrictions if acceptance test data show significant differences from assumed SO₂ removal in the process.

Again, all current operating and construction permits shall be revised and those revisions shall become conditions of the permits. These revisions by source are to be found in Table 2, including maximum product, design flow rates, operating schedules, and pollutant emissions. Table 3 is the combination of Table 2 and the proposed projects.

Figure 1
Proposed Projects

Source	Plant ID	Construction Permit #
Lime kiln No. 1- firing of coal and fuel oil	D-11	AC 60-52317
Lime kiln No. 2- firing of coal and fuel oil	D-1	AC 60-52586
No. 1 kiln Scaven- ger System	D-15	AC 60-52589
No. 1 kiln Fine Coal Handling System	D-16	AC 60-52583
No. 2 kiln Fine Coal Handling System	D-14	AC 60-52787

Note: All sources will have associated control equipment,
 baghouse system.

Figure 2

Current Operating and Construction Permits

Source	Plant ID	Permit #
Lime kiln No. 2	D-1	AO 60-30853
Limestone Dryer	D-2	AO 60-24513
Coal Grinding System	D-12	AC 60-49009
'A' Screening Dust Collector	D-3	AO 60-7096
'B' Screening Dust Collector	D-4	AO 60-7095
Lime kiln No. 2 Cooler	D-5	AO 60-30864
Lime Loadout Scavenger System	D-6	AO 60-39124
Lime Crusher & Handling Scavenger System	D-7	AO 60-39495
CaCO ₃ Process Scavenger System	D-8	AC 60-34476
CaCO ₃ Loadout Scavenger System	D-9	AC 60-34477
Fugitive Dust Control System	D-10	AC 60-44627

Note: All sources will have associated control equipment, baghouse systems, except for the limestone dryer which has a scrubber system.

Table 1
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂	NO _x	CO	VOC
								lbs/hr.	TPY	TPY	TPY	TPY	TPY
Lime Kiln No. 2	D-1	22.5/540/189,000	39,250	24	7	50	8,400	24.74	103.91	157.46	18.90	12.08	2.42
Limestone Dryer	D-2	100/2400/576,000	36,500	24	5	48	5,760	36.17	104.17	189.56	76.03	6.34	1.27
Coal Grinding System	D-12	5/120/42,000	7,500	24	7	50	8,400	22.39	94.04				
'A' Screening Dust Collector	D-3		3,000	24	7	52	8,760	0.51	2.23				
'B' Screening Dust Collector	D-4		3,000	24	7	52	8,760	0.51	2.23				
Lime Kiln No. 2 Cooler	D-5		31,064	24	7	50	8,400	24.74	103.91				
Lime Loadout Scavenger Sys.	D-6		6,500	10	5	50	2,500	36.17	45.21				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	10	5	50	2,500	36.17	45.21				
CaCO ₃ Process Scavenger System	D-8		6,000	10	5	50	2,500	34.54	43.18				
CaCO ₃ Loadout Scavenger System	D-9		3,000	10	5	50	2,500	29.83	37.29				
Fugitive Dust Control System	D-10		6,000	10	5	50	2,500	34.54	43.18				
TOTAL								—	624.56	347.02	94.93	18.42	3.69

¹Allowable Emissions: Kiln based on No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, 575.0 maximum gal./hr., and 22.5 TPH² product (CAO); dryer based on No. 5 fuel oil with a maximum of 1.0% sulfur content by weight, 439 maximum gal./hr. (3,291 lbs./hr.), and 100 TPH product. (Summary: FACILITY BEFORE PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on process weight table except for "D-3 and D-4", which are based on 0.02 grains/ACF (manufacturer's specifications).
 SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
 NO_x - Dryer based on AP-42 Table 1.3-1 which gives 60 lbs/10³ gal.
 Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 189,000 TPY).
 CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.
 VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

Table 2
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂ TPY	NO _x TPY	CO TPY	VOC TPY
								lbs/hr.	TPY				
Lime Kiln No. 2	D-1	12.08/290/8,700	46,800	24	7	30 days	720	8.02	2.89	11.27	0.87	0.86	0.17
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	7,500	18	7	48	6,048	1.29	3.90				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	24	7	48	8,064	1.03	4.15				
TOTAL								—	46.40	68.49	19.88	1.65	0.33

¹Allowable Emissions: Kiln based on 30 days of No. 6 fuel oil with a maximum of 2.0% sulfur content by weight, maximum of 480.0 gal./hr., and 12.08 TPH² product (CAO); dryer based on No. 6 fuel oil with a maximum of 2.2% sulfur content by weight, maximum of 165.0 gal./hr., and 75 TPH product. (Summary: PRESENT FACILITY AFTER CURRENT PERMIT REVISIONS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.) except for the dryer which is based on test data (8.00 lbs./hr.).
 SO₂ - Dryer based on stoichiometric calculations. Kiln based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
 NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.
 Kiln based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 8,700 TPY).
 CO - Oil from AP-42 Table 1.3-1 which gives 5 lbs/10³ gal.
 VOC - Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

Table 3
Dixie Lime and Stone Company
Facility Allowable Emissions¹

Source Description	Plant ID	Maximum Product ² TPH/TPD/TPY	Design Flow Rate ACFM	Operating Schedule				Pollutant ³					
				hrs./day	days/week	weeks/yr.	hrs./yr.	PM		SO ₂ TPY	NO _x TPY	CO TPY	VOC TPY
								lbs/hr.	TPY				
Lime Kiln No. 1	D-11	8.33/200/67,200	32,585	24	7	48	8,064	5.59	22.54	28.46	6.72	14.19	6.91
Lime Kiln No. 2	D-1	12.08/290/97,440	46,800	24	7	48	8,064	8.02	32.34	41.19	9.74	20.54	10.01
Limestone Dryer	D-2	75/600/144,000	36,500	8	5	48	1,920	8.00	7.68	57.22	19.01	0.79	0.16
Coal Grinding System	D-12	5/90/30,240	7,500	18	7	48	6,048	1.29	3.90				
'A' Screening Dust Collector	D-3		3,000	24	7	48	8,064	0.51	2.06				
'B' Screening Dust Collector	D-4		3,000	24	7	48	8,064	0.51	2.06				
Lime Kiln No. 2 Cooler	D-5		29,400	24	7	48	8,064	5.04	20.32				
Lime Loadout Scavenger Sys.	D-6		6,500	7	5	48	1,680	1.11	0.93				
Lime Crusher & Handling Scavenger Sys.	D-7		6,500	7	5	48	1,680	1.11	0.93				
CaCO ₃ Process Scavenger System	D-8		6,000	8	5	48	1,920	1.03	0.99				
CaCO ₃ Loadout Scavenger System	D-9		3,000	8	5	48	1,920	0.51	0.49				
Fugitive Dust Control System	D-10		6,000	24	7	48	8,064	1.03	4.15				
No. 1 Kiln Scavenger System	D-15		3,000	24	7	48	8,064	0.51	2.06				
No. 1 Kiln Fine Coal Handling System	D-16		600	24	7	306 days	7,344	0.10	0.37				
No. 2 Kiln Fine Coal Handling System	D-14		600	24	7	306 days	7,344	0.10	0.37				
TOTAL								—	101.19	126.87	35.47	35.52	17.08

¹Allowable Emissions: Kilns are based on 30 days of No. 6 fuel oil and 306 days of coal with a maximum of 2.0% and 0.8% sulfur content by weight, respectively, except for the dryer which is fired with No. 6 fuel oil only, with a maximum of 2.2% sulfur content by weight. Maximum fuel oil usage in gallons per hour are Kiln No. 1: 332.7; Kiln No. 2: 480.0; Dryer: 165.0. Maximum coal usage in tons per hour are Kiln No. 1: 1.85; Kiln No. 2: 2.68. (Summary: TABLE 2 PLUS PROPOSED PROJECTS)

²Maximum Product: TPH = tons per hour; TPD = tons per day; TPY = tons per year

³Pollutant: PM (Particulate Matter) - Based on 0.02 grains/ACF (manufacturer's specs.), except for the dryer which is based on test data (8.00 lbs./hr.).
 SO₂ - Dryer based on stoichiometric calculations. Kilns based on AP-42 Table 1.1-2 which gives [38 S] lbs./ton of coal burned, where S is the % sulfur content. When firing fuel oil, the emissions are based on stoichiometric calculations. SO₂ reductions are based on AP-42 Table 8.15-1 which estimates 20% of stoichiometric emissions for high sulfur fuel (>1%) and 10% of stoichiometric emissions for low sulfur fuel (<1%) when secondary control devices other than scrubbers are employed.
 NO_x - Dryer based on AP-42 Table 1.3-1 which gives 120 lbs/10³ gal. at >0.5% nitrogen content.
 Kilns based on AP-42 Table 8.15-1 which gives 0.2 lbs./ton lime produced (maximum lime production = 164,640 TPY).
 CO - Coal from AP-42 Table 1.1-2 which gives 2 lbs./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 5 lbs./10³ gal.
 VOC - Coal from AP-42 Table 1.1-2 which gives 1 lb./ton coal burned. Oil from AP-42 Table 1.3-1 which gives 1 lb./10³ gal.

III. Summary of Emissions

A. Emission Limitations

Tables 1, 2, and 3 express what the plant allowable emissions were, are, and will be, respectively.

For particulate matter (PM) Table 1 emissions are based on the process weight table. PM emissions in Tables 2 and 3 are based on the manufacturer's specifications of 0.02 grains per actual cubic feet (gr./ACF) except for the limestone dryer. The dryer emissions of 8.00 lbs/hr are based on actual test results. Also, the limestone dryer has its emissions controlled with a multicone separator, followed with a scrubber, whereas all other sources at this existing facility plus the proposed projects will be controlled with baghouse systems. Finally, the emission limit of 0.02 gr/ACF is more stringent than the NSPS, 40 CFR 60, Subpart HH, and Chapter 17-2, FAC, emission limits for this type of facility, lime manufacturing plant. Annual operating schedules are found in Table 3.

The visible emission (VE) limit on lime kilns No. 1 and 2 is based on the NSPS and that limit, 10% opacity, is not to be reached nor exceeded. A VE limit of 20% opacity, according to Chapter 17-2.610(b)(2), FAC, is the limit not to be reached nor exceeded by the lime kiln No. 1 Scavenger System and both No. 1 and 2 lime kiln Fine Coal Handling Systems.

SO₂ emissions are restricted by imposing a maximum percent sulfur content by weight per type of fuel to be fired. No. 1 and 2 lime kilns can fire 30 days on No. 6 Fuel Oil and 306 days on coal with a maximum of 2.0% and 0.8% sulfur content by weight, respectively. The limestone dryer can fire fuel oil only, No. 6 by request, with a maximum of 2.2% sulfur content by weight. Coal SO₂ emissions are projected using AP-42 Table 1.1-2, which estimates 38 S lbs/ton of coal fired where S is the % sulfur content by weight. Potential SO₂ emissions for fuel oil are based on stoichiometric calculations (see Figure 3). SO₂ reductions are based on AP-42 Table 8.15-1, which allows for kiln scrubbing. Annual operating schedules are found in Table 3. Even though the emissions are entered on Table 3 as TPY, the actual source's permit shall also contain emission limits in lbs/hr. SO₂ allowed.

NO_x emissions for the lime kilns, Nos. 1 and 2, are based on AP-42 Table 8.15-1, which projects 0.2 lb/ton product (CaO). For the limestone dryer the emissions are based on AP-42 Table 1.3-1 which projects 120 lbs/10³ gallons fuel oil fired when nitrogen content exceeds 0.5% by weight.

CO emissions for fuel oil are projected using AP-42 Table 1.3-1, which estimates 5 lbs/10³ gallons fuel oil fired. Coal emissions are projected using AP 42 Table 1.1-2 which estimates 2 lbs/ton coal burned.

VOC emissions for fuel oil are projected using AP-42 Table 1.3-1, which estimates 1 lb/10³ gallons fuel oil fired. Coal emissions are projected using AP-42 Table 1.1-2, which estimates 1 lb/ton coal burned.

B. Air Quality Analysis

It was determined that Dixie Lime and Stone Company, after revising their current operating and construction permits, was a minor emitting facility. Therefore, modeling was not required because the proposed projects were modifications to a minor emitting facility.

Figure 3

No. 5 Fuel Oil

1% Sulfur content by weight (maximum)
Assumed % Nitrogen content will produce 60 lbs./10³
gal. fired (AP-42 Table 1.3-1)
7.48 lbs/gal. - density
18,500 Btu/lb.
138,380 Btu/gal.

No. 6 Fuel Oil

2 % Sulfur content by weight (maximum)
0.68% Nitrogen content by weight
8.15 lbs gal.- density
18,441 Btu/lb.
150,297 Btu/gal.

No. 6 Fuel Oil

2.2% Sulfur content by weight (maximum)
>0.5% Nitrogen content by weight
8.21 lbs./gal. - density
18,514 Btu/lb.
152,000 Btu/gal.

IV. Conclusion

The proposed emission rates are based upon information in the applications, amendments to the applications, actual test results, and the manufacturer's information specifications. It has been determined that more stringent emission limiting requirements than those now imposed would not be economically justifiable.

Annual compliance tests shall be required for the proposed sources using EPA Methods 1,2,3,4, and 5, Appendix A, 40 CFR 60, and DER Method 9, Chapter 17-2.700, FAC. Also requiring the same compliance tests is the limestone dryer. Since the dryer has a scrubber system the Method 5 sample train may be modified in accordance with the NSPS, 40 CFR 60, Subpart HH. All sources will require installation of sampling facilities in accordance with Chapter 17-2.700, FAC. All pollutants will be sampled for and reported. The reports shall contain the information as required in 17-2.700, FAC, and shall be sent to the DER's Southwest District Office-Air Programs within 45 days after completion of the compliance test(s).

There shall be no substitution of test methods nor the substitution of a surrogate test method unless an Order has been issued by the Secretary via a request by the applicant.

All changes in the current operating and construction permits (Table 1) to present plant operations (Table 2) shall become specific permit conditions of those sources. Therefore, the current plant is a minor emitting facility. Even though the proposed projects (Figure 1) are themselves minor emitting sources and are modifications to a minor emitting facility, the total facility emissions places the plant into the category of a major emitting facility for particulate matter and SO₂ (Table 3).

Monthly reports containing the type and quantity of fuel fired per source, fuel quantity and analysis reports as received from the vendor, quantity of products manufactured per source on a daily basis, any excess readings from the continuous opacity monitors that are to be installed in lime kilns No. 1 and 2, and shall be submitted to the DER's Southwest District Office-Air Programs.

The permitted emissions (Table 3) from this facility should not cause or contribute to any violation of ambient air quality standards.

The General and Specific Conditions listed in the proposed permits (attached) will assure compliance with all applicable requirements of the NSPS, 40 CFR 60, Subpart HH, and Chapter 17-2, FAC.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

TO: Files-Dixie Lime and Stone Company (DL&S)
Affected Permits: AC 60-52317
AC 60-52586
AC 60-52587
AC 60-52589
AC 60-52583

FROM: Bruce Mitchell via phone conversation with Vasant
Chapnerkar with DL&S

DATE: March 18, 1982

SUBJ: Design Flow Rate Changes

There were transposing problems by the applicant with numerous documents sent to the Department to be used as amendments and supportive material to the referenced applications. The changes are:

1. CaCO₃ Process Scavenger System: 3000 ACFM to
6000 ACFM
2. 'A' Screening Dust Collector: 600 ACFM to 3000
ACFM
3. 'B' Screening Dust Collector: 600 ACFM to 3000
ACFM

Pollutant emissions have been recalculated and are reflected in Tables 1, 2, and 3.

BM/bjm



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

March 10, 1982

DER

MAR 11 1982

BAQM

Mr. Bruce Mitchell
Florida Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Limestone Dryer

Dear Bruce:

As per our telephone conversation of today, I have made the necessary changes for Permit No. A060-24513 to reflect properly the proposed conditions. I have attached the calculations of emissions as well as revised pages 3 and 4 of the application. Please note that the maximum throughput has been changed to 75 tons/hour and hours of operation has been changed to 8 hours/day, 5 days/week, and 48 weeks/year. The fuel (1% max.S) usage is based on the present usage of 1.1 gal./ton of product.

Yours sincerely,

DIXIE LIME AND STONE COMPANY

Vasant
3/10/82

Vasant D. Chapnerkar
Research & Development

VDC/brs

Attachments

BEST AVAILABLE COPY

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	Dust		176,000 (wet)	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 176,000 (wet)

2. Product Weight (lbs/hr): 150,000 (max)

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission XXXXX T/YR	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	8.0	7.7		7.7		385	
SO ₂		11.8		11.8		11.8	
NO _x		4.8		4.8		4.8	
CO		0.4		0.4		0.4	
VOC		0.1		0.1		0.1	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Multiclone cyclone	Limestone			
Separator and Zurn Venturi Scrubber				

See Section V, Item 2.

Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU heat input)

Calculated from operating rate and applicable standard

Emission, if source operated without control (See Section V, Item 3)

Applicable

DER
MAR 11 1982
BAQM

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Fuel Oil	77 gal.	82.5 gal.	11.4

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 1% Percent Ash: 0

Density: 7.48 lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: 18,500 BTU/lb 138,380 BTU/gal

Other Fuel Contaminants (which may cause air pollution): % water 0.2%

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 30 ft. Stack Diameter: 4 ft.

Gas Flow Rate: 36,500 ACFM Gas Exit Temperature: 132 °F.

Water Vapor Content: _____ % Velocity: 48.4 FPS

SECTION IV: INCINERATOR INFORMATION

N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

DER

MAR 11 1982

BAQM

FIRE LIMESTONE DRYER

3/10/82

Based on operating 8 hrs/day, 5 days/week and 48 weeks/year at 75 tph -

$$\begin{aligned}\text{Annual production} &= 75(8)(5)(48) \\ &= \underline{144,000 \text{ tons/year}}\end{aligned}$$

Using 1.1 gal/ton of Fuel Oil (1% S) per ton of product
the annual oil usage = $144,000 \times 1.1$
= 158,400 gallons

$$\begin{aligned}\text{Particulate matter} &= (8.0)(8)(5)(48)\left(\frac{1}{2000}\right) \\ &= \underline{7.68 \text{ tons/year}}\end{aligned}$$

$$\text{SO}_2 = \frac{(158,400)(7.48)(0.01)(2)}{2000} = \underline{11.84 \text{ tons/year}}$$

$$\text{NO}_x = (158,400)\left(\frac{60\#}{10^3 \text{ gal}}\right)\left(\frac{1}{2000}\right) = \underline{4.8 \text{ tons/year}}$$

$$\text{CO} = (158,400)\left(\frac{5\#}{10^3 \text{ gal}}\right)\left(\frac{1}{2000}\right) = \underline{0.396 \text{ tons/year}}$$

$$\text{VOC} = (158,400)\left(\frac{1\#}{10^3 \text{ gal}}\right)\left(\frac{1}{2000}\right) = \underline{0.08 \text{ tons/year}}$$

DER

MAR 11 1982

BAQM



DIXIE LIME AND STONE COMPANY

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(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

March 5, 1982

DER

MAR 8 1982

BAQM

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Bruce:

I am attaching the calculations made to derive the amounts of pollutants specified in the permit applications. Please use the revised numbers and discard the old ones sent with the original application for No. 1 and No. 2 kilns. As you mentioned, you will make the corrections for other permits based on letter from ESE. All these number for particulate were based on ACFM values as written in the original permit applications multiplied by 0.02 grains/cu.ft. and then converted to tons/year.

I am also attaching the guarantee I received from baghouse manufacturer for No. 1 kiln.

I am also attaching a copy of letter dated March 2, with the appropriate correction made, so discard the earlier copy of that letter.

Yours sincerely,

DIXIE LIME & STONE COMPANY

Vasant
3/5/82
Vasant D. Chapnerkar
Research & Development Mgr.

VDC/jaf

Enc: revised calculations
guarantee
copy of March 2 letter w/corrections

Kiln No. 1 :

Basis: Production: 190 t/day ave. Product
200 t/day max. Product

Operate for 24 hrs/day, 7 days/week, 48 weeks,
= 8064 hours.

$$200 \text{ tons/day} = \frac{200}{24} = 8.33 \text{ tph.} = \underline{166.60 \text{ \#/hr}}$$

It takes 3 tons of feed to make 1 ton of product
∴ Process input rate = 3 (16,660)
= 49,980 \#/hr.

3 tons are required because of loss of fines in wet screening,
loss of moisture and loss of CO₂.

Particulate: = 32,585 ACFM with 0.02 grains/ft³

$$32,585 \frac{\text{ft}^3}{\text{min}} \times \frac{0.02 \text{ grain}}{\text{ft}^3} \times \frac{\#}{1000 \text{ grains}} \times \frac{60 \text{ min}}{\text{hr}} = 5.59 \text{ \#/hr}$$

$$5.59 \frac{\#}{\text{hr}} \times 8064 \text{ hr} \times \frac{1 \text{ ton}}{2000 \#} = \underline{22.5 \text{ tons/year}}$$

BTU consumption

$$8.33 \frac{\text{ton}}{\text{hr}} \times \frac{6 \times 10^6 \text{ BTU}}{\text{ton}} = \underline{50 \times 10^6 \text{ BTU/hr}}$$

$$50 \times 10^6 \frac{\text{BTU}}{\text{hr}} \times \frac{1 \text{ gal}}{150,000 \text{ BTU}} = \underline{333 \text{ gal/hr of oil}}$$

$$50 \times 10^6 \frac{\text{BTU}}{\text{hr}} \times \frac{1 \#}{13,500 \text{ BTU}} \times \frac{1 \text{ ton}}{2000 \#} = \underline{1.85 \text{ tons/hr}}$$

No. 1 Kiln

(2)

Using Oil only as fuel \rightarrow for 135 days/year

$$\begin{aligned}\text{Max. 2\% S oil to be used} &= (333)(24)(135) \\ &= 1,079,000 \text{ gal}^{\text{S}}\end{aligned}$$

This will contain stoichiometric amount of SO_2 and only 20% will be emitted.

$$\text{Stoichiometric amt of S is } 333 \times 0.02 \times 8.15 \times 0.2 = 10.85 \text{ \#/hr.}$$

$$\begin{aligned}\therefore \text{amt of } \text{SO}_2 &= \frac{2(10.85)(24)(135)}{2000} \\ &= 35 \text{ tons/year}\end{aligned}$$

$$\begin{aligned}\text{amt of } \text{NO}_x &= (200) \frac{\text{ton}}{\text{day}} \times 135 \text{ day} \times \frac{(0.2)}{2000} \\ &= \underline{2.7 \text{ tons/year}}\end{aligned}$$

$$\text{amt CO} = 1.079 \times 10^6 \text{ gal} \times \frac{5 \#}{10^3} \times \frac{\text{ton}}{2000} = \underline{2.7 \text{ tons/year}}$$

$$\text{amt VOC} = 1.079 \times 10^6 \text{ gal} \times \frac{1 \#}{\text{ton}} \times \frac{\text{ton}}{2000} = 0.5 \text{ tons/year}$$

Using coal only as fuel for 8064 hours
(Either coal or oil will be used)

$$\begin{aligned}\text{Coal used/year} &= (1.85)(8064) \\ &= 14,918 \text{ tons} \\ &\approx 15,000 \text{ tons/year}\end{aligned}$$

$$\text{SO}_2 \text{ in coal} = (15,000) \frac{(0.8)}{1000} \times 0.2 = \underline{24 \text{ tons/year}}$$

$$\text{NO}_x \text{ in coal} = \underline{12.7 \text{ tons/year}} \text{ same as for oil.}$$

$$\text{CO in coal} = \frac{15,000 \times 2}{2000} = \underline{15 \text{ tons/year}}$$

$$\text{VOC in coal} = 15,000 \times \frac{1}{1000} = \underline{7.5 \text{ tons/year}}$$

For No. 2 Kiln

Since maximum production is 1.45 times for Kiln No. 1 all numbers except for particulate matter were multiplied by 1.45 to give the numbers written in the application.

$$\text{Particulate matter} = \frac{46,800 \text{ ft}^3}{\text{min}} \times \frac{0.02}{\text{ft}^3} \times \frac{1}{7000} \times \frac{60 \text{ min}}{\text{hr}}$$

$$= \underline{8.0 \text{ \# / hr}}$$

$$\text{tons/year} = \frac{(8.0)(8064)}{2000}$$

$$= \underline{\underline{32.2 \text{ tons/year}}}$$

For Limestone Dryer

The particulate matter restriction is based on test data which has been submitted =

Previous data — 2.13 #/hr

10.1 #/hr

36.1 #/hr — This test was not

representative because we had temporary problem with the sampler which was corrected right away.

So we have used 8.0 #/hr as an allowable emission. I am confident based on VE we have done that we can meet this.

We use only oil in this system —

Based 70,000 tons/year input to dryer

Oil used is 1.1 gal/ton

$$\therefore \text{Yearly usage} = (1.1)(70,000) = 77,000 \text{ gal}^s$$

$$\text{Particulate} = \frac{8.0 \#}{\text{hr}} \times 10 \times 5 \times 48 \times \frac{1}{2000}$$

$$= \underline{\underline{9.6 \text{ tons/year}}}$$

$$\text{SO}_2 = (77,000)(8.15)(0.02) = 12.6 \approx \underline{\underline{13.0 \text{ tons/year}}}$$

$$\text{NO}_x = 77 \times 10^3 \times \frac{60 \#}{10^3 \text{ gal}} \times \frac{1}{2000} = \underline{\underline{2.3 \text{ tons/year}}}$$

$$\text{CO} = 77 \times 10^3 \text{ gal} \times \frac{5 \#}{10^3 \text{ gal}} \times \frac{1}{2000} = 0.1925 = \underline{\underline{0.2 \text{ tons/year}}}$$

$$\text{VOC} = 77.0 \times 10^3 \text{ gal} \times \frac{1 \#}{10^3 \text{ gal}} \times \frac{1}{2000} = 0.0385 = \underline{\underline{0.04 \text{ tons/year}}}$$

Lodge-Cottrell

DRESSER INDUSTRIES, INC.

601 jefferson • box 6504 • houston, texas 77005 • 713 / 972-6011 • telex 762-756

March 2, 1982

RECEIVED
MAR 5 1982

Dixie Lime and Stone Company
P. O. Box 217
Sumterville, Florida 33585

Attention: Mr. L. H. Baldauf

Gentlemen:

Per our telephone conversation on February 26, 1982, the following statement is Lodge-Cottrell's Particulate Emission Guarantee for the BETHPULS collector purchased by Dixie Lime and Stone Company.

PARTICULATE EMISSIONS

Provided the fabric filter is operated in accordance with Lodge-Cottrell's Operating and Maintenance Manual, Lodge-Cottrell guarantees that when the fabric filter is operating at a maximum gas volume of 32,585 ACFM, at a maximum gas temperature of 500°F, the outlet particulate emission shall not be greater than 0.02 gr/ACF for an inlet dust loading of 1.80 gr/ACF.

Should, under any test conditions, an emission of 0.02 gr/ACF or less be measured, the fabric filter shall be deemed to satisfy the particulate emissions guarantee.

The operating conditions during the specific tests, if within the specified range, shall constitute the performance guarantee conditions for the respective tests.

Satisfactory completion of such testing program, demonstrating the attainment of all performance guarantees, shall terminate the obligation of Seller under the performance guarantee. Should, due to no fault of Seller, the said performance testing program not be conducted on or before January 1, 1983, then Seller's obligations under the performance guarantee shall be deemed to have been fulfilled upon said date even though no performance testing program has been made.

Dixie Lime and Stone Company
March 2, 1982
Page 2

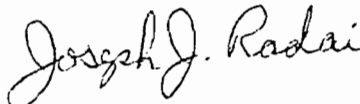
Should the fabric filter fail to meet the above performance guarantee under conditions specified in the tests, Lodge-Cottrell shall be given the necessary time to investigate the cause and to make adjustments without any penalty to Lodge-Cottrell. If the adjustments do not result in the performance guarantee being achieved, Lodge-Cottrell shall at its own expense and option make such modifications, further adjustments and/or additions as required to achieve the performance guarantee. Lodge-Cottrell's obligation to make whatever modifications, adjustments or additions required to correct the performance guarantee deficiencies shall be Lodge-Cottrell's sole liability and the Owner's sole remedy for Lodge-Cottrell's failure to meet the performance guarantee. The performance guarantee for the fabric filter shall be met, satisfied and fulfilled when the fabric filter meets the guaranteed performance under the specified test conditions.

Should at the time of performance testing, it be determined that the fabric filter operating performance can be improved by any changes to the process operating practices, such changes shall be implemented when requested by Seller; provided, however, when incorporated they reflect no cost or disadvantage to the Purchaser as judged by him.

I trust the above statement meets your requirements.

Yours very truly,

LODGE-COTTRELL OPERATION
DRESSER INDUSTRIES, INC.



Joseph J. Radai
Senior Application Engineer
Fabric Filters

JJR/mn



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TELEPHONE • TELETYPE

MS
SUBSIDIARY OF
AMCAR, INC.

March 2, 1982

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Bruce:

Attached are corrected pages 3 and 4 of the permit application AC-60-52586 covering Kiln #2 for amending this permit.

Attached also is correction to page 3 of permit application AC-60-52317 forwarded to you with my letter of March 1, 1982. Please replace page 3 received with this correction.

Thank you for your cooperation in handling this matter and hope this completes the information you need.

Sincerely yours,

DIXIE LIME AND STONE COMPANY

Vasant
3/2/82 et
Vasant D. Chapnerkar
Research & Development Manager
VDC/et

Atch:

cc: J. P. Gheur
R. V. Allen
M. Dybevick

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

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Kiln No. II

A. Raw Materials and Chemicals Used in your Process, if applicable.

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
CaCO ₃	dust		72,470 wet	

E. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 72,470 wet

2. Product Weight (lbs/hr): 24,160 max.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission T/Yr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	8.0	32.3		32.3	725	2920	
SO ₂		50.0		50.0		250	
NO _x		3.6		3.6		3.6	
CO		21.8		21.8		21.8	
VOC		11.0		11.0		11.0	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, 11 ⁵)
Fuller Baghouse	Particulate matter	0.02 grains/cu.ft.		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. - 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)

⁵If Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg./hr	max./hr	
≠ Fuel Oil	430 gal.	480 gal.	73
or Coal	2.41 tons	2.68 tons	73

*Units Natural Gas, MCMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr fuel oil/coal

Fuel Analysis:

Percent Sulfur: 2.0/0.8 Percent Ash: 0.03/6.0

Density: 8.15 lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: 8,405/13,500 BTU/lb 150,000/-- BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.
Ash to be deposited in mined out pits.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 70 ft. Stack Diameter: 4' 6" ft.

Gas Flow Rate: 46,800 ACFM Gas Exit Temperature: 299 °F.

Water Vapor Content: 12.3 % Velocity: 49.06 FPS

SECTION IV: INCINERATOR INFORMATION

entire section N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

BEST AVAILABLE COPY

Kiln No. 1

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
CaCO ₃	dust		49,980 wet	

- B. Process Rate, if applicable (See Section V, Item 1)
- Total Process Input Rate (lbs/hr): 49,980 wet
 - Product Weight (lbs/hr): 16,660 max.
- C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission T/Yr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
particulate Matter	5.59	22.5		22.5	500	2016	
SO ₂		35.0		35.0		160	
NO _x		2.7		2.7		2.7	
CO		15.0		15.0		15.0	
VOC		7.5		7.5		7.5	

Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
ethpuls Collector Model 288.4.10	Particulate matter	0.02 grains/cu.ft.		

See Section V, Item 2.

Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. - 0.1 pounds per million BTU at input)

Isolated from operating rate and applicable standard

Emission, if source operated without control (See Section V, Item 3)

Applicable

Attachment 8

INTEROFFICE MEMORANDUM

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

TO: Files-Dixie Lime and Stone Company (DL&S)
Affected Permits: AC 60-52317
AC 60-52586

FROM: Bruce Mitchell and Bill Thomas meeting with
Vasant Chapnerkar with DL&S

DATE: March 12, 1982

SUBJ: Emissions Calculations and Permit Conditions

The following table was calculated and prepared this day to express the applicant's potential to emit pollutants.

The following specific conditions shall be a part of the referenced permits:

1. Acceptance test within 45 days of first production of 90% CaO product.
2. Thirty (30) day notification of acceptance test to the district (within 15 days of first production of 90% CaO product).
3. Fuel accounting to start within 15 days of first production of 90% CaO product.
4. Acceptance tests to be run at 90-100% of rated capacity.
5. Construction permit may be amended to change fuel usage restriction if acceptance test data show significant differences from assumed SO₂ removal in process.

BM/bjm

Table 4
BEST AVAILABLE COPY
Dixie Lime and Stone Company

Facility Allowable Emissions

March 12, 1982

(TP4)

Source	PM		SO ₂		NO _x		CO		VOC	
	Coal	F.O.	Coal ¹	F.O. ²	Coal	F.O.	Coal	F.O.	Coal	F.O.
Lime Kiln No. 1 32,585 ACFM 8.33TPH; 200TPD	[22.54] 20.53 2.01 0.02grain/ACF; 5.59#/hr 7344 hr 720hr		20.65 7.81 1.85TPH; 332.7 GPH 13,586TPH; 239,544GPH		6.12 0.60		13.59 0.60		6.79 0.12	
Lime Kiln No. 2 46,800 ACFM 12.08TPH; 290TPD	[32.34] 29.45 2.89 0.02grain/ACF; 8.02#/hr 7344 hr 720hr		29.92 11.27 2.68TPH; 480 GPH 19,682TPH; 345,600GPH		8.87 0.870		19.68 0.86		9.84 0.17	
Limestone Dryer 36,500 ACFM 75TPH; 144,000TPH	7.68 Actual Data - 8.00#/hr 1920 hr.		57.22 2.2gal./ton → 316,800GPH		19.01		0.79		0.16	
Coal Grinding Sys. 7,500 ACFM	3.90 0.02grain/ACF; 1.29#/hr 6048 hr.									
'A' Screening Dust Collector 600 ACFM	0.40 0.02grain/ACF; 0.10#/hr 8064 hr.									
'B' Screening Dust Collector 600 ACFM	0.40 0.02grain/ACF; 0.10#/hr 8064 hr.									
Lime Kiln No. 2 Cooler 29,400 ACFM	20.32 0.02grain/ACF; 5.04#/hr 8064 hr.									
Lime Loadout Scavenger Sys. 6,500 ACFM	0.93 0.02grain/ACF; 1.11#/hr 1680 hr.									
Lime Crusher Handling Scavenger Sys. 6,500 ACFM	0.93 0.02grain/ACF; 1.11#/hr 1680 hr.									
Calcium Carbonate Process Scavenger Sys. 3,000 ACFM	0.49 0.02grain/ACF; 0.51#/hr 1920 hr.									
Calcium Carbonate Loadout Scavenger Sys. 3,000 ACFM	0.49 0.02grain/ACF; 0.51#/hr 1920 hr.									
Fugitive Dust Control Sys. 6,000 ACFM	4.15 0.02grain/ACF; 1.03#/hr 8064 hr.									
No. 1 Kiln Scavenger Sys. 3000 ACFM	2.06 0.02grain/ACF; 0.51#/hr 8064 hr.									
No. 2 Kiln Fine Coal Handling Sys. 600 ACFM	0.37 0.02grain/ACF; 0.10#/hr 7344 hr.									
No. 1 Kiln Fine Coal Handling Sys. 600 ACFM	0.37 0.02grain/ACF; 0.10#/hr 7344 hr.									
Total	1. 74.83 without No. 1 Kiln 2. 97.37		1. 98.41 without No. 1 Kiln 2. 126.87		1. 28.75 " 2. 35.47		1. 21.51 " 2. 35.70		1. 10.17 " 2. 17.08	

1 - Coal: Maximum Sulfur content not to exceed 0.8% by weight
2 - Fuel Oil: Lime kilns will use No. 6 with a maximum 2.0% Sulfur content by weight
Limestone dryer " No. 6 " " 2.2% " "

Attachment 9



DIXIE LIME AND STONE COMPANY

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(904) 793-2063 • TELEX: 056-4346

MS

SUBSIDIARY OF
AMCAR, INC.

March 15, 1982

DER

MAR 16 1982

BAQM

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Bruce:

As per our discussion with Mr. Bill Thomas and you, I have amended the permits to reflect our present situation. Copies of amended permits for Kiln No. 1 and 2 and limestone dryer are attached. Attached is also the chart which you and I developed for all other permits. Please amend all permits accordingly.

The time of operation is also noted on the chart and reflects only change from 10 hours/day to 8 hours/day for limestone dryer than what was submitted to you earlier in a letter from Mike Dybevick of E.S.E.

I appreciate your efforts in completing the requirements as soon as possible.

Sincerely yours,

DIXIE LIME & STONE COMPANY

Vasant

3/15/82

Vasant D. Chapnerkar
Research & Development Manager

VDC/jaf

cc: Jean-Paul Gheur
Randel V. Allen

Attch:

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)
BEST AVAILABLE COPY

A. Raw Materials and Chemicals Used in your Process, if applicable.

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Limestone	dust		176,000 (wet)	

B. Process Rate, if applicable: (See Section V, Item 1)

- Total Process Input Rate (lbs/hr): 176,000 (wet)
- Product Weight (lbs/hr): 150,000 (max)

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission T/yr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	8.0	7.68		7.68		385.0	
SO ₂		57.22		57.22		57.22	
NO _x		19.01		19.01		19.01	
CO		0.79		0.79		0.79	
VOC		0.16		0.16		0.16	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Zurn Multiclone dust collector	dust	85%	-100 mesh	
Zurn Venturi wet scrubber	dust	99%	-100 mesh	

see Section V, Item 2.

Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. **DER** 0.1 pounds per million BTU heat input)

calculated from operating rate and applicable standard

mission, if source operated without control (See Section V, Item 3)

Applicable

MAR 16 1982

BAQM

LIMESTONE DRYER
BEST AVAILABLE COPY

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
# 6 Fuel	150 gal.	165 gal.	25.08

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.2 Percent Ash: -
 Density: 8.21 lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: 18,514 BTU/lb 152,000 BTU/gal
 Other Fuel Contaminants (which may cause air pollution): -

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____
 G. Indicate liquid or solid wastes generated and method of disposal.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):
 Stack Height: 30 ft. Stack Diameter: 4 ft.
 Gas Flow Rate: 36,500 ACFM Gas Exit Temperature: 132 °F.
 Water Vapor Content: - % Velocity: 48.4 FPS

SECTION IV: INCINERATOR INFORMATION

N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____
 Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____
 Approximate Number of Hours of Operation per day _____ days/week **DER**
 Manufacturer _____
 Date Constructed _____ Model No. **MAR 16 1982**

BAQM

KILN NO. 1
BEST AVAILABLE COPY

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
#6 Fuel Oil	315 Gal.	333 Gal.	50
or Coal	1.76 tons	1.85 tons	50

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.0/0.8 Percent Ash: 0.03/6.0
 Density: 8.15 lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: 18405/13,500 BTU/lb 150,000/-- BTU/gal
 Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

Ash to be deposited in mined out pits.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 70 ft. Stack Diameter: 4' ft.
 Gas Flow Rate: 32,585 ACFM Gas Exit Temperature: 250 °F.
 Water Vapor Content: 10 % Velocity: 43.2 FPS

SECTION IV: INCINERATOR INFORMATION
N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week

Manufacturer _____

Date Constructed _____ Model No. _____

DER

MAR 16 1982

BAQM

KILN NO.1

SECTION V AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

BEST AVAILABLE COPY

A. Raw Materials and Chemicals Used in your Process, if applicable.

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
CaCO ₃	dust		49,980	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 49,980

2. Product Weight (lbs/hr): 16,660

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission T/yr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	5.59	22.54		22.54	500	2016	
SO ₂		28.46		28.46		245.3	
NO _x		6.72		6.72		6.72	
CO		14.19		14.19		14.19	
VOC		6.91		6.91		6.91	

Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Bethpuls Collector Model 288.4.10	Particulate Matter	0.02 grains/cu.ft.		

e Section V, Item 2.

ference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU at input)

culated from operating rate and applicable standard

ission, if source operated without control (See Section V, Item 3)

pplicable

DER

MAR 16 1982

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SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)
BEST AVAILABLE COPY

A. Raw Materials and Chemicals Used in your Process, if applicable.

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
CaCO ₃	dust		72,470	

B. Process Rate, if applicable: (See Section V, Item 1)

- Total Process Input Rate (lbs/hr): 72,470
- Product Weight (lbs/hr): 24,160 max.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission T/yr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	8.0	32.34		32.34	725	2920	
SO ₂		49.19		49.19		355.55	
NO _x		9.74		9.74		9.74	
CO		20.54		20.54		20.54	
VOC		10.01		10.01		10.01	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Fuller Baghouse	Particulate Matter	0.02 grains/cu.ft.		

See Section V, Item 2.

Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. - 0.1 pounds per million BTU heat input)

Calculated from operating rate and applicable standard

Emission, if source operated without control (See Section V, Item 3)

Applicable

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Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg./hr	max./hr	
#6 Fuel Oil	430 gal.	480 gal.	73
or Coal	2.41 tons	2.68 tons	73

*Units Natural Gas, MMCF/hr; Fuel Oil, barrels/hr; Coal, lbs/hr fuel oil/coal

Fuel Analysis:

Percent Sulfur: 2.0/0.8 Percent Ash: 0.03/6.0
 Density: 8.15 lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: 8,405/13,500 BTU/lb 150,000/-- BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

Ash to be deposited in mined out pits.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 70 ft. Stack Diameter: 4'6" ft.
 Gas Flow Rate: 46,800 ACFM Gas Exit Temperature: 299 °F.
 Water Vapor Content: 12.3 % Velocity: 49.06 FPS

SECTION IV: INCINERATOR INFORMATION

entire section N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

DER

MAR 16 1982

BAQM

Dixie Lime and Stone Company

Facility Allowable Emissions

(TPY)

March 12, 1982

Source	PM		SO ₂		NO _x		CO		VOC	
	Coal	F.O.	Coal ¹	F.O. ²	Coal	F.O.	Coal	F.O.	Coal	F.O.
Lime Kiln No. 1 32,585 ACFM 8.33TPH; 200TPD	20.53 0.02 grain/ACF; 5.59#/hr. 7344 hr.	2.01 720 hr.	20.65 1.85 TPH; 332.7 GPH 13,586TPY; 239,544 GPY	7.81	6.12	0.60	13.59	0.60	6.79	0.12
Lime Kiln No. 2 46,800 ACFM 12.08TPH; 200TPD	29.45 0.02 grain/ACF; 8.02#/hr. 7344 hr.	2.89 720 hr.	29.92 2.68 TPH; 480 GPH 19,682TPY; 345,600 GPY	11.27	2.87	0.870	19.68	0.86	9.84	0.17
Limestone Dryer 36,500 ACFM 75 TPH; 144,000TPY		7.68 Actual Data - 8.00#/hr. 1920 hr.	57.22 2.2 gal./ton → 316,800 GPY		19.01		0.79			0.16
Coal Grinding Sys. 7,500 ACFM	3.90 0.02 grain/ACF; 1.29#/hr. 6048 hr.									
'A' Screening Dust Collector 600 ACFM	0.40 0.02 grain/ACF; 0.10#/hr. 8064 hr.									
'B' Screening Dust Collector 600 ACFM	0.40 0.02 grain/ACF; 0.10#/hr. 8064 hr.									
Lime kiln No. 2 Cooler 29,400 ACFM	20.32 0.02 grain/ACF; 5.04#/hr. 8064 hr.									
Lime Loadout Scavenger Sys. 6,500 ACFM	0.93 0.02 grain/ACF; 1.11#/hr. 1680 hr.									
Lime Crusher Handling Scavenger Sys. 6,500 ACFM	0.93 0.02 grain/ACF; 1.11#/hr. 1680 hr.									
Calcium Carbonate Process Scavenger Sys. 3,000 ACFM	0.49 0.02 grain/ACF; 0.51#/hr. 1920 hr.									
Calcium Carbonate Loadout Scavenger Sys. 3,000 ACFM	0.49 0.02 grain/ACF; 0.51#/hr. 1920 hr.									
Fugitive Dust Control Sys. 6,000 ACFM	4.15 0.02 grain/ACF; 1.03#/hr. 8064 hr.									
No. 1 kiln Scavenger Sys. 3000 ACFM	2.06 0.02 grain/ACF; 0.51#/hr. 8064 hr.									
No. 2 kiln Fine Coal Handling Sys. 600 ACFM	0.37 0.02 grain/ACF; 0.10#/hr. 7344 hr.									
No. 1 kiln Fine Coal Handling Sys. 600 ACFM	0.37 0.02 grain/ACF; 0.10#/hr. 7344 hr.									
Total	1,74.83 without No. 1 kiln 2,97.37		1,98.41 without No. 1 kiln 2,126.87		1,28.75 2,35.47		1,21.51 2,35.70		1,10.17 2,17.08	

DER
MAR 16 1982
BAQM

1-Coal: Maximum Sulfur content not to exceed 0.8% by weight
2-Fuel Oil: Lime kilns will use No. 6 with a maximum 2.0% Sulfur content by weight
Limestone dryer " No. 6 " " 2.2%



DIXIE LIME AND STONE COMPANY

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AC 60-52317

MS
SUBSIDIARY OF
AMCAR, INC.

Rec'd 3/5/82
@ PM
(9:03)

March 5, 1982

DER

MAR 8 1982

BAQM

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Bruce:

I am attaching the calculations made to derive the amounts of pollutants specified in the permit applications. Please use the revised numbers and discard the old ones sent with the original application for No. 1 and No. 2 kilns. As you mentioned, you will make the corrections for other permits based on letter from ESE. All these number for particulate were based on ACFM values as written in the original permit applications multiplied by 0.02 grains/cu.ft. and then converted to tons/year.

I am also attaching the guarantee I received from baghouse manufacturer for No. 1 kiln.

I am also attaching a copy of letter dated March 2, with the appropriate correction made, so discard the earlier copy of that letter.

Yours sincerely,

DIXIE LIME & STONE COMPANY

Vasant
3/5/82

Vasant D. Chapnerkar
Research & Development Mgr.

VDC/jaf

Enc: revised calculations
guarantee
copy of March 2 letter w/corrections

Kiln No. 1 :

Basis : Production - 190 t/day ave. Product
200 t/day max. Product
Operate for 24 hrs/day, 7 days/week, 48 weeks.
= 8064 hours.

$$200 \text{ tons/day} = \frac{200}{24} = 8.33 \text{ tph} = \underline{16660 \text{ \#/hr}}$$

It takes 3 tons of feed to make 1 ton of product
∴ Process input rate = 3 (16,660)
= 49,980 \#/hr

3 tons are required because of loss of fines in wet screening,
loss of moisture and loss of CO₂.

Particulate : - 32,585 ACFM with 0.02 grains/ft³

$$32,585 \frac{\text{ft}^3}{\text{min}} \times \frac{0.02 \text{ grains}}{\text{ft}^3} \times \frac{\#}{1000 \text{ grains}} \times 60 \text{ min} = \frac{5.586 \Rightarrow 5.59}{\text{hr}} \text{ \#/hr}$$

$$\text{Coal: } 5.59 \frac{\#}{\text{hr}} \times 8064 \text{ hrs} \times \frac{1 \text{ ton}}{2000 \#} = \frac{(22.5389)}{22.54 \text{ tons/year}}$$

$$\text{Oil: } 5.59 \text{ \#/hr} \times \frac{(24 \times 135)}{3240} \times \frac{1 \text{ Ton}}{2000 \#} = \frac{9.06 \text{ TPY}}{(9.0558)}$$

BTU consumption

$$8.33 \frac{\text{ton}}{\text{hr}} \times \frac{6 \times 10^6 \text{ BTU}}{\text{ton}} = \underline{50 \times 10^6 \text{ BTU/hr}}$$

$$50 \times 10^6 \frac{\text{BTU}}{\text{hr}} \times \frac{1 \text{ gal}}{150,000 \text{ BTU}} = \underline{333 \text{ gal/hr of oil}}$$

150,247 = 332.67 ⇒ 332.7 GPH

$$50 \times 10^6 \frac{\text{BTU}}{\text{hr}} \times \frac{1 \#}{13,500 \text{ BTU}} \times \frac{1 \text{ ton}}{2000 \#} = \underline{1.85 \text{ tons/hr coal}}$$

13,524

~~1.849~~ Ton/hr ⇒ 1.85 Ton/hr

No. 1 Kiln

Using Oil only as fuel → for 135 days/year

Max. 2% S oil to be used = $(333.7)(24)(135)$

= 1,079,000 gals

$332.7 \times 3240 = 1,077,948.0$

This will contain stoichiometric amount of SO₂ and only 20% will be emitted.

Stoichiometric amt of S is $333 \times 0.02 \times 8.15 \times 0.2 = 10.85 \text{ \#/hr}$

$332.7 \text{ gal/hr} \times 0.02 \text{ \#S/\#oil} \times 8.15 \text{ \#oil/Gal} \times \frac{2 \text{ \#SO}_2/\text{ \#S} \times 0.2 \text{ SO}_2 \text{ out}}{\text{ \#SO}_2 \text{ in}} = 21.69 \text{ \#SO}_2/\text{hr}$

∴ amt of SO₂ = $\frac{2(10.85)(24)(135)}{2000}$

= 35 tons/year

$\frac{21.69 \times 3240}{2000} = 35.138$
→ 35.14 TPY

$21.69 \times 720 + 2000 = 7.808$
⇒ 7.81

amt of NO_x = $(200) \frac{\text{ton}}{\text{day}} \times 135 \text{ day} \times (0.2) = 0.60$

$200 \text{ Ton/day} \times 135 \text{ day/yr} \times 0.2 \text{ \#/Ton} \times \frac{1 \text{ Ton}}{2000 \text{ \#}} = 2.7 \text{ TPY}$

= 2.7 tons/year

$\frac{239,544}{6}$

= 0.5989 ⇒ 0.60

amt CO

= $\frac{1,079 \times 10^6 \text{ gal} \times 5 \text{ \#} \times \text{ton}}{10^3 \text{ gal} \times 2000 \text{ \#}} = 2.7 \text{ tons/year}$

$\frac{2,692}{6}$

= 2.7 tons/year

amt VOC

= $1,079 \times 10^6 \text{ gal} \times \frac{1 \text{ \#}}{10^3} \times \frac{\text{ton}}{2000} = 0.5 \text{ tons/year}$

= 0.1198 ⇒ 0.12

$1,077,948.0 \text{ gal/yr} \times 1 \text{ \#} / 10^3 \text{ gal} \times \frac{1 \text{ Ton}}{2000 \text{ \#}} = 0.539 \text{ TPY}$

⇒ 0.54 TPY

$332.7 \times 720 = 239,544 \text{ gpy}$

Using coal only as fuel for 8064 hours
(Either coal or oil will be used)

$$\begin{aligned} \text{Coal used/year} &= (1.85)(8064) \\ &= 14,918 \text{ TPY} \\ &\approx 15,000 \text{ tons/year} \end{aligned}$$

~~14,918 TPY~~
~~15,000 TPY~~

13,586 TPY

$$14,918 \text{ TPY} \times [0.8 \times 38] \times 0.10 \times 1/2000 = [22.68] = 722.7 \text{ TPY}$$

$$\text{SO}_2 \text{ in coal} = \frac{(15,000)(0.8)}{1000} \times 0.2 = 24 \text{ ton/year}$$

$$\begin{aligned} \text{NO}_x \text{ in coal} &= 12.7 \text{ ton/year same as for oil} \\ &= \frac{200 \times 306 \times 0.2}{2000} = 6.12 \end{aligned}$$

$$\begin{aligned} \text{CO in coal} &= \frac{15,000 \times 2}{2000} = 15 \text{ ton/year} \\ &13,586 \Rightarrow 13.59 \end{aligned}$$

$$14,918 \text{ TPY} \times \frac{1 \text{ ton}}{2000 \text{ TPY}} = 7.459 \text{ TPY}$$

$$\begin{aligned} \text{VOC in coal} &= \frac{15,000 \times 1}{1000 \div 2000} = 7.5 \text{ ton/year} = 6.793 \\ &13,586 \text{ Ton} \end{aligned}$$

$$14,918 \text{ TPY} \times \frac{1 \#}{\text{Ton coal burned}} \times \frac{1 \text{ ton}}{2000 \#} = 7.459 \text{ TPY} \Rightarrow 7.16 \text{ TPY}$$

$$480 \times 0.02 \times 8.15 \div 2 \times 0.2 \text{ (potential out)} = 31.296 \Rightarrow 31.30$$

$$\frac{720}{2000} = 0.36$$

$$11.268 \Rightarrow 11.27$$

10.875 = 0.1653 # SO₂/hr
= 0.6359

3.85

1.85 x 7344 =

For No. 2 Kiln

Since maximum production is 1.45 times for Kiln No. 1 all numbers except for particulate matter were multiplied by 1.45 to give the numbers written in the application.

$$\begin{aligned} \text{Particulate matter}_{\text{coal}} &= \frac{46,800 \text{ ft}^3}{\text{min}} \times \frac{0.02}{\text{ft}^3} \times \frac{1}{7000} \times \frac{60 \text{ min}}{\text{hr}} \\ &= \underline{8.0 \text{ \#/hr}} && = 8.02 \\ \text{tons/year} &= \frac{(8.0)(8064)}{2000} && = \frac{8.02 \text{ \#/hr} \times 8064}{2000} = 32.337 \Rightarrow 32.34 \text{ TPY} \\ &= \underline{\underline{32.2 \text{ tons/year}}} \end{aligned}$$

$$\begin{aligned} \text{SO}_2 &= 19,682 \times [0.8 \times 38] \times 0.1 \div 2000 = 29.9166 \Rightarrow 29.92 \\ \text{PM}_{\text{oil}} &= 8.0 \text{ \#/hr} \times 3240 \text{ hr/yr} \times \frac{1 \text{ ton}}{2000 \text{ \#}} = 12.99 \text{ TPY} \end{aligned}$$

2.68 TPY x 7304 = 19,682 TPY

~~$$\begin{aligned} 290 \text{ T/day} &= 290/24 = 12.08 \text{ T/hr} = 24,160 \text{ \#/hr} \\ \text{Process Input} &= 72,480 \text{ \#/hr} \end{aligned}$$~~

~~$$\begin{aligned} 73 \times 10^6 \text{ Btu/hr} \times \frac{1 \text{ gal}}{150,297 \text{ Btu}} &= 485.7 \text{ gal/hr oil} \\ 73 \times 10^6 \text{ Btu/hr} \times \frac{1 \text{ \#}}{13,524 \text{ Btu}} \times \frac{1 \text{ ton}}{2000 \text{ \#}} &= 2.69 \text{ \#/hr coal} \approx 2.70 \text{ \#/hr} \end{aligned}$$~~

$$\begin{aligned} \text{CO} &= 19,682 \times \frac{2}{2000} = 19.682 \text{ TPY} \\ &= 345,600 \times \frac{5 \text{ \#}}{1000} \div 2000 = 0.864 \end{aligned}$$

$$\begin{aligned} \text{VOC} &= 19,682 \times \frac{1}{2000} = 9.841 \\ &= 345,600 \times \frac{1}{10^3} \div 2000 = 0.1728 \Rightarrow 0.17 \end{aligned}$$

For Limostone Dryer

The particulate matter reduction is based on test data which has been submitted -

Previous data — 2.13 #/hr

10.1 #/hr

36.1 #/hr — This test was not

representative because we had temporary problem with the scrubber which was corrected right away.

So we have used 8.0 #/hr as an allowable emission. I am confident based on VE we have done that we can meet this.

We use only oil in this system -

Based 144,000 gal @ 75 TPH
70,000 ton/year input to dryer

Oil used is 11 gal/ton

Yearly usage = $\frac{11}{2.2} \times 144,000 = 77,000 \text{ gal}^s$

Particulate = $8.0 \frac{\#}{\text{hr}} \times 10 \times 5 \times 48 \times \frac{1}{2000} = 9.6 \text{ tons/year}$

$9.6 \text{ tons/year} \times 7.68 \Rightarrow 7.7 \text{ TPY}$
 $316,800 \times 0.022 \times 8.21 \times 8.15 \times 2 \times 10^{-5} \times 10^3 = 12.55 \Rightarrow 12.6 \text{ TPY}$
#6 F.O. $77,000 \text{ gal/yr} \times 0.022 \text{ #/oil} \times 8.21 \times 8.15 \times 2 \times 10^{-5} \times 10^3 = 12.55 \Rightarrow 12.6 \text{ TPY}$

#6 F.O.
9 = 8.21
152,000
@ 2.2% S

$\text{SO}_2 = 77,000 \times 8.15 \times 0.02 = 12.6 \approx 13.0 \text{ tons/year}$
#5 F.O. $77,000 \text{ gal/yr} \times 0.02 \text{ #/oil} \times 7.48 \times 2 \times 10^{-5} \times 10^3 = 5.76 \text{ TPY} \Rightarrow 5.76 \text{ TPY}$

$\text{NO}_x = 77,000 \times 60 \times \frac{1}{2000} = 4.75 \text{ TPY}$
 $316,800 \times 120 \times 10^3 \times \frac{1}{2000} = 19,008 \Rightarrow 19.01$

$\text{CO} = 77,000 \times 5 \times \frac{1}{2000} = 0.1925 = 0.2 \text{ tons/year}$
 $158,400 \times 0.006 \times 10^3 \times \frac{1}{2000} = 0.792 \Rightarrow 0.79$

$\text{VOC} = 77,000 \times 1 \times \frac{1}{2000} = 0.0385 = 0.04 \text{ tons/year}$
 $158,400 \times 0.002 \times 10^3 \times \frac{1}{2000} = 0.158 \Rightarrow 0.16$

Lodge-Cottrell

DRESSER INDUSTRIES, INC.

601 jefferson • box 6504 • houston, texas 77005 • 713 / 972-6011 • telex 762-756

March 2, 1982

RECEIVED
MAR 5 1982

Dixie Lime and Stone Company
P. O. Box 217
Sumterville, Florida 33585

Attention: Mr. L. H. Baldauf

Gentlemen:

Per our telephone conversation on February 26, 1982, the following statement is Lodge-Cottrell's Particulate Emission Guarantee for the BETHPULS collector purchased by Dixie Lime and Stone Company.

PARTICULATE EMISSIONS

Provided the fabric filter is operated in accordance with Lodge-Cottrell's Operating and Maintenance Manual, Lodge-Cottrell guarantees that when the fabric filter is operating at a maximum gas volume of 32,585 ACFM, at a maximum gas temperature of 500°F, the outlet particulate emission shall not be greater than 0.02 gr/ACF for an inlet dust loading of 1.80 gr/ACF.

Should, under any test conditions, an emission of 0.02 gr/ACF or less be measured, the fabric filter shall be deemed to satisfy the particulate emissions guarantee.

The operating conditions during the specific tests, if within the specified range, shall constitute the performance guarantee conditions for the respective tests.

Satisfactory completion of such testing program, demonstrating the attainment of all performance guarantees, shall terminate the obligation of Seller under the performance guarantee. Should, due to no fault of Seller, the said performance testing program not be conducted on or before January 1, 1983, then Seller's obligations under the performance guarantee shall be deemed to have been fulfilled upon said date even though no performance testing program has been made.

Dixie Lime and Stone Company

March 2, 1982

Page 2

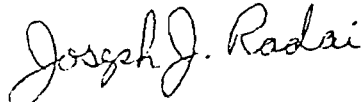
Should the fabric filter fail to meet the above performance guarantee under conditions specified in the tests, Lodge-Cottrell shall be given the necessary time to investigate the cause and to make adjustments without any penalty to Lodge-Cottrell. If the adjustments do not result in the performance guarantee being achieved, Lodge-Cottrell shall at its own expense and option make such modifications, further adjustments and/or additions as required to achieve the performance guarantee. Lodge-Cottrell's obligation to make whatever modifications, adjustments or additions required to correct the performance guarantee deficiencies shall be Lodge-Cottrell's sole liability and the Owner's sole remedy for Lodge-Cottrell's failure to meet the performance guarantee. The performance guarantee for the fabric filter shall be met, satisfied and fulfilled when the fabric filter meets the guaranteed performance under the specified test conditions.

Should at the time of performance testing, it be determined that the fabric filter operating performance can be improved by any changes to the process operating practices, such changes shall be implemented when requested by Seller; provided, however, when incorporated they reflect no cost or disadvantage to the Purchaser as judged by him.

I trust the above statement meets your requirements.

Yours very truly,

LODGE-COTTRELL OPERATION
DRESSER INDUSTRIES, INC.



Joseph J. Radai
Senior Application Engineer
Fabric Filters

JJR/mn



POST OFFICE BOX 27 - 15 - GAITHERVILLE, FLORIDA 32340 - U.S.A.
TELEPHONE - TELETYPE

MS
SUBSIDIARY OF
AMCOR, INC.

March 2, 1982

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Bruce:

Attached are corrected pages 3 and 4 of the permit application AC-60-52586 covering Kiln #2 for amending this permit.

Attached also is correction to page 3 of permit application AC-60-52317 forwarded to you with my letter of March 1, 1982. Please replace page 3 received with this correction.

Thank you for your cooperation in handling this matter and hope this completes the information you need.

Sincerely yours,

DIXIE LIME AND STONE COMPANY

Vasant
3/2/82 et
Vasant D. Chapnerkar
Research & Development Manager
VDC/et

Attch:

cc: J. P. Gheur
R. V. Allen
M. Dybevick

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

BEST AVAILABLE COPY

Kiln No. II

A Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
CaCO ₃	dust		72,470 wet	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 72,470 wet

2. Product Weight (lbs/hr): 24,160 max.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission T/Yr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	8.0	32.3		32.3	725	2920	
SO ₂		50.0		50.0		250	
NO _x		3.6		3.6		3.6	
CO		21.8		21.8		21.8	
VOC		11.0		11.0		11.0	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Fuller Baghouse	Particulate matter	0.02 grains/cu.ft.		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. - 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)

⁵If Applicable

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

BEST AVAILABLE COPY

Kiln No. 1

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	S. Wt		
CaCO ₃	dust		49,980 wet	

B. Process Rate, if applicable (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 49,980 wet

2. Product Weight (lbs/hr): 16,660 max.

C. Airborne Contaminants Emitted.

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission T/Yr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
particulate matter	5.59	22.5		22.5	500	2016	
SO ₂		35.0		35.0		160	
NO _x		2.7		2.7		2.7	
CO		15.0		15.0		15.0	
VOC		7.5		7.5		7.5	

Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, 11 ⁵)
athpuls Collector Model 288.4.10	Particulate matter	0.02 grains/cu.ft.		

Section V, Item 2.

reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. - 0.1 pounds per million BTU (input))

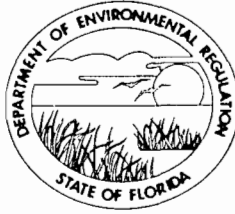
related from operating rate and applicable standard

ission, if source operated without control (See Section V, Item 3)

pplicable

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

March 5, 1982

Dr. Vasant Chapnerkar
Research and Development Manager
c/o Dixie Lime and Stone Company
P. O. Drawer 217
Sumterville, Florida 33585

Re: Status of Applications to Construct Air Pollution
Sources: AC 60-52317
AC 60-52586
AC 60-52589
AC 60-52787
AC 60-52583

Dear Dr. Chapnerkar:

The Department has reviewed the above referenced applications and recent submittals. However, each new submittal of material has changed the applications substantially. Therefore, the Department is deeming the above referenced applications to be incomplete in accordance with Chapter 17-4.07(2)., Florida Administrative Code. Further, the following conditions shall apply:

- 1) With each submittal of additional material that substantially changes the application(s), that submittal shall be considered as a new application in accordance with Florida Statutes, and
- 2) the 90-day permitting clock, which includes the 30-day completeness review and the 60-day period for issuing or denying permits, shall then begin.

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

Sincerely,

for *Michael Thomas*
Clair Fancy
Deputy Bureau Chief
Bureau of Air Quality Management

CF:ht

cc: Martha Hall, General Counsel
Dan Williams, South West District - Tampa
Michael H. DuBerich - ESE
Protecting Florida and Your Quality of Life



DIXIE LIME AND STONE COMPANY

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SUBSIDIARY OF
AMCAR, INC.

DER
MAR 5 1982
BAQM

March 2, 1982

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Bruce:

Attached are corrected pages 3 and 4 of the permit application AC-60-52586 covering Kiln #2 for amending this permit.

Attached also is correction to page 3 of permit application AC-60-52317 forwarded to you with my letter of March 1, 1982. Please replace page 3 received with this correction.

Thank you for your cooperation in handling this matter and hope this completes the information you need.

Sincerely yours,

DIXIE LIME AND STONE COMPANY

Vasant
3/2/82 et
Vasant D. Chapnerkar
Research & Development Manager
VDC/et

Attch:

cc: J. P. Gheur
R. V. Allen
M. Dybevick

• SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

Kiln No. II

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
CaCO ₃	dust		72,470 wet	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 72,470 wet

2. Product Weight (lbs/hr): 24,160 max.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	8.0	32.3		32.3	725	2920	
SO ₂		50.0		50.0		250	
NO _x		3.6		3.6		3.6	
CO		21.8		21.8		21.8	
VOC		11.0		11.0		11.0	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Fuller Baghouse	Particulate matter	0.02 grains/cu.ft.		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

E. Fuels

Kiln #II

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
# Fuel Oil	430 gal.	480 gal.	73
<u>or</u> Coal	2.41 tons	2.68 tons	73

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr fuel oil/coal

Fuel Analysis:

Percent Sulfur: 2.0/0.8 Percent Ash: 0.03/6.0
 Density: 8.15 lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: 18,405/13,500 BTU/lb 150,000/-- BTU/gal
 Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating: Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.
Ash to be deposited in mined out pits.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 70 ft. Stack Diameter: 4'6" ft.
 Gas Flow Rate: 46,800 ACFM Gas Exit Temperature: 299 °F.
 Water Vapor Content: 12.3 % Velocity: 49.06 FPS

SECTION IV: INCINERATOR INFORMATION

entire section N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

CORRECTION - Attach to letter dated March 1, 1982

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

Kiln No. I

A. Raw Materials and Chemicals Used in your Process, if applicable.

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
CaCO ₃	dust		49,980 wet	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 49,980 wet
2. Product Weight (lbs/hr): 16,660 max.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	5.59	22.5		22.5	500	2016	
SO ₂		32.0		32.0		160	
NO _x		2.5		2.5		2.5	
CO		15.0		15.0		15.0	
VOC		7.5		7.5		7.5	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Bethpuls Collector Model 288.4.10	Particulate matter	0.02 grains/cu.ft.		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. - 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)

⁵If Applicable



DIXIE LIME AND STONE COMPANY

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MS
SUBSIDIARY OF
AMCAR, INC.

March 1, 1982

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

DER

MAR 2 1982

BAQM

Dear Bruce:

I have redone the pages 3 and 4 of the permit application AC-60-52317 and have attached for amending this permit. Also please change 50 weeks to 48 weeks on page 2, and Section D page 2 from 1976 to 1977.

I have also attached Tables 3 and 4 as correction for the letter sent by ESE to you (Ref. Feb. 24, 1982, ESE No. 82-111-100). The revisions made in these Tables reflect the limits we are setting for use of oil or coal in the kilns. If we use only oil in the kilns then we can operate only 135 days out of the year but if we use coal only, then we can operate 336 days as written in the permit application. In case we use both, coal and oil, then we will restrict our usage in such a way that on an individual basis the total emission of particulate, SO₂, NO_x, CO, and VOC, will be less than 100 tons/year based on the emission concentration used in the permit application.

I do appreciate you working closely with us and hope this completes the information you need.

Sincerely yours,

DIXIE LIME AND STONE COMPANY

Vasant
3/1/82

Vasant D. Chapnerkar
Research & Development Manager
VDC/et

Attch:

cc: J. P. Gheur
R. V. Allen
M. Dybevick

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		
CaCO ₃	dust		49,980 wet	

B. Process Rate, if applicable: (See Section V, Item 1)

- Total Process Input Rate (lbs/hr): 49,980 wet
- Product Weight (lbs/hr): 16,660 max.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate Matter	8.0	32.3		32.3	500	2016	
SO ₂		32.0		32.0		160	
NO _x		2.5		2.5		2.5	
CO		15.0		15.0		15.0	
VOC		7.5		7.5		7.5	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Bethpuls Collector Model 288.4.10	Particulate matter	0.02 grams/cu.ft.		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

DER

MAR 2 1982

BAQM

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
#Fuel Oil	315 gal	333 gal	50
or coal	1.76 tons	1.85 tons	50

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr fuel oil/coal

Fuel Analysis:

Percent Sulfur: 2.0/0.8 Percent Ash: 0.03/6.0
 Density: 8.15 lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: 18,435/13,500 BTU/lb 150,000/-- BTU/gal
 Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

Ash to be deposited in mined out pits.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 70 ft. Stack Diameter: 4' ft.
 Gas Flow Rate: 32,585 ACFM Gas Exit Temperature: 250 °F.
 Water Vapor Content: 10 % Velocity: 43.2 FPS

SECTION IV: INCINERATOR INFORMATION

entire section N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. DER

Table 3. Annual Fuel Consumption, Dixie Lime and Stone

Source	Product Rate	Fuel Requirements	Annual Fuel Consumption*	
			Oil (2% Sulphur)	Coal
Kiln No. 1	190 tons/day (avg) 200 tons/day (max)	6.0×10^6 Btu/ton	1,078,000 gal. (135 days)	15,000 tons (336 days)
Kiln No. 2	260 tons/day (avg) 290 tons/day (max)	6.0×10^6 Btu/ton	1,563,000 gal. (135 days)	21,750 tons (336 days)
Limestone Dryer	70,000 (tons/year)	1.1 gal fuel oil/ton	77,000 gal (240 days)	—
Total Oil Burned in Kiln:		2,641,000 gal oil or 36,750 tons coal		
Total Oil Burned in Dryer:		77,000 gal		
Total Coal Burned:				
<u>Fuel Characteristics:</u>				
Oil (2 percent sulfur):		150,300 Btu/gal; 8.15 lb/gal		
Coal (0.8 percent sulfur):		13,500 Btu/lb		

* Kiln fuel consumption based on schedule in Table 2.

Source: Dixie Lime and Stone, 1982.

DER
MAR 2 1982
BAQM

Table 4. Maximum Annual Emissions of Combustion Products, Dixie Lime and Stone

Fuel*	Annual Emissions (in tons)							
	SO ₂		NO _x		CO		VOC	
	Coal	2% S.Oil	Coal	2% S. oil	Coal	Oil	Coal	Oil
Kiln No. 1	24	35	-	2.5	15.0	2.5	7.5	0.5
Kiln No. 2	52	50	-	3.6	21.8	3.8	11	0.8
Dryer (Oil)	13	13	2.3	2.3	0.2	0.2	0.04	0.04
Total	89	98	2.3	8.4	37.0	6.5	18.5	1.3

Bases:

SO₂: Dryer from stoichiometric calculations.
Kiln from AP-42 Table 8.15-1 which estimates 20 percent of stoichiometric emissions for high sulfur fuel (oil) and 10 percent of stoichiometric emissions for low sulfur fuel (coal) when secondary control devices other than scrubbers are employed.

NO_x: Dryer from AP-42 Table 1.3-1 which gives 60 lb/10³ gal.
Kiln from AP-42 Table 8.15-1 which gives 0.2 lb/ton lime produced (maximum lime production = (200 + 290) x 7 x 48 = 164,640 tons/year).

CO: Coal from AP-42 Table 1.1-2 which gives 2 lb/ton coal burned.
Oil from AP-42 Table 1.3-1 which gives 5 lb/10³ gal.

VOC: Coal from AP-42 Table 1.1-2 which gives 1 lb/ton coal burned.
Oil from AP-42 Table 1.3-1 which gives 1 lb/10³ gal.

* Refer to Table 3.

Sources: ESE, 1982.
Compilation of Air Pollutant Emission Factors, 3rd ed., AP-42.
U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, 1977.

DER

MAR 2 1982

BAQM



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

February 26, 1982

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, FL 32301

DER
MAR 2 1982
BAQM

Dear Bruce:

I have already sent a copy of a letter to Mr. Clair Fancy on (D-12) AC 60-49009 (Coal Grinding System).

I am attaching here the following documents for your information:

- 1) Stack test data on D-1, D-2, and D-5, D-11.
- 2) A revised flow sheet for D-11, No. 1 Kiln.
- 3) Copies of manufacturer's guarantees on baghouse discharge and efficiency.
- 4) Copy of coal data is attached.
- 5) Copy of fuel oil with 2% sulfur will be sent to you as soon as we obtain recent data.

Sincerely,

DIXIE LIME & STONE COMPANY

V. D. Chapnerkar
2/26/82

Vasant D. Chapnerkar
Research & Development Mgr.

VDC/jaf

Encl:



DIXIE LIME AND STONE COMPANY
 POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
 (904)793-2063 • TELEX:056-4346

MS
 SUBSIDIARY OF
 AMCAR, INC.

February 26, 1982

*Bill
 Bruce*

Mr. Dan Williams
 Department Of Environmental Regulations
 601 Highway 301 North
 Tampa, FL 33610

DER
 MAR 1 1982
 BAQM

*Print 3/2/82
 @ 9:05 AM*

Dear Dan:

Reference: Ac 60-49009

We are in receipt of the above mentioned construction permit and would like to amend the allowable emission based on Baghouse Manufacturers guarantee of 0.02 grains/cu. ft. and 6400 ACFM and operating this system for 6048 hours/year giving a total emission of 3.9 tons/year. This emission is different from 40.87 tons per year allowed by the process weight table for 8400 hours of operation.

*Should be
 at std.
 conditions*

The manufacturers guarantee was attached to the original application and the flow rates should be changed from 7500 ACFM at 90 degrees Farenheit to 6400 ACFM at 200 degrees Farenheit.

As regards the other permits, we have sent a letter to Bruce Mitchell in your Tallahassee office to amend all the existing permits and new permit applications. This letter was written by Mike Dyberick of ESE dated February 24, 1982, ESE No. 82-111-100 of Environmental Science and Engineering Inc., Gainesville, Florida.

Sincerely,

DIXIE LIME & STONE COMPANY

Vasant
 2/26/82

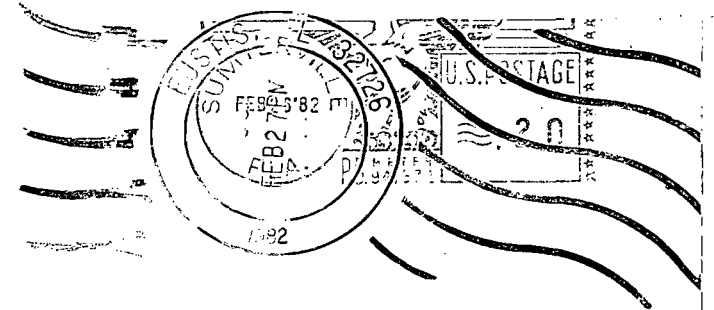
Vasant D. Chapnerkar
 Research & Development Mgr.

VDC/jaf

cc: Claire Fancy
 Deputy Director
 DER/BAQM
 Twin Towers Office Bldg.
 2600 Blair Stone Road
 Tallahassee, FL 32301



DIXIE LIME AND STONE COMPANY
POST OFFICE DRAWER 217
SUMTERVILLE, FLORIDA 33585



Mr. Claire Fancy
Deputy Director
DER/BAQM
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 32301

DER

MAR 2 1982

BAQM

TABLE I
EMISSION SUMMARY

Emissions (lbs.hr)

<u>Date</u>	<u>Run No.</u>	<u>Prefilter</u>	<u>Filter</u>	<u>Total</u>	<u>Average</u>	<u>Allowable</u>
1/28/76	1	4.22	5.37	9.59		20.54
1/29/76	2	1.16	1.09	2.25	4.71	20.54
1/29/76	3	1.45	0.83	2.28		20.54

NO 1 Kiln (D-11)
1-29-76

TABLE I
EMISSION SUMMARY

<u>Date</u>	<u>Run No.</u>	<u>Emissions (lbs/hr)</u>				<u>Allowable</u>
		<u>Prefilter</u>	<u>Filter</u>	<u>Total</u>	<u>Average</u>	
2-2-76	1	.464	.339	.803		20.54
2-2-76	2	.719	.483	1.202	1.022	20.54
2-2-76	3	.638	.422	1.060		20.54

No 1 Kiln (D-11)

2-2-76

TABLE 1
EMISSION SUMMARY

Date	Run Number	Emission (lbs/hour)	Volumetric Flow Rate S.C.F.M.D.	% Isokinetic
3/30/77	1	4.06	27973	101
3/30/77	2	4.51	28619	103.7
3/30/77	3	2.03	31041	105.6
	Mean	3.53	29211	---

3

$$\text{Allowable Emission} = 3.59 \left(\frac{360}{24} \right)^{0.62} = 19.24 \text{ lbs/hour}$$

No. 1 Kiln (D-11)

12/28/78

SAMPLE RUN #	STACK AREA (ft ²)	STACK TEMP (°F)	STACK GAS VELOCITY (fps)	ACTUAL CFM	CORR. CFH (DRY GAS)	% MOISTURE	EMISSIONS RESULTS LBS/HR		% ISOKINETIC
							ACTUAL	ALLOWED	
1	12.4358	252.8	42.31	31,569	1,380,184	1.9	4.53	16.28	96.9
2	12.4358	248.6	35.45	30,861	1,354,546	1.9	4.06	16.28	96.3
3	12.4358	257.8	42.10	31.413	1,363,721	1.8	3.99	16.28	96.7
AVG.	12.4358	253.1	39.95	31,281	1,366,150	1.87	<u>4.19</u>	16.28	96.6

No. 2 KILN - COOLER (D-5)

No. 2 Kiln cooler Baghouse

Table 1. Emission Summary, Unit 3

Source	Date	Time	Number	lb/hr	Volumetric Flow		% H ₂ O	Temp (°F)
					ACFM	SCFMD		
Recuperator (D-5)	2-5-80	1305 - 1413	1	0.09	31754	24195	1.2	236
		1505 - 1610	2	0.19	30299	22820	1.5	242
		1655 - 1800	3	0.19	31141	23518	1.1	243
		Mean		<u>0.16</u>	31064	23511	1.3	240
No. 2 Kiln (D-1)	3-14-80	1045 - 1148	1	5.65	38560	27313	7.3	240
		1255 - 1409	2	2.85	39740	26724	11.1	247
		1445 - 1559	3	2.77	39449	26641	10.7	247
		Mean		<u>3.76</u>	39250	26893	9.7	244

$$\text{Allowable Recuperator Emission} = 3.59(28.94)^{0.62} = 28.92 \text{ lb/hr}$$

$$\text{Allowable Kiln Emission} = 3.59(27.30)^{0.62} = 27.89 \text{ lb/hr}$$

Table 1. Emission Summary: No. 2 Cooler and No. 2 Kiln Exhaust Baghouse Stacks, March 10 and 11, 1981

Source Tested	Run No.	Date (1981)	Time (Start-Finish)	Volumetric Flow Rate		Stack Temp. (%)	O (%)	H ₂ O (%)	Isokinetic (%)	Emission Rate	
				ACFM	SCFM					Actual	Allowable
Cooler	1	3-10	1020-1125	29,700	23,200	207	21	1.85	105.3	2.40	29.71
	(D-5) 2	3-10	1150-1252	29,400	22,600	217	21	1.97	101.3	4.08	29.71
	3	3-10	1306-1410	29,000	22,400	214	21	2.06	100.9	2.31	29.71
	Average			29,400	22,700	213	21	1.96	102.5	2.93	29.71
Kiln Exhaust	1	3-11	0856-0958	46,900	29,000	299	13.0	11.7	107.7	4.65	27.67
	(D-1) 2	3-11	1016-1118	47,000	28,700	301	12.0	12.6	99.7	5.18	27.67
	3	3-11	1134-1235	46,400	28,400	298	10.9	12.6	102.4	5.82	27.67
	Average			46,800	28,700	299	12.0	12.3	103.3	5.21	27.67

Source: ESE, 1981.

Table 1. Summary and Discussion of Results

Date	Run Number	Time	Emission (lbs/hr)	Volumetric Flow		Percent H ₂ O	Stack Temperature ° F
				ACFM	SCFMD		
10/3/79	1	1225-1444	2.43	50864	42065	14.9	129.5
10/3/79	2	1525-1708	1.78	53968	43445	15.2	130.2
10/3/79	3	1738-1822	2.17	53889	43338	12.0	121.5
10/3/79	Mean	---	2.13	52907	42949	14.0	127.0

Allowable Emission: $E = 17.31 (100)^{0.16} = 36.17 \text{ lb/hr}$

LIMESTONE DRYER (D-2)

Table 1. Emission Summary

Date	Run Number	Time	Volumetric Flow Rate		Percent H ₂ O	Temp. (°F)	Emission Rate (pounds/hour)
			ACFM	DSCFM			
11/30/80	1	0852-1024	43,892	37,771	7.25	111.8	10.82
11/30/80	2	1126-1256	43,240	36,563	13.04	111.3	9.00
11/30/80	3	1342-1514	44,517	36,776	15.24	116.1	10.48
Average		--	43,883	37,037	11.84	113.07	10.10

Allowable Emission: $\Sigma = 17.31 (100)^{0.16} = 34.16$ pounds/hour

Source: Environmental Science and Engineering, Inc., 1980.

LIMESTONE DRYER (D-2)

Agricultural Lime Dryer

SUMMARY OF RESULTS
DIXIE LIME AND STONE COMPANY

11/19/81

SAMPLE RUN #	STACK AREA (ft ²)	STACK TEMP (°F)	STACK GAS VELOCITY (fps)	ACTUAL FLOW RATE (ACFM)	DRY STANDARD FLOW RATE (DSCFH)	MOISTURE (%)	EMISSIONS RESULTS (LBS/HR)		ISOKINETIC (%)
							ACTUAL	ALLOWED	
1	12.6	125	46.81	35,388	1,670,142	13.2	39.08	36.17	90.4
2	12.6	125.7	50.99	38,548	1,813,081	13.4	31.24	36.17	92.4
3	12.6	123.9	47.65	36,023	1,711,535	12.8	36.55	36.17	90.7
AVG.	12.6	124.9	48.48	36,553	1,731,586	13.1	35.62	36.17	91.2

LIMESTONE DRYER (D-2)

Lime Stone Dryer

FULLER COMPANY

A GATX COMPANY



DER

MAR 2 1982

2040 Avenue C P.O. Box 2040
Baltimore, Pa 21201
Tel: 215-264-6011 TWX: 510-651-5818
Telex: 84-7443 Cable: COLFULLER

August 21, 1981

Dixie Lime & Stone Co.
P. O. Box 217
Sumterville, FL 33585

ATTENTION: Mr. Vasant Chapnerkar

Gentlemen:

REFERENCE: Fuller Contract No. 76-21118-325

In reply to your letter of July 7, and our telephone conversation of August 20th, the attached information should be sufficient to complete your permit forms.

Collectors #4 and #6, presently operating on the oil fired kilns, should perform equally well on coal firing. The only concern will be the sulfur content of the fuel. A high sulfur fuel may produce a high dewpoint and cause condensations and erosion. Fortunately, lime dust will tend to neutralize the SO_3 and reduce the problem. The insulation of the collector and ductwork must be maintained.

If you need any more information, please call.

Very truly yours,

F U L L E R C O M P A N Y

N. D. Phillips
Utility Market Manager
Air Pollution Control Products

NDP/rac

Enclosure

MikroPul

CORPORATION

STATES FILTER CORPORATION / 10 CHATHAM ROAD, SUMMIT, NEW JERSEY 07901 / 201-273-6360 / CABLE: MIKROPUL / TELEX: 13-8157

September 14, 1981

C. E. Raymond
200 West Monroe Street
Chicago, IL 60606

Attention: Keven Coughlin

Gentlemen:

Subject: MikroPul Proposal #81-3260

PERFORMANCE GUARANTEE

MikroPul Corporation guarantees the performance of one (1) MIKRO-PULSAIRE Model 133-10-100 TRH "C" Dust Collector with 16 oz/yd² Polyester HCE with copper grounded wire bags operating under the following conditions:

1. Gas Flow 6,400 ACFM air maximum at 200^oF temperature.
2. Dust Load and Source Maximum of 5 grains/actual cubic foot of coal dust ventic coal mill.
3. Filter Ratio 4:1 actual cubic feet of air per minute/ft² filter media.
4. Differential Pressure 6 inches w.g. maximum expected differential pressure across the filter media.
5. Collection Efficiency Dust load of effluent leaving MIKRO-PULSAIRE Dust Collector will not exceed 0.02 grains per actual cubic foot of air per minute. Efficiency of collector will be 99.9% or better on .1 micron by weight.

The MIKRO-PULSAIRE is guaranteed to be structurally sound and free from dust leakage when assembled according to MikroPul instructions.


MikroPul

MikroPul accepts no responsibility for loss of rated capacity or increased differential pressure resulting from: (1) condensed vapor coming in contact with the filter surface; (2) polymerization of polymers within the interstices of the filter; (3) crystallization of chemicals within the interstices of the filter; (4) the presence of extraneous vapors, solids, or gases in the gas stream.

MikroPul's liability shall be limited to modification of the equipment (within a reasonable period of time) to meet the performance guarantee. Failing that, MikroPul's liability shall be limited to reimbursement of the original purchase price to the customer only after return of the equipment to MikroPul.

The guarantee is considered firm for one full year of operation or 18 months after shipment (whichever comes first), so long as the unit is operated under conditions of good engineering practice. Any alteration to original equipment performed by others than MikroPul or without MikroPul's consent will act to invalidate this guarantee effective as of the date of delivery of the equipment.

Field tests to verify equipment performance as stated in this guarantee will remain the owner's responsibility. All performance tests shall be made in accord with one of the following (or equivalent) published testing procedures: EPA, Federal Register Volume 36, No. 247, Part II; ASTM No. D2928; or IGCI Publication No. 101, or the latest revisions thereof published as of the date this guarantee is effective.


E. J. Oliver
Manager, Fabric Filters
MikroPul Corporation

AK:ck



MikroPul

CORPORATION

cc: Lee Searfoss-MikroPul
SONNY SCOTT
Linder Inquiry #3-4

UNITED STATES FILTER CORPORATION
10 Chatham Road • Summit, N.J. 07901 • (201) 273-6360

4-13-77
(REVISED PRICING)

DATE: March 11, 1977

TO: Dixie Lime & Stone Company
P.O. Drawer 217
Sumterville, Florida 33585
ATTN: Mr. Harold Butler

FOR: Sumterville, Florida Plant

Dust Collector for Venting Belt
Conveyor Transfer Points

6-27-77- MARKED - AS ORDERED
LINDER P.O. # E-22466-1

YOUR REF:

(1) Mikro-Pulsaire Dust Collector, continuous automatic type, Model 64STR-8-20 (top bag removal) with 60° slope hopper and all standard equipment. Unit to operate under the following conditions:

- Gas Volume: 3,000 ACFM
- Temperature: 240° F.
- Dust Loading: Inlet Estimate 10-15 Grains/Cu.Ft.
- Filter Rate: 5.1:1
- Dust: Calcium Carbonate
- Application: Venting Belt Conveyor Transfer Points

Collector Efficiency: Dust load leaving Mikro-Pulsaire will not exceed 0.02 Gr's/SCF.

EQUIPMENT TO CONSIST OF THE FOLLOWING:

- One (1) Filter case housing constructed of 12 gauge hot rolled steel, factory welded and bolted construction.
- One (1) Set of filter bags consisting of 64 bags, 8' long fabricated with 16 oz. Polyester felt filter fabric, Part #17498 to provide a total of 602 sq. ft. of filter area. Maximum operating temperature is 275 Degrees F. Shipped loose for field installation by others. Bags to be installed from top of unit.

When ordering this material, please indicate if it is tax exempt and exemption number; or if a tax applies, the amount or percentage of the tax.

JOB: Shipping Points

SHIPMENT:

- (A) Time needed to submit detailed drawings for approval (when required) . 4 weeks
- (B) Time needed to complete fabrication after receipt of approved drawings (when required) . 14-16 weeks

TERMS: Net 10th Prox. No sales or use taxes included.

SHIPPING WEIGHT: Listed with Pricing.

The price quoted is a firm quotation for a period of 30 days after quotation date. "The contents included in the above quotation are subject to approval by home office."

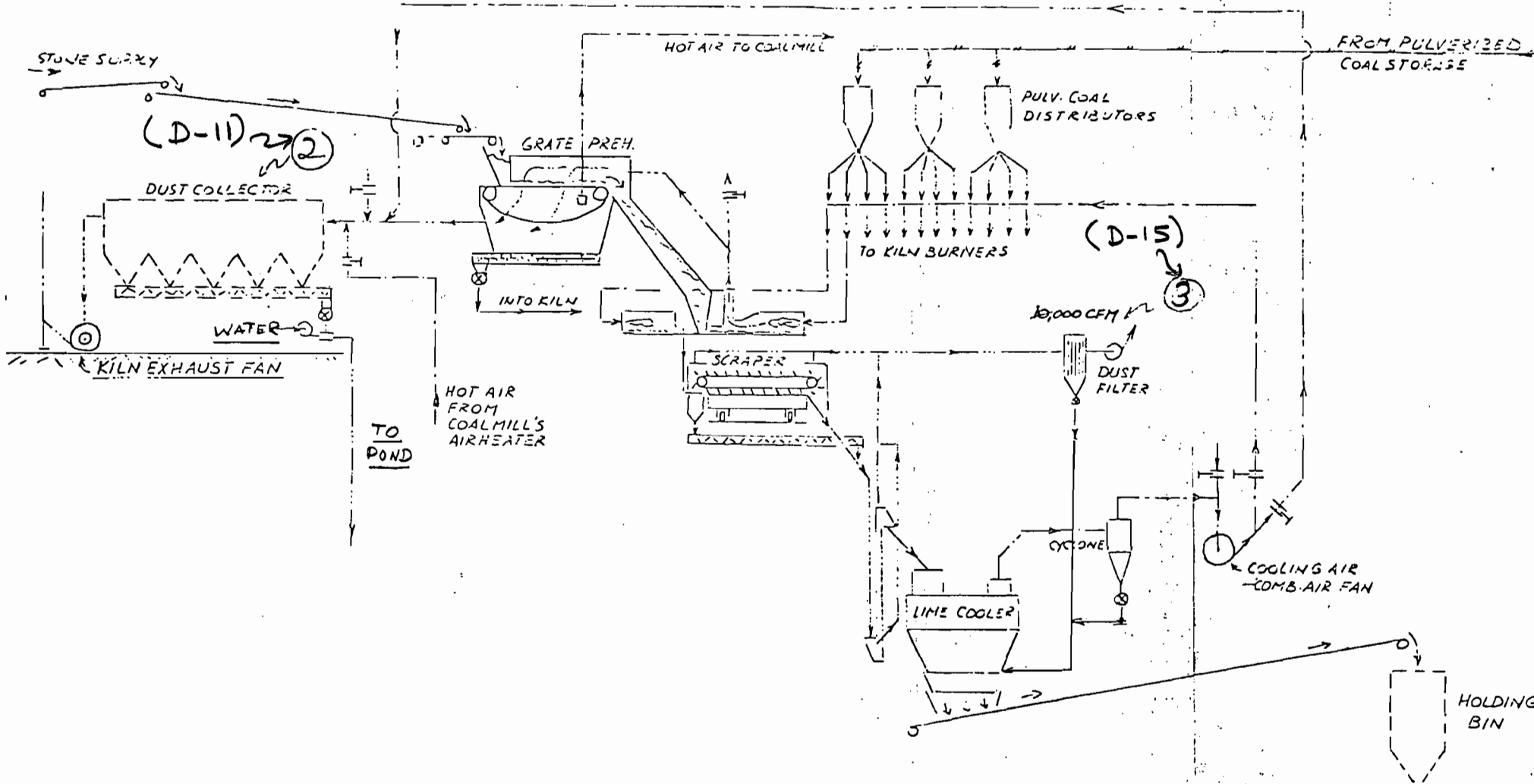
NOTE: When entering your order please return one of our prints submitted with our quote and mark it approved for orientation or mark the changes required and we will advise further.

ADDRESS REPLY TO: LINDER INDUSTRIAL MACHINERY CO.
P.O. BOX 5330
LAVELAND, FLORIDA 33803
813/646-5711

MikroPul CORPORATION
UNITED STATES FILTER CORPORATION
P.O. H.
D.L. Heckman
Linder Industrial Machinery

BY LHS DATE 1/24/51 SUBJECT FLOW SHEET
CHKD BY DATE KILN NO. 1
(APR. 1931 REVISION) SIMPLIFIED

SHEET NO. 1 OF 1
JOB NO. 121-80-01
SKETCH NO. 121-80-01-001



DER

MAR 2 1982

BAQM

Pond Fork

Mine Operator & Owner: Island Creek Coal Company
 Type of Mine & Location: Deep Boone County, West Virginia
 Seam(s) Mined: 5 Block Dorothy
 Preparation Facilities: Full washing with driers
 Reserves: 12 million
 Loading: Single car and unit train
 Freight Rate Group: C&O
 Production, T.P.D.: 2500
 Coal Size: 2" x 0 CROM

Proximate Analysis, A.R.:

% Moisture 6.50
 % Ash 6.10
 % Volatile Matter 33.50
 % Fixed Carbon 53.90
 B.T.U./lb. 13,524
 % Sulfur 0.80

Ultimate Analysis, Dry:

Carbon 79.47
 Hydrogen 5.28
 Nitrogen 1.18
 Chlorine .16
 Sulfur .96
 Ash 6.52
 Oxygen (diff.) 6.43
 Grindability 46

Ash Mineral Composition, % Wt.:

Phos. Pentoxide 0.27
 Silica 50.50
 Ferric Oxide 6.02
 Alumina 35.08
 Titania 1.59
 Lime 1.71
 Magnesia .70
 Sulfur Trioxide 1.38
 Potassium Oxide 1.32
 Sodium Oxide .55
 Undetermined .88

Ash Fusibility, °F.:

I.D. 2800+
 Softening (H=W) 2800+
 Softening (H=W/2) 2800+
 Fluid 2800+

DER
MAR 2 1982
BAQM

ESE ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.

DER

FEB 25 1982

February 24, 1982
ESE No. 82-111-100

BAQM

Mr. Bruce Mitchell
Florida Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Dixie Lime and Stone

Dear Bruce:

At the request of Vasant Chapnerkar I have calculated the annual emissions of criteria pollutants from the Sumterville plant. The enclosed four tables contain these results. All emissions are less than 100 tons per year.

Dr. Chapnerkar is submitting the actual permits and any necessary modifications.

If there are any questions concerning the tables, don't hesitate to contact either of us.

Sincerely;



Michael H. Dyberick
Associate Engineer

MHD:fmj

Enclosures

cc: Vasant Chapnerkar, Dixie Lime and Stone

DER

FEB 25 1982

DEP11.11/DIXIE/VTB1.1
2/24/82

BAQM

Table 1. Source Descriptions, Dixie Lime and Stone

Source Code	Source Description
D1	Lime Kiln No. 2 Exhaust
D2	Limestone Dryer
D3	"A" Screening Dust Collector
D4	"B" Screening Dust Collector
D5	Lime Kiln No. 2 Cooler
D6	Lime Loadout Scavenger System
D7	Lime Crusher and Handling Scavenger System
D8	Calcium Carbonate Process Scavenger System
D9	Calcium Carbonate Loadout Scavenger System
D10	Calcium Carbonate Fugitive Dust Control System
D11	Lime Kiln No. 1 Exhaust
D12	Coal Grinding System
D14	Lime Kiln No. 2 Fine Coal Handling System
D15	Lime Kiln No. 1 Kiln Scavenger System
D16	Lime Kiln No. 1 Fine Coal Handling System

Source: Dixie Lime and Stone, 1982.

DER

FEB 25 1982

DEP11.11/DLXIE/VTB2.1
2/24/82

BAOM

Table 2. Annual Particulate Emissions, Dixie Lime and Stone

Source	Design Flow Rate (ACFM)	Operating Schedule				Actual Emission Rate* (lb/hr)	Annual Emissions (tons)
		hrs/day	days/week	weeks/year	hrs/year		
D1	46,800	24	7	48	8,064	8.0	32.3
D2	36,500	10	5	48	2,400	8.0†	9.6
D3	600	24	7	48	8,064	0.10	0.4
D4	600	24	7	48	8,064	0.10	0.4
D5	29,400	24	7	48	8,064	5.0	20.2
D6	6,500	7	5	48	1,680	1.11	0.9
D7	6,500	7	5	48	1,680	1.11	0.9
D8	3,000	16	5	48	3,840	0.51	1.0
D9	3,000	4	5	48	960	0.51	0.2
D10	6,000	16	5	48	3,840	1.03	2.0
D11	32,600	24	7	48	8,064	5.59	22.5
D12	7,500	18	7	48	6,048	1.29	3.9
D14	600	24	7	48	8,064	0.10	0.4
D15	3,000	24	7	48	8,064	0.51	2.1
D16	600	24	7	48	8,064	0.10	0.4
TOTAL							97.2

* Based on 0.02 grain/ACF except where noted.

† Conservative value based on test data.

Source: Dixie Lime and Stone, 1982.

DER

FEB 25 1982

DEP11.11/DIXIE/VTB3.1
2/24/82

BAOM

Table 3. Annual Fuel Consumption, Dixie Lime and Stone

Source	Product Rate	Fuel Requirements	Annual Fuel Consumption*	
			Oil	Coal
Kiln No. 1	190 tons/day (avg) 200 tons/day (max)	6.0 x 10 ⁶ Btu/ton	520,000 gal	12,200 tons
Kiln No. 2	260 tons/day (avg) 290 tons/day (max)	6.0 x 10 ⁶ Btu/ton	527,000 gal	17,800 tons
Limestone Dryer	70,000 (tons/year)	1.1 gal fuel oil/ton	77,000 gal	—
Total Oil Burned in Kiln:		1,047,000 gal (4,270 tons)		
Total Oil Burned in Dryer:		77,000 gal (314 tons)		
Total Coal Burned:		30,000 tons		
<u>Fuel Characteristics:</u>				
Oil (2 percent sulfur):		150,300 Btu/gal; 8.15 lb/gal		
Coal (0.8 percent sulfur):		12,500 Btu/lb		

* Kiln fuel consumption based on schedule in Table 2.

Source: Dixie Lime and Stone, 1982.

DER

DEP11.11/DIXIE/VTB4.1
2/24/82

FEB 25 1982

BAQM

Table 4. Maximum Annual Emissions of Combustion Products, Dixie Lime and Stone

Fuel*	Annual Emissions (tons)			
	SO ₂	NO _x	CO	VOC
Coal (kilns)	48	15	30	15
Oil (kilns)	34		3	0.8
Oil (dryer)	13	2	0.2	0.04
TOTAL	95	17	33	16

Bases:

SO₂: Dryer from stoichiometric calculations.
Kiln from AP-42 Table 8.15-1 which estimates 20 percent of stoichiometric emissions for high sulfur fuel (oil) and 10 percent of stoichiometric emissions for low sulfur fuel (coal) when secondary control devices other than scrubbers are employed.

NO_x: Dryer from AP-42 Table 1.3-1 which gives 60 lb/10³ gal.
Kiln from AP-42 Table 8.15-1 which gives 0.2 lb/ton lime produced (maximum lime production = (190 + 260) x 7 x 48 = 151,200 tons/year).

CO: Coal from AP-42 Table 1.1-2 which gives 2 lb/ton coal burned.
Oil from AP-42 Table 1.3-1 which gives 5 lb/10³ gal.

VOC: Coal from AP-42 Table 1.1-2 which gives 1 lb/ton coal burned.
Oil from AP-42 Table 1.3-1 which gives 1 lb/10³ gal.

* Refer to Table 3.

Sources: ESE, 1982.
Compilation of Air Pollutant Emission Factors, 3rd ed., AP-42.
U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, 1977.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

February 19, 1982

Vasant Chapnerkar
Manager of Technical Services
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

Dear Mr. Chapnerkar:

This is to acknowledge receipt and transaction of your "Application to Construct an Air Pollution Source" fee check (s).

The permit processing number (s) assigned are as follows:

AC 60-52583 (Kiln I Fine Coal Handling System)
AC 60-52586 (Kiln II Filter Baghouse)
AC 60-52587 (Kiln II Fine Coal Handling System)
AC 60-52589 (Kiln I Scavenger Baghouse System)

If we may be of further assistance, please feel free to call me at (904) 488-1344.

Sincerely,

Patty Adams
for Tim Powell
FDER/BAQM

Attachment

DIXIE LIME & STONE COMPANY

P.O. DRAWER 217
SUMTERVILLE, FLORIDA 33585

3837

63-203
631

Department of Environmental Reg. February 11, 19 82
7801 Highway 301 North
Tampa, FL 33610

PAY TO THE
ORDER OF

\$ 20.00

Twenty and 00/100 ----- DOLLARS



Southeast Bank of Wildwood
200 South Main Street Wildwood, Florida 32785 (904) 748-1611

Marie H. Hanna



M. W. V. HARLAND NO. 808

M. W. V. HARLAND NO. 807

DETACH AND RETAIN THIS STATEMENT
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED

DIXIE LIME & STONE COMPANY

REFERENCE NUMBER	INVOICE NUMBER	DATE OF INVOICE	ACCOUNT CODE	AMOUNT	DISCOUNT	NET AMOUNT
Kiln I Scavenger Baghouse System Application			582-120	20.00		20.00

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 33599

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Disc Line & Store Company Date February 17, 1968

Address P.O. Box 217, Sebring, FL 33585 Dollars \$ 20.00

Applicant Name & Address V. G. Chapman (same as above)

Source of Revenue _____

Revenue Code 0101 Application Number AC 60-52589

By Patricia G. Adams

DIXIE LIME & STONE COMPANY

P.O. DRAWER 217
SUMTERVILLE, FLORIDA 33585

3835

63-203
631

Department of Environmental Reg. February 11, 19 82
7801 Hwy. 301 North
Tampa, FL 33610

PAY TO THE
ORDER OF

\$ 20.00

Twenty and 00/100

DOLLARS



Southeast Bank of Wildwood
200 South Main Street Wildwood, Florida 32785 (904) 748-1611

Mavis H. Hanna

DETACH AND RETAIN THIS STATEMENT

THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED

DIXIE LIME & STONE COMPANY

REFERENCE NUMBER	INVOICE NUMBER	DATE OF INVOICE	ACCOUNT CODE	AMOUNT	DISCOUNT	NET AMOUNT
Kiln II Fine Coal Handling Systems Application			582-120	20.00		20.00

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 33598

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Pipe Line and Stone Company Date February 19, 1977

Address P.O. Drawer 217, Sumterville, FL 33585 Dollars \$ 20.00

Applicant Name & Address W. G. Chapman (same as above)

Source of Revenue _____

Revenue Code 0101 Application Number AC40-52587

By Patricia G. Adams

DIXIE LIME & STONE COMPANY
P.O. DRAWER 217
SUMTERVILLE, FLORIDA 33585

3838

63-203
631

Department of Environmental Reg. February 11, 19 82
7801 Hwy 301 North
Tampa, FL 33610

PAY TO THE
ORDER OF

\$ 20.00

Twenty and 00/100 ----- DOLLARS



Southeast Bank of Wildwood
200 South Main Street Wildwood, Florida 32785 (904) 748-1611

Mavis H. Hanna



DETACH AND RETAIN THIS STATEMENT
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED

DIXIE LIME & STONE COMPANY

REFERENCE NUMBER	INVOICE NUMBER	DATE OF INVOICE	ACCOUNT CODE	AMOUNT	DISCOUNT	NET AMOUNT
Kiln II Filter Application	Baghouse		582-120	20.00		20.00

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 3359

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Quire Lime & Stone Company Date February 14, 1966

Address P. O. Drawer, 217 Seville, FL 33585 Dollars \$ 20.00

Applicant Name & Address V. D. Chapman (same as above)

Source of Revenue _____

Revenue Code 0101 Application Number AC 60-52586

By Patricia A. Williams

DIXIE LIME & STONE COMPANY

P.O. DRAWER 217
SUMTERVILLE, FLORIDA 33585

3836

63-203
631

February 11, 19 82

Department of Environmental Reg.
7801 Hwy. 301 North
Tampa, FL 33610

PAY TO THE
ORDER OF

\$ 20.00

Twenty and 00/100 ----- DOLLARS



Southeast Bank of Wildwood
200 South Main Street Wildwood, Florida 32785 (904) 748-1611

Maivia H. Hanna

DETACH AND RETAIN THIS STATEMENT

THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY, NO RECEIPT DESIRED

DIXIE LIME & STONE COMPANY

REFERENCE NUMBER	INVOICE NUMBER	DATE OF INVOICE	ACCOUNT CODE	AMOUNT	DISCOUNT	NET AMOUNT
Kiln I Fine Coal Handling System Application			582-120	20.00		20.00

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 33596

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Dixie Limes & Stone Company Date February 11, 1965

Address P.O. Drawer 217, Sumterville, FL 33585 Dollars \$ 20.00

Applicant Name & Address V.C. Chaparral (same as above)

Source of Revenue _____

Revenue Code 0101 Application Number AL 100-52583

By Patricia G. Adams

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: <i>Dan A. Williams</i>	Loctn.: <i>Tampa</i>	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: Dan A. Williams
FROM: Martha Harrell Hall *MHH*
DATE: January 19, 1982
SUBJECT: Dixie Lime & Stone Company
Kiln No. 1

D.E.R.

JAN 22 1982

SOUTHWEST DISTRICT
TAMPA

In your memorandum of December 30, 1981, you described the following situation. Dixie Lime & Stone received an operating permit for Kiln No. 1 on March 4, 1976. Sometime prior to August 1, 1978, the kiln was deactivated and has not been operated since. The 1976 permit expired on March 1, 1979. Dixie Lime & Stone now wishes to reactivate Kiln No. 1, thus necessitating substantial rebuilding of the kiln.

As you suggest, the reactivation of Kiln No. 1 should be reviewed and permitted as the construction of a new source. Florida Administrative Code Rule 17-2.530(1) provides that

[a]ny source whose permit to operate has expired without timely renewal or transfer may be deemed permanently shut down . . .

Florida Administrative Code Rule 17-2.530(2) further provides that

[i]f the owner or operator of a source which is so permanently shut down, applies to the Department for a permit to reactivate or operate such source, the source will be reviewed and permitted as a new source.

While the rule does provide an exception for those sources which allow operation permits to expire through inadvertence and which quickly take steps to reinstate their operating permit, it is clear that this exception does not apply to Dixie Lime & Stone, Kiln No. 1. Since the kiln has been deactivated for more than three years and its operation permit expired two years ago, this facility must

DER

FEB 10 1982

BAQM

Jim Shultz - Plt. Manager
2-8-82
per Vasant Chaperkar

Dan A. Williams
January 19, 1982
Page 2

be considered permanently shut down and, if reactivated, should be reviewed and permitted as a new source.

MHH/dg

cc: Clair Fancy
Jack Preece
John Ketteringham
Charles Collins
Tom Tuttle
David Knowles

see 17-2,530(1) & (2)

talked to Dan 1/6/82

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

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

h
Mant

TO: Clair Fancy

FROM: Dan A. Williams

DATE: December 30, 1981

SUBJECT: Dixie Lime & Stone Company
Kiln No. 1



The attached correspondence from Dr. Chapnerkar of Dixie Lime & Stone is seeking a determination as to whether the No. 1 Kiln will be considered new source or existing source. Also attached is a copy of a letter received from Dixie Lime indicating the kiln had been deactivated and shutdown sometime prior to August 1, 1978.

I have reviewed our files on this facility and came up with some interesting information. Levy County was originally located in the Orlando District and initial permitting was done through that office. Several years of legal maneuvering transpired in which the Department attempted to get Dixie Lime to reduce emissions from the kiln. On March 4, 1976 an operating permit (A060-2300) was issued for the kiln. A year later, May 23, 1977, an operating permit (A060-2302) was issued for a kiln with 2 baghouses. It appears that we assumed the baghouses were for the kiln permitted under A060-2300. It is now apparant this was an entirely new kiln for which a construction permit was never issued. The old kiln was probably shutdown shortly after the new kiln came on line.

In my opinion the old kiln should be considered new source since a major rebuilding effort was required and all new control devices are being considered. I would appreciate your review of the situation and your comments as to the status of Kiln #1 and the rules that would govern in this case.

Under our definition of major facilities, construction permitting for this facility would be done in Tallahassee by CAPS. If you need any additional background information please let me know.

DAW/rkt



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U.S.A.
(904)793-2063 • TELEX:056-4346



SUBSIDIARY OF
AMCAR, INC.

December 28, 1981

D. E. R.

DEC 29 1981

SOUTHWEST DISTRICT
TAMPA

Dan Williams
Department of Environmental Regulation
7601 Highway 301 North
Tampa, FL 33610

Dear Dan:

As per our discussion of December 23, 1981, I am writing this letter to request you to consider that Kiln I (Calcimatic 200) rebuilding be considered existing source. It has been in existence since 1966 and had a valid operating permit good til March 1, 1979. Since this kiln has not been run since October 1977, this permit was not renewed. A copy of the old permit is attached.

I have attached a letter from me to Mr. Cloward of U. S. E. P. A. stating why the rebuilding of Kiln I be considered as existing source for water pollution. Based on this letter and further investigation they sent me their reply, a copy of which is attached. A sentence in this letter states, "I have concluded that because your expansion is exempt, the modified portions of your facilities are not a new source."

Please consider these facts and let me have your reply stating that this rebuilding program is to be considered as existing source for air pollution.

Sincerely,

DIXIE LIME & STONE COMPANY

Vasant
12/28/81

Vasant D. Chapnerkar

VDC/brs

Enclosure: 4

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

OPERATION PERMIT

FOR Dixie Lime and Stone Lime Plant

Post Office Drawer 217

Sumterville, Florida 33585

PERMIT NO. AO 60-2300

DATE OF ISSUE March 4, 1976

PURSUANT TO THE PROVISIONS OF SECTIONS 403.061(16) AND 403.707 OF CHAPTER 403 FLORIDA STATUTES AND CHAPTERS 17-4 AND 17-7 FLORIDA ADMINISTRATIVE CODE, THIS PERMIT IS ISSUED TO:

W. E. Beamon, Manager

FOR THE OPERATION OF THE FOLLOWING:

Calcimatic #200 Kiln

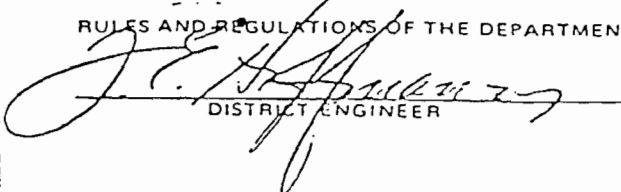
LOCATED AT: North of State Road 470 1 mile east of U.S. 301,
Sumterville, Florida, Lat. 28° 46' 26" N, Long. 82° 02' 55" W
UTM 3182.600 N - 3972.00 E

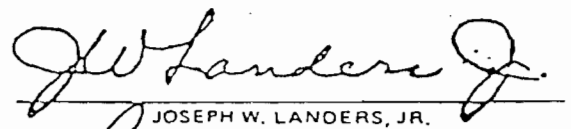
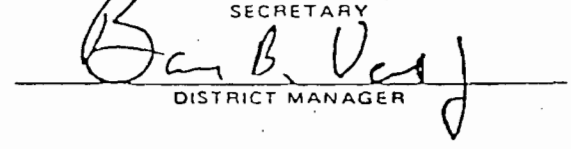
IN ACCORDANCE WITH THE APPLICATION DATED February 12, 1976

ANY CONDITIONS OR PROVISOS WHICH ARE ATTACHED HERETO, ARE INCORPORATED INTO AND MADE A PART OF THIS PERMIT AS THOUGH FULLY SET FORTH HEREIN. FAILURE TO COMPLY WITH SAID CONDITIONS OR PROVISOS SHALL CONSTITUTE A VIOLATION OF THIS PERMIT AND SHALL SUBJECT THE APPLICANT TO SUCH CIVIL AND CRIMINAL PENALTIES AS PROVIDED BY LAW.

THIS PERMIT SHALL BE EFFECTIVE FROM THE DATE OF ISSUE UNTIL March 1, 1979

OR UNTIL REVOKED OR SURRENDERED AND SHALL BE SUBJECT TO ALL LAWS OF THE STATE AND THE RULES AND REGULATIONS OF THE DEPARTMENT.


DISTRICT ENGINEER


JOSEPH W. LANDERS, JR.
SECRETARY

DISTRICT MANAGER



DIXIE LIME AND STONE COMPANY
POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U.S.A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

October 9, 1981

Mr. William H. Cloward
Chief, Permit Support Section
U.S. E.P.A.
345 Courtland Street
Atlanta, GA 30365

Mr. Cloward;

As per my discussion with Mr. Bob Worten, I am writing this letter to inform you that the expansion activities being carried out at Dixie are rebuilding of the old, closed-down operations.

In the attached floor plan, you can see that the Dix-Fil plant and No. 1 Kiln was in existence before. We have now completed the rebuilding of the Dix-Fil plant with proper pollution control equipment and permits from DER. We have now started rebuilding of No. 1 Kiln and expect that in operation in January, 1982. This kiln will have the required pollution control equipment, which is, also being rebuilt. We are also changing from oil as fuel to coal, but there will not be any discharge from this because it will be fed to the kilns with proper pollution control equipment.

Since we do not plan to mine anymore than presently done, we do not expect the water discharge and quality to change.

As you can see there will not be any new source, so I would appreciate having reply to this letter stating that this discharge from expansion program be considered as existing sources.

Sincerely,

DIXIE LIME & STONE COMPANY

Vasant D. Chapnerkar
Research & Development Mgr.

VDC/jaf

attachment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

DEC 4 1981

REF: 4WM-WP

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Vasant D. Chapnerkar
Research & Development Manager
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

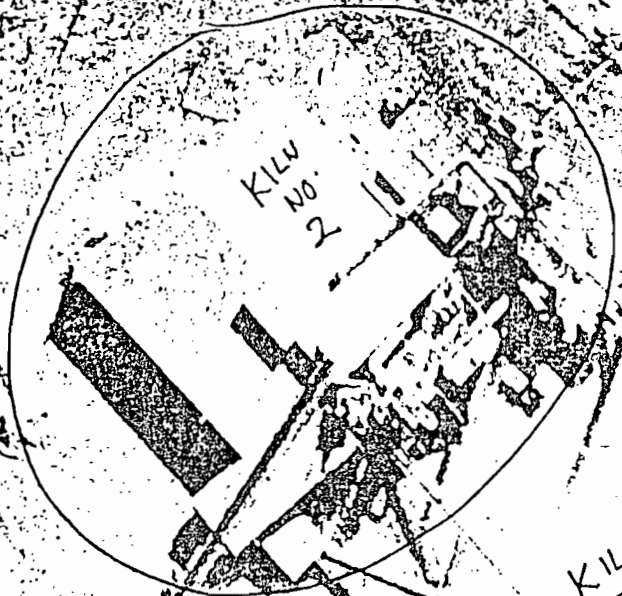
Re: Dixie Lime & Stone Co., Sumterville, FL NS#0752

Dear Mr. Chapnerkar:

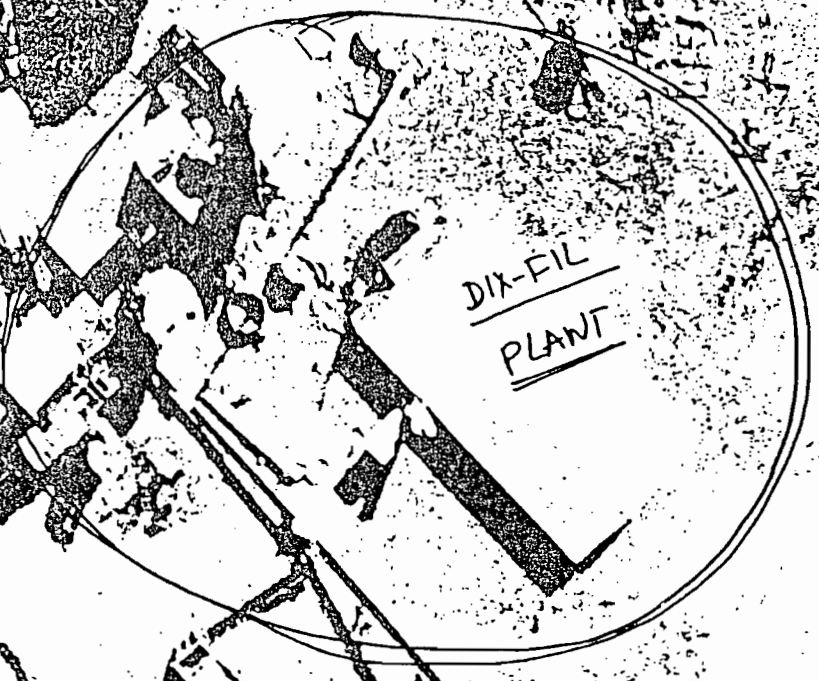
As a result of various meetings and discussions with my staff and the additional information you submitted on October 9, 1981, I have made the following determinations relative to the discharge to the navigable waters of the United States from your modifications at the Sumterville, Florida operation.

1. Construction of these modifications is in progress, however, the operations being rebuilt were in existence in 1965.
2. Your facility falls within the Inorganic Chemicals Manufacturing Point Source Category.
3. New Source Performance Standards for this industrial category were proposed in the Federal Register on October 11, 1973.
4. There is a New Source Performance Standard within this category which can reasonably be considered applicable to your facility.
5. Your expansion is exempted from a National Environmental Policy Act review by virtue of the provisions of 40 CFR Part 6, Subpart I, App. A (1979).

As a result of these determinations, I have concluded that because your expansion is exempt, the modified portions of your facility are not a new source. Therefore, in accordance with Section 511(c)(1) of the Federal Water Pollution Control Act, as amended (33 USC 1371), I have ruled that issuance of an NPDES permit to your facility is not subject to any provisions of the National Environmental Policy Act of 1969 (83 Stat. 852).



KILN NO. 1



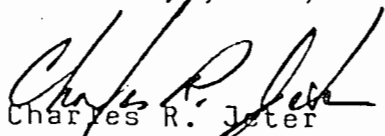
If you should disagree with this ruling, you may submit a request for an evidentiary or panel hearing within thirty (30) days of the receipt of this letter. The request and two copies thereof must be submitted to the Regional Hearing Clerk, Environmental Protection Agency, 345 Courtland Street, N.E., Atlanta, Georgia 30365. The submission of the request will be within the time period if mailed by Certified Mail before the 30th day. The request must:

1. State the name and address of the person making such request;
2. Include a clear and concise factual statement of the nature and scope of the interest of the requester;
3. Include an agreement by the requester to be subject to examination and cross-examination and to make any employee or consultant of such requester available for examination at the expense of such requester or such other person upon the request of the Presiding Officer, on his own motion, or on the motion of any party;
4. Include an estimate of the hearing time necessary for adjudication;
5. State with particularity the issues proposed to be considered at the hearing and their relevance to the new source decision.

Additional information on evidentiary and panel hearings is found in Subparts E and F, respectively of Part 124, Title 40 of the Code of Federal Regulations (45 Fed. Reg. 33498 and 33504, May 19, 1980).

If you have further questions concerning these determinations, please contact Mr. William H. Cloward of the Permits Section of our Water Management Division.

Sincerely yours,


Charles R. Jeter
Regional Administrator

cc: FL Dept. of Environmental Regulation



DIXIE LIME AND STONE COMPANY

P.O. DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • (904) 793-2083 • TELEX: 056-4346

A

SUBSIDIARY OF
AMCAR, INC.

August 25, 1980

DER

FEB 19 1982

BAQM

Mr. Jon Hamlin, P.E.
CONSULTING SERVICES, INC.
439 Summit Drive
Brooksville, Florida 33512

Dear Jon:

This letter is to advise that Dixie Lime and Stone Company will retain Consulting Services, Inc. for professional engineering services.

Service to consist of investigation and application for permits from Department of Environmental Regulation pertaining to the air pollution control equipment as related to the Gound Calcium Carbonate Project.

I will be available to furnish any assistance you may need on these projects.

Very truly yours,

VASANT CHAPNERKAR

Vasant Chapnerkar *MS*
Manager of Technical Services

VC/jw

D.E.R.

FEB 12 1982

**SOUTHWEST DISTRICT
TAMPA**

State of Florida



Department of State

I certify from the records of this office that DIXIE LIME AND STONE COMPANY, is a corporation organized under the laws of the State of Delaware, and is authorized to transact business within the State of Florida.

The charter number for this corporation is 820394.

I further certify that said corporation has filed all annual reports and has paid all annual report filing fees due this office through December 31, 1979, and its status is active.



CER 101 Rev. 5-79

Given under my hand and the
Great Seal of the State of Florida,
at Tallahassee, the Capital, this the
4th day of October, 1979.

A handwritten signature in cursive script, appearing to read "George Firestone".

George Firestone
Secretary of State



DIXIE LIME AND STONE COMPANY
POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

June 30, 1981

Mr. Vasant D. Chapnerkar
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

Dear Mr. Chapnerkar:

As you are solely responsible for handling all matters pertaining to the Department of Environmental Regulations, I wish to confirm your authorization to represent Dixie Lime and Stone Co. on all matters pertaining to the permitting of air and water pollution sources with regard to the Department of Environmental Regulation standards.

Yours truly,

DIXIE LIME AND STONE CO.

Jean-Paul Gheur
President & CEO

JPG/jw

CC: Department of Environmental
Regulations
Dan Williams, District Engineer, Air

J. H. Kerns, District Water Engineer

Jon Hamlin, CONSULTING SERVICES, INC.



AC 60-52317

Plant Source ID

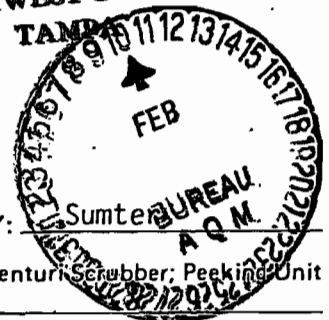
D.E.R.

FEB 8 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT
AIR POLLUTION SOURCES

DER SOUTHWEST DISTRICT

FEB 10 1982



BAQM

SOURCE TYPE: Air Pollution [] New¹ [X] Existing
APPLICATION TYPE: [X] Construction [] Operation [] Modification
COMPANY NAME: Dixie Lime & Stone Company COUNTY: Sumter

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Kiln No. 1 with lodge Cottrell baghouse, oil & coal fired

SOURCE LOCATION: Street North State Road 470, 1 mile east of City Sumterville, FL
U.S. 301
UTM: East _____ North _____
Latitude 28 ° 46 ' 26 "N Longitude 82 ° 02 ' 55 "W

APPLICANT NAME AND TITLE: V. D. Chapnerkar, R & D Manager
APPLICANT ADDRESS: P. O. Drawer 217, Sumterville, FL 33585

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Dixie Lime & Stone Company

I certify that the statements made in this application for a Air Pollution 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: [Signature]
Name and Title (Please Type) _____
Date: 12/25/81 Telephone No. (904)-793-2063

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 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.

(Affix Seal)



Signed: [Signature]
Thomas B. Terpening
Name (Please Type)
Consulting Services, Inc.
Company Name (Please Type)
P. O. Box 1113, Brooksville, FL 33512
Mailing Address (Please Type)
Date: 1/25/82 Telephone No. 904/796-9646

Florida Registration No. _____

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.

The main process is the calcination of mine run limestone to produce lime with the emission of CO2. This is done in a Calcimatic Kiln. The fluegas is processed in Lodge-Cottrell Baghouse. The draft required to support the fire creates the fine dust and carries it to the stack where the collector reclaims it to the system or to a storage silo

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction January 1982 Completion of Construction April 1982

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.)

\$110,000.00 Equipment Cost

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

This source was permitted and operated up until 1976 at which time it was discontinued. Previous permit records are not available in our files at this time.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes X No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 50 ; if power plant, hrs/yr ; if seasonal, describe:

G. 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? No
b. If yes, has "Lowest Achievable Emission Rate" been applied? No
c. If yes, list non-attainment pollutants.
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) requirements apply to this source? If yes, see Sections VI and VII. No
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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		
CaCO ₃	dust	12	38,000	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 38,000
2. Product Weight (lbs/hr): 21,000

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
CaCO ₃ CaO	10.0	42	NA	22.2	500	2100	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Bethpuls Collector	CaCO ₃ +	99.9%	Manufacturers Warranty	
Model 288.4.10	CaO			

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
#6 Fuel Oil	350 gal.	450 gal.	70 vs. 67.63
<u>OR</u> Coal	3.5 tons	4.5 tons (2.8 vs. 2.105)	70 vs. 67.63

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr fuel oil/coal

Fuel Analysis:

Percent Sulfur: 2.0/1.0 Percent Ash: 0.03/6.0
 Density: 0.9787 lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: 18,340/12,500 BTU/lb 150,297/ -- BTU/gal
 Other Fuel Contaminants (which may cause air pollution): None

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.
Ash to be deposited in mined out pits.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):
 Stack Height: 70 ft. Stack Diameter: 4' ft.
 Gas Flow Rate: 32,585 ACFM Gas Exit Temperature: 250 °F.
 Water Vapor Content: 10 % Velocity: 43.2 FPS

SECTION IV: INCINERATOR INFORMATION

360/hr

Entire Section N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated	N/A						

Description of Waste N/A

Total Weight Incinerated (lbs/hr) N/A Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day N/A days/week _____

Manufacturer N/A

Date Constructed N/A Model No. _____

9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
10. 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

- A. 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

- B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) Yes No

Contaminant	Rate or Concentration

- C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
CaCO ₃ + CaO	

- D. Describe the existing control and treatment technology (if any).

- 1. Control Device/System: Baghouse
- 2. Operating Principles: Filter Fabric
- 3. Efficiency: * 99.9% 0.1 Micron
- 4. Capital Costs: 110,000
- 5. Useful Life: 1-2 years min. for bags
- 6. Operating Costs: 20,000
- 7. Energy:
- 8. Maintenance Cost: 1,000
- 9. Emissions: 0.2 gr./c.f.

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy*:
- 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*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy**:
- h. Maintenance Costs:
- 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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power — KWH design rate.

3.

- a. Control Device:
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:

*Explain method of determining efficiency above.

- 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*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- 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:

F. Describe the control technology selected:

- 1. Control Device: Baghouse (air to cloth ratio of 4.3:1)
- 2. Efficiency*: 99.9%, 0.1 micron by wt.
- 3. Capital Cost:
- 4. Life:
- 5. Operating Cost:
- 6. Energy:
- 7. Maintenance Cost:
- 8. Manufacturer: Lodge-Cottrell
- 9. Other locations where employed on similar processes:

- a.
 - (1) Company:
 - (2) Mailing Address:
 - (3) City:
 - (4) State:
 - (5) Environmental Manager:
 - (6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

- b.
 - (1) Company:
 - (2) Mailing Address:
 - (3) City:
 - (4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

(8) Process Rate*:

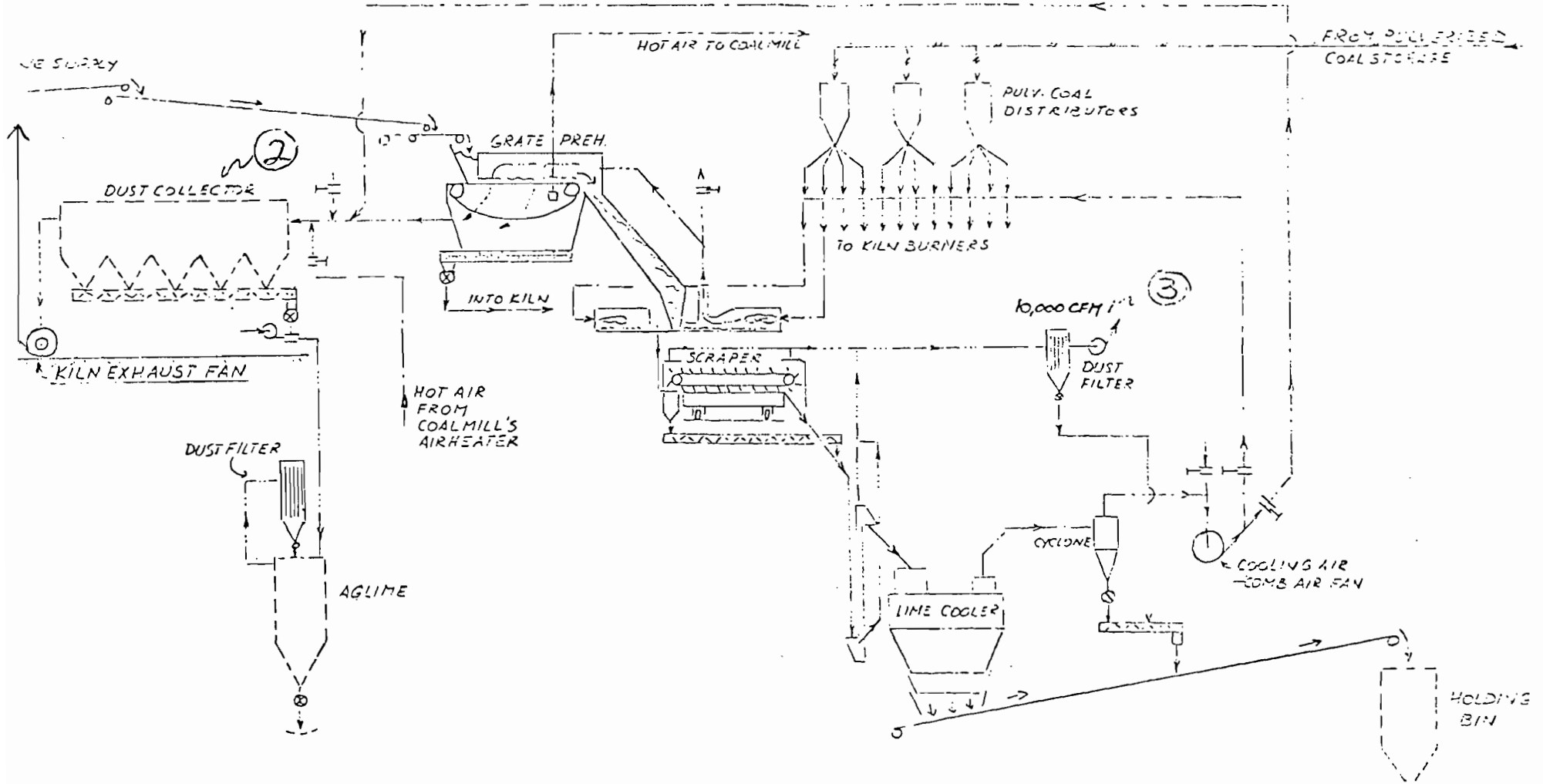
10. Reason for selection and description of systems:

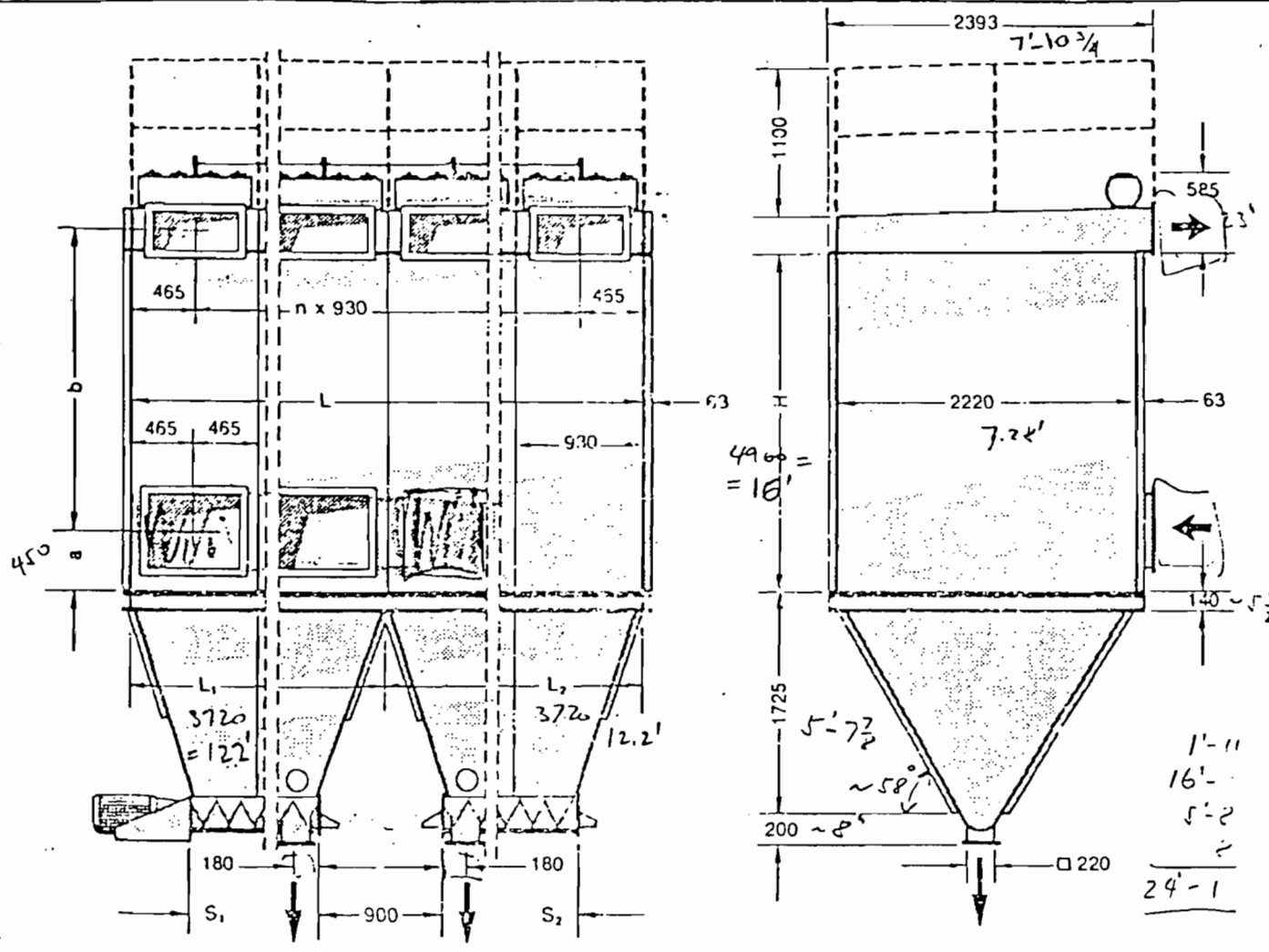
*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

Best Available Copy

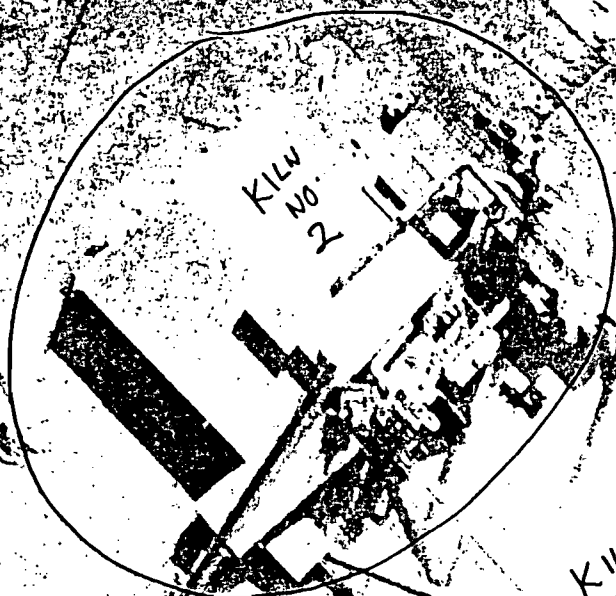
DATE: 1/2/52 SUBJECT: FLOW SHEET
DATE: KILN NO. 1
REVISION: SIMPLIFIED

SHEET NO. 1 OF 1
JOB NO. 121-80-01
SKETCH NO. 121-80-01-001

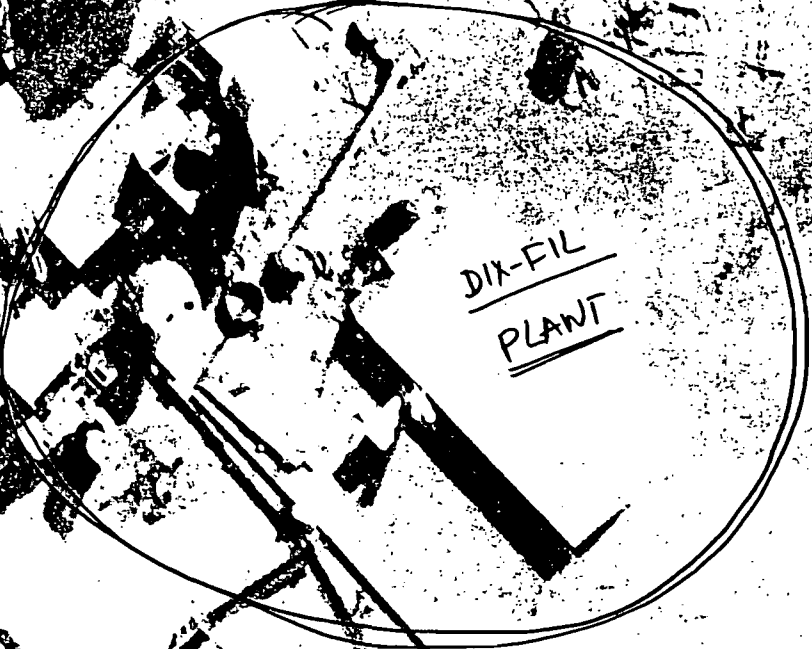




Type	Filterfläche (m ²)	L	H	L ₁	L ₂	S ₁	S ₂	a	b	n	Filtergewicht ca. kg	Flansche				
												Roh-gas	Rein-gas			
288.2.10	352	7440	2450	3720	3720	2820	2820	450	2155	7	6950	siehe Maßblatt M 0115.08	siehe Maßblatt M 0115.09			
324.2.10	396	8370		4650	3720	3750	2820			8	7730					
360.2.10	440	9300		4650	4650	3750	3750			9	8510					
396.2.10	486	10230		5580	4650	4680	3750			10	9250					
432.2.10	523	11160		5580	5580	4680	4680			11	10030					
468.2.10	572	12090		6510	5580	5610	4680			12	10820					
504.2.10	616	13020		6510	6510	5610	5610			13	11600					
540.2.10	660	13950		7440	6510	6540	5610			14	12380					
288.3.10	528	7440		3700	3720	3720	2820			2820	450			3405	7	8350
324.3.10	594	8370			4650	3720	3750			2820					8	9280
360.3.10	660	9300			4650	4650	3750			3750					9	10260
396.3.10	726	10230			5580	4550	4680			3750					10	11150
432.3.10	792	11160			5580	5580	4680			4680					11	12030
468.3.10	858	12090			6510	5580	5610			4680					12	13020
504.3.10	924	13020	6510		6510	5610	5610	13	13950							
540.3.10	990	13950	7440		6510	6540	5610	14	14780							
288.4.10	704	7440	4900		3720	3720	2820	2820	450	4605		7	9600			
324.4.10	792	8370			4650	3720	3750	2820				8	10680			
360.4.10	880	9300			4650	4650	3750	3750				9	11760			
396.4.10	968	10230			5580	4650	4680	3750				10	12800			
432.4.10	1056	11160			5580	5580	4680	4680				11	13780			
468.4.10	1144	12090			6510	5580	5610	4680				12	14920			
504.4.10	1232	13020		6510	6510	5610	5610	13			16000					
540.4.10	1320	13950		7440	6510	6540	5610	14			17080					

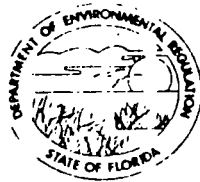


KILN NO. 1



AC 60-52589

DER



D.E.R.

FEB 19 1982

FEB 17 1982

BAQM

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOUTHWEST DISTRICT TAMPA

SOURCE TYPE: Process Dust Control [X] New [] Existing

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: Dixie Lime & Stone Company COUNTY: Sumter

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) #1 Kiln Scavenger System

SOURCE LOCATION: Street North State Road 470, 1 mile east City Sumterville, FL of U.S. 301 UTM: East North Latitude 28 0 46 26 "N Longitude 82 0 02 55 "W

APPLICANT NAME AND TITLE: V.D. Chapnerkar R&D Manager

APPLICANT ADDRESS: P.O. Drawer 217, Sumterville, FL 33585

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Dixie Lime & Stone Company

I certify that the statements made in this application for a Air Pollution 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: [Signature] V.D. Chapnerkar, R & D Manager Name and Title (Please Type) Date: 2/11/82 Telephone No. (904/793-2063)

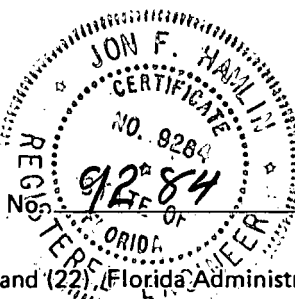
B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

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 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: [Signature] Jon F. Hamlin Name (Please Type)

(Affix Seal)

Consulting Service Inc. Company Name (Please Type) 439 Summit Dr., Brooksville, FL 33512 Mailing Address (Please Type) Date: 2-16-82 Telephone No. 904/796-9646



Florida Registration No. 9284

1 See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

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.

This is a process dust pick up system. This dust collector
shown as (3) in the attached drawing is used to exhaust the
scraper and the bucket elevator.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March, 1982 Completion of Construction April, 1982

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.)

Baghouse and Fan 5,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 48 ; if power plant, hrs/yr _____ ;
if seasonal, describe: _____

G. 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? _____

a. If yes, has "offset" been applied? _____

b. If yes, has "Lowest Achievable Emission Rate" been applied? _____

c. If yes, list non-attainment pollutants. _____

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. _____

3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. _____

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? _____

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? _____

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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		
Lime Dust	dust	Less than 1%	38,000	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 38,000

2. Product Weight (lbs/hr): 21,000

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Lime dust	2	8.0	N/A	5.7	2.0	8.0	

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Mikro-Pulsaire	lime dust	99.9%	100-2 micron	
		0.02 gr/cf		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
N/A			

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, 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: Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 10 ft. Stack Diameter: 1 ft.

Gas Flow Rate: 3000 ACFM Gas Exit Temperature: 240 °F.

Water Vapor Content: less than 1 % Velocity: 63.7 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
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, 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 8½" 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 8½" 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 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
10. 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

- A. 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

- B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) Yes No

Contaminant	Rate or Concentration

- C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Lime Dust	

- D. Describe the existing control and treatment technology (if any).

1. Control Device/System: Baghouse
2. Operating Principles: Filter Fabrics
3. Efficiency: * 99.9% 0.1 micron bywt.
4. Capital Costs: 5000
5. Useful Life: 1-2 yrs. min. for bags
6. Operating Costs: 1000
7. Energy:
8. Maintenance Cost: 500
9. Emissions: 0.02 gr/cf

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

- 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*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- 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:

F. Describe the control technology selected:

- 1. Control Device: Filter Baghouse
- 2. Efficiency*: 99.9%
- 3. Capital Cost:
- 4. Life:
- 5. Operating Cost:
- 6. Energy:
- 7. Maintenance Cost:
- 8. Manufacturer: Mikro Pul
- 9. Other locations where employed on similar processes:

a.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

- (1) Company: Mikro Pul
- (2) Mailing Address: 10 Chatham Road
- (3) City: Summit
- (4) State: New Jersey 07901

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

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*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy*:
- 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*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy**:
- h. Maintenance Costs:
- 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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power – KWH design rate.

3.

- a. Control Device:
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:

*Explain method of determining efficiency above.

(5) Environmental Manager: Jack Shaughnessy

(6) Telephone No.: (201) 273-6360

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

File 1017
QUOTATION



Subsidiary of

MikroPul
CORPORATION

cc: Lee Searfoss-MikroPul
SONNY SCOTT
Linder Inquiry #3-4

UNITED STATES FILTER CORPORATION
10 Chatham Road - Summit, N.J. 07901 - (201) 273-6360

4-13-77
(REVISED PRICING)

DATE: March 11, 1977

TO: Dixie Lime & Stone Company
P.O. Drawer 217
Sumterville, Florida 33585
ATTN: Mr. Harold Butler

FOR: Sumterville, Florida Plant

Dust Collector for Venting Belt
Conveyor Transfer Points

6-27-77- MARKED - AS ORDERED
LINDER P.O. # E-22466-1

YOUR REF:

(1) Mikro-Pulsaire Dust Collector, continuous automatic type, Model 64STR-8-20 (top bag removal) with 60° slope hopper and all standard equipment. Unit to operate under the following conditions:

- Gas Volume: 3,000 ACFM
- Temperature: 240° F.
- Dust Loading: Inlet Estimate 10-15 Grains/Cu.Ft.
- Filter Rate: 5.1:1
- Dust: Calcium Carbonate
- Application: Venting Belt Conveyor Transfer Points

Collector Efficiency: Dust load leaving Mikro-Pulsaire will not exceed 0.02 Gr's/SCF.

EQUIPMENT TO CONSIST OF THE FOLLOWING:

- One (1) Filter case housing constructed of 12 gauge hot rolled steel, factory welded and bolted construction.
- One (1) Set of filter bags consisting of 64 bags, 8' long fabricated with 16 oz. Polyester felt filter fabric, Part #17498 to provide a total of 602 sq. ft. of filter area. Maximum operating temperature is 275 Degrees F. Shipped loose for field installation by others. Bags to be installed from top of unit.

When ordering this material, please indicate if it is tax exempt and exemption number; or if a tax applies, the amount or percentage of the tax.

FOB: Shipping Points

SHIPMENT:

- (A) Time needed to submit detailed drawings for approval (when required) . . . 4 weeks
- (B) Time needed to complete fabrication after receipt of approved drawings (when required) . . . 14-16 weeks

TERMS: Net 10th Prox. No sales or use taxes included.

SHIPPING WEIGHT: Listed with Pricing.

The price quoted is a firm quotation for a period of 30 days after quotation date. "The contents included in the above quotation are subject to approval by home office."

NOTE:

When entering your order please return one of our prints submitted with our quote and mark it approved for orientation or mark the changes required and we will advise further.

ADDRESS REPLY TO: LINDER INDUSTRIAL MACHINERY CO.
P.O. BOX 5330
LAKELAND, FLORIDA 33803
813/646-5711

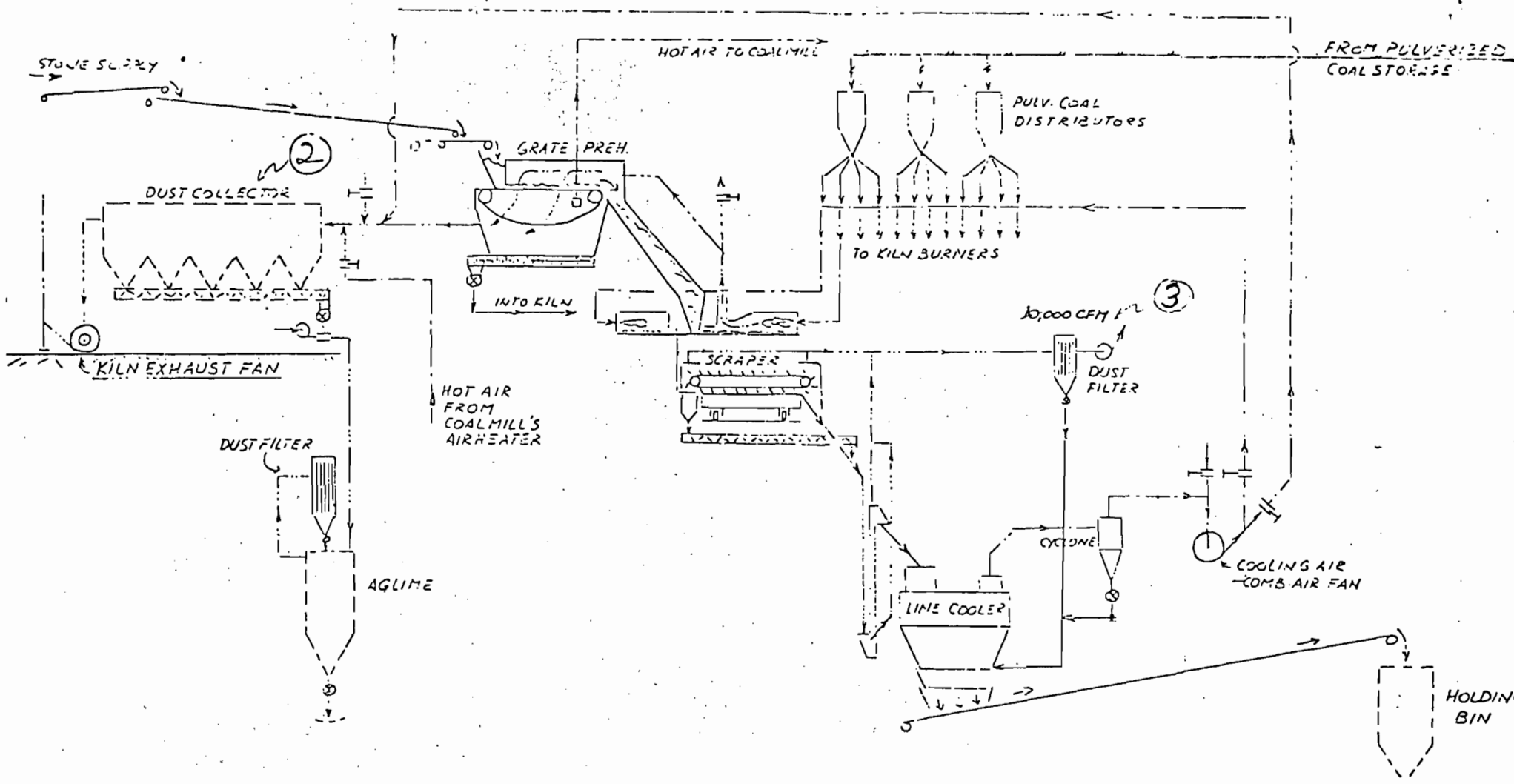
MikroPul
CORPORATION
UNITED STATES FILTER CORPORATION

D.L.H.
D.L. Heckman
Linder Industrial Machinery

BY L.H.B. DATE 12/1/51
CHKD BY DATE
(K.P.R. 1931 REVISED)

SUBJECT FLOW SHEET
KILN NO. 1
SIMPLIFIED

SHEET NO. 1 OF 1
JOB NO. 121-80-01
SKETCH NO. 121-84-01-001



DER

FEB 19 1982

BAQM



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT
AIR POLLUTION SOURCES

AC 60-52587

D.E.R.

FEB 17 1982

SOUTHWEST DISTRICT
TAMPA

SOURCE TYPE: Air Pollution New¹ Existing¹

APPLICATION TYPE: Construction Operation Modification

COMPANY NAME: Dixie Lime & Stone Company COUNTY: Sumter

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

SOURCE LOCATION: Street North State Road 470, 1 mile east of City Sumterville, FL
U.S. 301

UTM: East _____ North _____

Latitude 28 ° 46 ' 26 "N Longitude 82 ° 02 ' 55 "W

APPLICANT NAME AND TITLE: V.D. Chapnerkar, R & D Manager

APPLICANT ADDRESS: P.O. Drawer 217, Sumterville, FL 33585

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Dixie Lime & Stone Company

I certify that the statements made in this application for a Air Pollution 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: V.D. Chapnerkar
V.D. Chapnerkar, R & D Manager
Name and Title (Please Type)

Date: 2/11/82 Telephone No. 904-793-2063

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 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.

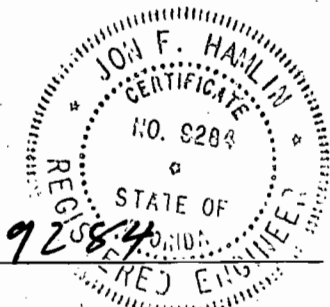
Signed: Jon F. Hamlin
Jon F. Hamlin

Consulting Service Inc.
Name (Please Type)

439 Summit Dr., Brooksville, FL 33512
Company Name (Please Type)
Mailing Address (Please Type)

Date: 2-16-82 Telephone No. 904/796-9646

(Affix Seal)



Florida Registration No. 9283

¹See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

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.
 This project involves feeding the ground coal to No. 2 Kiln.

The dust collectors shown in the attached drawings collect dust from transfer system used to air convey ground coal, so that the conveying can be exhausted to the atmosphere without pollution.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1, 1982 Completion of Construction May, 1982

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.)

Baghouse 10,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 48 ; if power plant, hrs/yr _____ ; if seasonal, describe: _____

G. 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?

b. If yes, has "Lowest Achievable Emission Rate" been applied?

c. If yes, list non-attainment pollutants.

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.

N/A

3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII.

N/A

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?

N/A

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

N/A

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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		
	Coal Dust	1%	5,000 #/hr	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 5,000
2. Product Weight (lbs/hr): 5,000

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Coal Dust	2	8.0		2	2	8.0	
	(Based on AP 42 1.1-3)						

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Boothe Dust Collector	Coal Dust	99.9%	2-100 micron	
Model B 150 S		0.02 gr/cf		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
N/A			

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, 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. Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

NONE

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: _____ 10 ft. Stack Diameter: _____ .67 ft.

Gas Flow Rate: _____ 600 ACFM Gas Exit Temperature: _____ 90 °F.

Water Vapor Content: _____ less than 1 % Velocity: _____ 28.9 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
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, 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 8½" 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 8½" 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 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
10. 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

- A. 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

- B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) Yes No

Contaminant	Rate or Concentration

- C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Pulverized Coal	

- D. Describe the existing control and treatment technology (if any).

- 1. Control Device/System: Baghouse
- 2. Operating Principles: Filter Fabric
- 3. Efficiency: * 99.9% 0.1 micron bywt.
- 4. Capital Costs: \$5,000
- 5. Useful Life: 1-2 yrs. min. per year
- 6. Operating Costs: 1,000
- 7. Energy:
- 8. Maintenance Cost: 500
- 9. Emissions: 0.2 gr/cf

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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: E.S.P. no data for ESP use in controlling pulverized coal in vent emissions.
- b. Operating Principles:
- c. Efficiency*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy*:
- 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: wet scrubber - not data for wet scrubber use in controlling pulverized coal in vent emissions.
- b. Operating Principles:
- c. Efficiency*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy**:
- h. Maintenance Costs:
- 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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power — KWH design rate.

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:

*Explain method of determining efficiency above.

- 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*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- 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:

F. Describe the control technology selected:

- 1. Control Device: Baghouse
- 2. Efficiency*: 99.9% 0.1 micron bywt.
- 3. Capital Cost:
- 4. Life:
- 5. Operating Cost:
- 6. Energy:
- 7. Maintenance Cost:
- 8. Manufacturer: Boothe
- 9. Other locations where employed on similar processes:

a.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

- (1) Company: Boothe Industries Incorporated
- (2) Mailing Address: 1240 Enterprise Blvd.
- (3) City: Largo
- (4) State: Florida

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

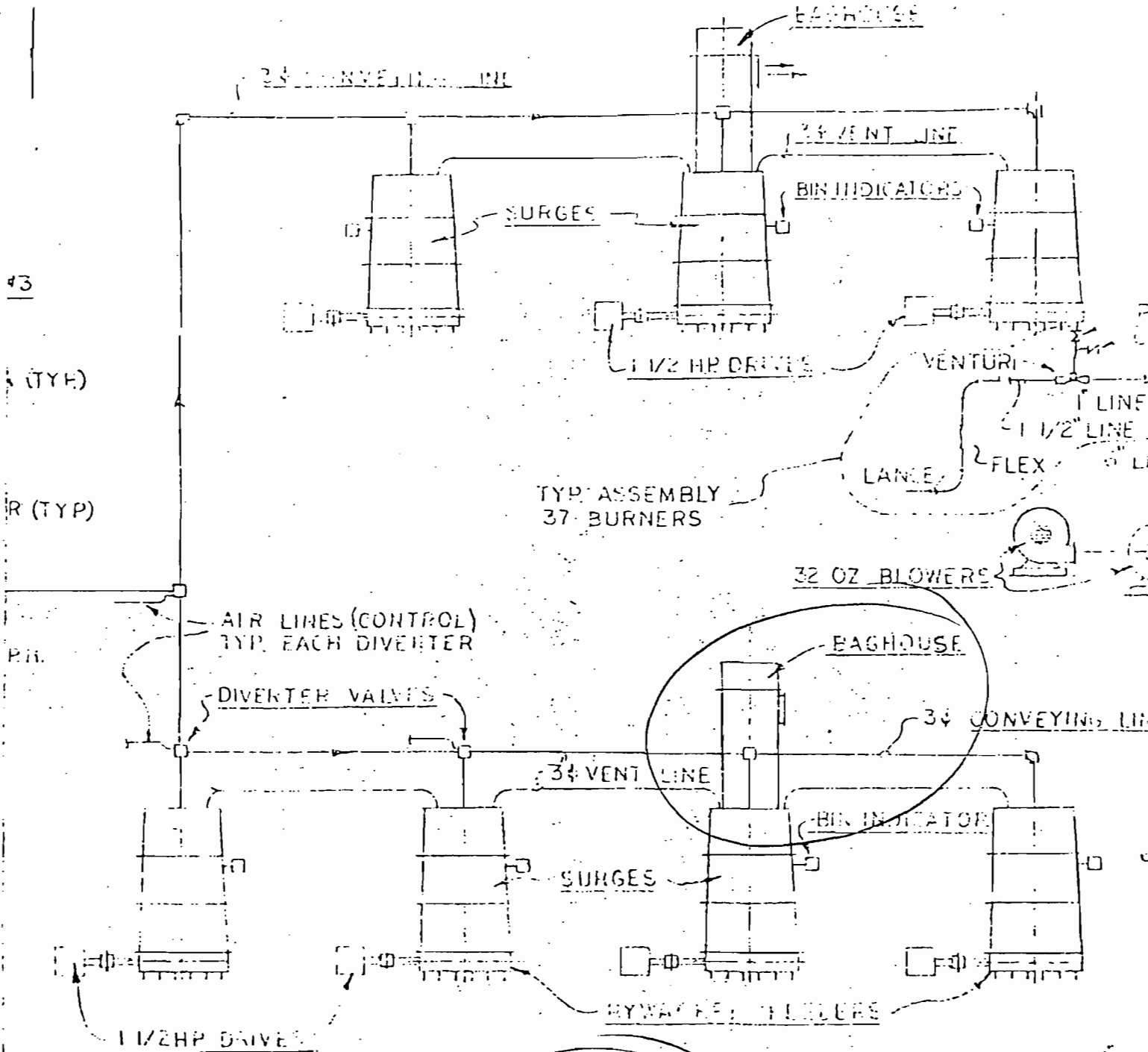
(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

Best Available Copy

KILN #1
(1.6 T.P.H.)
SEGMENT #4-B



KILN #2
(1.7 T.P.H.)
(SEGMENT #4-A)

Best Available Copy

Booth

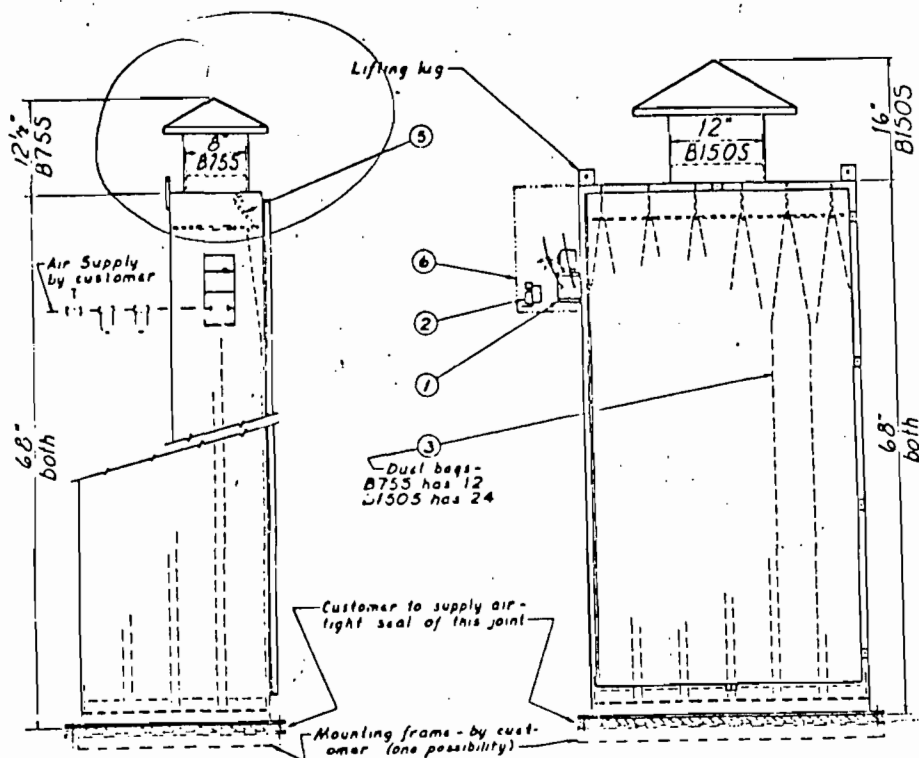
"The Air Conveyor People"

DUST COLLECTORS

MODEL B-75-E; PART # 09238

MODEL B-150-E; PART # 09239

SHAKER TYPES; PART # 75450



Booth's newer-type dust collectors have been developed to exhaust the air used in pneumatic conveying, while trapping airborne dust and letting it fall back into the receiving bin. Shaking action is by the double-acting bag shakers by which the tops of the dust bags are moved vigorously back and forth during the "charging" period of the conveying cycle. The 2-way solenoid valves, which operate the shaker(s), are self energized and de-energized respectively by the motorized cam switch, which is normally installed in the Booth's electrical control panel and wired as shown below.

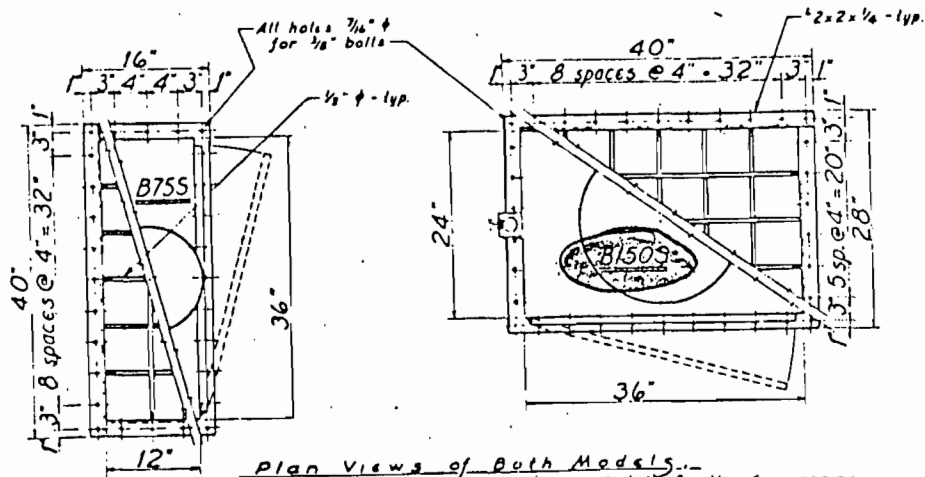
Dust collector bags have a cloth area of 6.25 ft² each, for a total cloth area of 75 ft² on the B75S and 150 ft² on the B150S. At a 4:1 air-to-cloth ratio, the B75S has an air capacity of 300 SCFM and the B150S, 600 SCFM. This gives an air velocity of 4 ft/min and a normal pressure drop of 2" H₂O and a maximum pressure drop of 7" H₂O if the bags are very dirty. Efficiency of dust removal exceeds 99%.

Standard bag material is cotton flannel, with Terylene, fiberglass and Nomex™ available at extra cost. Air supply to the solenoid valve is to be supplied by customer. Air must be at 80-100 p.s.i.g., filtered and lubricated, at a rate of 1 SCFM for B75S and 2 SCFM for B150S.

For most efficient filtering action of dust collectors, several steps must be taken to help as much dust as possible settle out of the conveying air by gravity BEFORE the air gets to the dust collector.

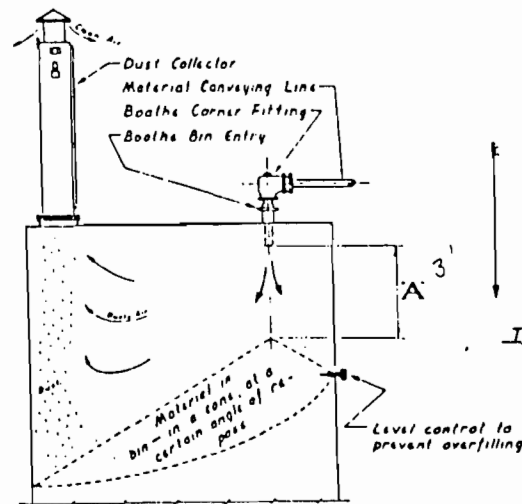
1. Mount dust collector and air conveyor discharge as far apart as possible, as shown below.
2. The distance "A" in the view below must be at least one foot for each inch of conveying line inside diameter; for example, with a 3" line, "A" must be at least 3'-0". If the material being conveyed is extremely fine, i.e. 80% - 325 mesh, increase "A" by one foot. NOTE: "A" is determined by the location of the level control.
3. The volume of the free space above the theoretical maximum material height must be at least four times the sum of the volumes of the fluidizer tank and the conveying line. 1/4" tubing has a volume of 0.012 fl./linear ft.; 2", 0.022; 2 1/2", 0.034; 3", 0.049; 4", 0.087.

Total weights, installed — B75S, 200 lb.; B150S, 350 lb.



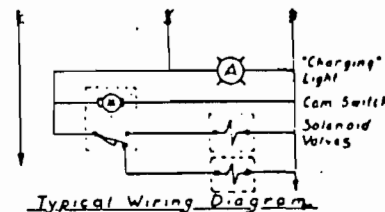
Plan Views of Both Models

Showing also, mounting frames with safety grids, suggested by Booth Engineering as one way for customer to install dust collectors



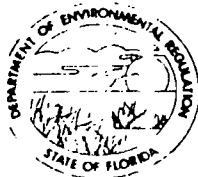
Typical Receiving Bin

Showing material inlet and dust collector, mounted on top. No Scale.



Your system utilizes 80

Model B150S
150 sq ft of cloth area



AC 60-52586

D.E.R.

DER

FEB 19 1982

BAQM

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT
AIR POLLUTION SOURCES

FEB 17 1982
SOUTHWEST DISTRICT
TAMPA

SOURCE TYPE: Air Pollution [] New¹ [X] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: Dixie Lime & Stone Company COUNTY: Sumter

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Lime Kiln #2 filter baghouse, oil and coal fired

SOURCE LOCATION: Street North State Road 470, 1 mile east of City Sumterville, FL
U.S. 301

UTM: East _____ North _____

Latitude 28 ° 46 ' 26 "N Longitude 82 ° 02 ' 55 "W

APPLICANT NAME AND TITLE: V.D. Chapnerkar, R & D Manager

APPLICANT ADDRESS: P.O. Drawer 217, Sumterville, FL 33585

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Dixie Lime & Stone Company
Air Pollution Construction

I certify that the statements made in this application for a 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: [Signature]
V.D. Chapnerkar, R & D Manager
Name and Title (Please Type)

Date: 2/10/82 Telephone No. (904-793-2063)

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 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: [Signature]
Jon F. Hamlin
Name (Please Type)

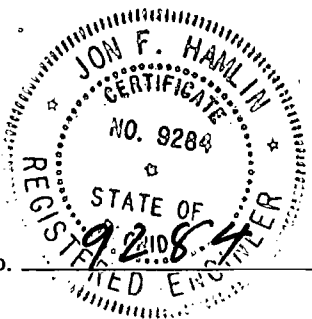
Consulting Service Inc.

Company Name (Please Type)
439 Summit Dr., Brooksville, FL 33512

Mailing Address (Please Type)

Date: 2-16-82 Telephone No. 904/796-9646

(Affix Seal)



Florida Registration No. _____

¹See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

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.
The main process is the calcination of mine run limestone to produce lime with the emission of CO₂. This is done in a Calcimatic Kiln. The fluegas is processed in Fuller Baghouse. The draft required to support the fire creates the fine dust and carries it to the stack where the collector reclaims it to the system or to a storage silo.
- B. Schedule of project covered in this application (Construction Permit Application Only)
Start of Construction March, 1982 Completion of Construction April, 1982
- 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.)
- D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.
This source has been permitted and operating under A060-30853 since 1978 and will expire in July, 1985.
- E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes No
- F. Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 48; if power plant, hrs/yr _____; if seasonal, describe: _____
- G. 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? _____
 - a. If yes, has "offset" been applied? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. _____
 3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. _____
 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? _____
 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? _____

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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		
CaCO ₃	dust	12	45,000	1
		--		1

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 45,000
2. Product Weight (lbs/hr): 25,000

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
CaCO ₃ + CaO	5.21	22	N/A	24.74	1620	6804	1
	see test 3/25/81						1

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Fuller Baghouse	CaCO ₃ + CaO	99.9%		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
#6 Fuel Oil	500 gal	575 gal	85
OR COAL	5 tons	5.75 tons	

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr Fuel Oil/coal

Fuel Analysis:

Percent Sulfur: 2.0/1.0 Percent Ash: 0.03/6.0
 Density: 0.9787 lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: 18,340/12,500 BTU/lb 150,297/- BTU/gal
 Other Fuel Contaminants (which may cause air pollution): NONE

F. If applicable, indicate the percent of fuel used for space heating. Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.
Ash to be deposited in mined art pits.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):
 Stack Height: 70 ft. Stack Diameter: 4'6" ft.
 Gas Flow Rate: 46,800 ACFM Gas Exit Temperature: 299 °F.
 Water Vapor Content: 12.3 % Velocity: 49.06 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
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, 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 8½" 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 8½" 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 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. 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

- A. 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

- B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) Yes No

Contaminant	Rate or Concentration

- C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

- D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|----------------------|
| 1. Control Device/System: | 4. Capital Costs: |
| 2. Operating Principles: | 6. Operating Costs: |
| 3. Efficiency: * | 8. Maintenance Cost: |
| 5. Useful Life: | |
| 7. Energy: | |
| 9. Emissions: | |

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy*:
- 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*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy**:
- h. Maintenance Costs:
- 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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power — KWH design rate.

3.

- a. Control Device:
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:

*Explain method of determining efficiency above.

- 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*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- 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:

F. Describe the control technology selected:

- 1. Control Device: Baghouse
- 2. Efficiency*: 99%
- 3. Capital Cost:
- 4. Life:
- 5. Operating Cost:
- 6. Energy:
- 7. Maintenance Cost:
- 8. Manufacturer: Fuller
- 9. Other locations where employed on similar processes:

a.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.



DIXIE LIME AND STONE COMPANY
POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904)793-2063 • TELEX:056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

SUBJECT: Use of Coal as Fuel in Kiln No. 2:

In April, 1981, a temporary system for use of coal as fuel was installed on No. 2 Kiln. The objective was to see the effect of 30% coal as fuel and rest fuel oil on pollution.

The data collected during June, 1981, has clearly shown that all the coal dust goes out with the product and hence does not affect the baghouse operation and emission from the stack. The data is based on Fe and acid insoluble balance. The S in the coal which is relatively low is also tied up with the product forming calcium sulfate and hence does not go with the stack gases.

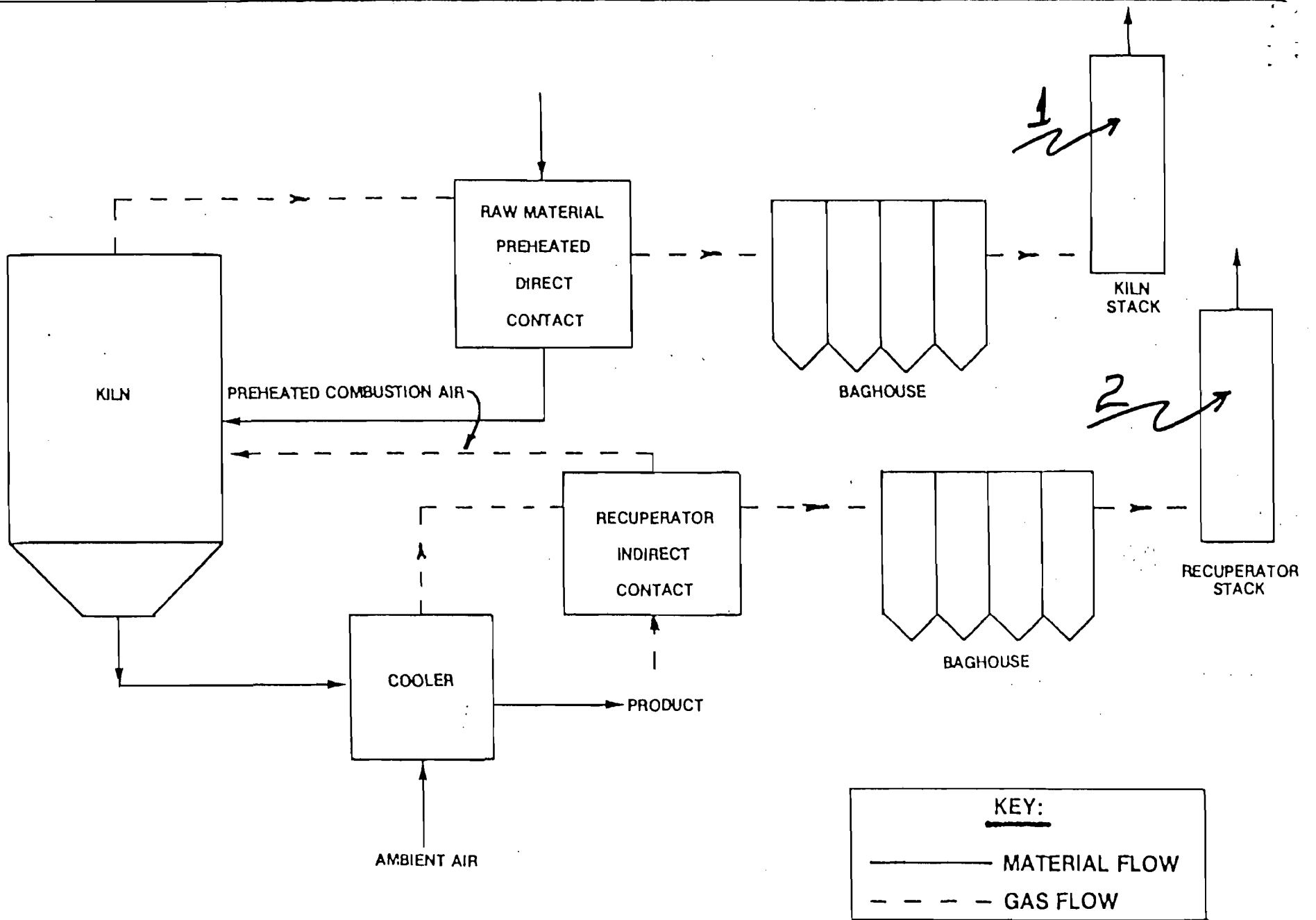
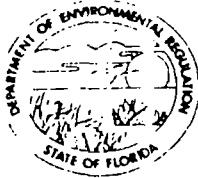


Figure 1 KILN SYSTEM

AC 60-52543



DER

D.E.R.

FEB 19 1982

STATE OF FLORIDA

FEB 17 1982

DEPARTMENT OF ENVIRONMENTAL REGULATION

BAQM APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOUTHWEST DISTRICT TAMPA

SOURCE TYPE: Air Pollution [X] New¹ [] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: Dixie Lime & Stone Company COUNTY: Sumter

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Kiln No. 1 fine coal handling system

SOURCE LOCATION: Street North State Road 470, 1 mile east City Sumterville, FL of U.S. 301

UTM: East North

Latitude 28° 46' 26" N Longitude 82° 02' 55" W

APPLICANT NAME AND TITLE: V.D. Chapnerkar, R & D Manager

APPLICANT ADDRESS: P.O. Drawer 217, Sumterville, FL 33585

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Dixie Lime & Stone Company

I certify that the statements made in this application for a Air Pollution 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: [Signature] 2/11/82 V.D. Chapnerkar, R & D Manager Name and Title (Please Type)

Date: 2/11/82 Telephone No. 904-793-2063

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

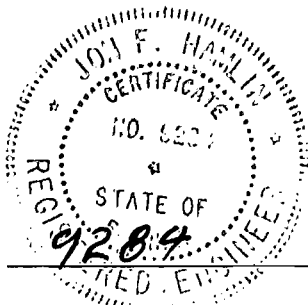
This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that 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: [Signature] Jon F. Hamlin Name (Please Type)

Consulting Service Inc. Company Name (Please Type) 439 Summit Dr., Brooksville, FL 33512 Mailing Address (Please Type)

Date: 2-16-82 Telephone No. 904/796-9646

(Affix Seal)



Florida Registration No. 9289

¹See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

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.

This project involves feeding the ground coal to No. 1 Kiln.

The dust collectors shown in the attached drawings collect dust from transfer system used to air convey ground coal, so that the conveying can be exhausted to the atmosphere without pollution.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1, 1982 Completion of Construction April, 1982

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.)

Baghouse 10,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes No

F. Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 48; if power plant, hrs/yr _____; if seasonal, describe: _____

G. 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? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
- 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. N/A
- 3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. N/A
- 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? N/A
- 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? N/A

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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		
	Coal Dust	1%	5000 #/hr	

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 5,000
2. Product Weight (lbs/hr): 5,000

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Coal Dust	2	8.0		2	2	8.0	
	(Based on AP 42 1.1-3)						

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Boothe Dust Collector	Coal Dust	99.9%	2-100 micron	
Model B150S		0.02 gr/cf		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr.	max./hr	
N/A			

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, 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. Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.
 NONE

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: _____ 10 ft. Stack Diameter: _____ 0.67 ft.

Gas Flow Rate: _____ 600 ACFM Gas Exit Temperature: _____ 90 °F.

Water Vapor Content: _____ less than 1 % Velocity: _____ 28.9 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
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, 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 8½" 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 8½" 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 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. 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

A. 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

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) Yes No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Pulverized Coal	

D. Describe the existing control and treatment technology (if any).

- 1. Control Device/System: Baghouse
- 2. Operating Principles: Filter Fabric
- 3. Efficiency: * 99.9% 0.1 micron bywt.
- 4. Capital Costs: \$5,000
- 5. Useful Life: 1-2 yrs. min per year
- 6. Operating Costs: 1,000
- 7. Energy:
- 8. Maintenance Cost: 500
- 9. Emissions: 0.2 gr/cf

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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: E.S.P. no data for ESP use in controlling pulverized coal in vent emissions.
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy*:
- 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: Wet scrubber - not data for wet scrubber use in controlling pulverized coal in vent emissions.
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy**:
- h. Maintenance Costs:
- 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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power — KWH design rate.

3.

- a. Control Device:
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:

*Explain method of determining efficiency above.

- 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*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- 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:

F. Describe the control technology selected:

- 1. Control Device: Baghouse
- 2. Efficiency*: 99.9% 0.1 micron bywt
- 3. Capital Cost:
- 4. Life:
- 5. Operating Cost:
- 6. Energy:
- 7. Maintenance Cost:
- 8. Manufacturer: Boothe
- 9. Other locations where employed on similar processes:

a.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

- (1) Company: Boothe Industries Incorporated
- (2) Mailing Address: 1240 Enterprise Blvd.
- (3) City: Largo
- (4) State: Florida

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant

Rate or Concentration

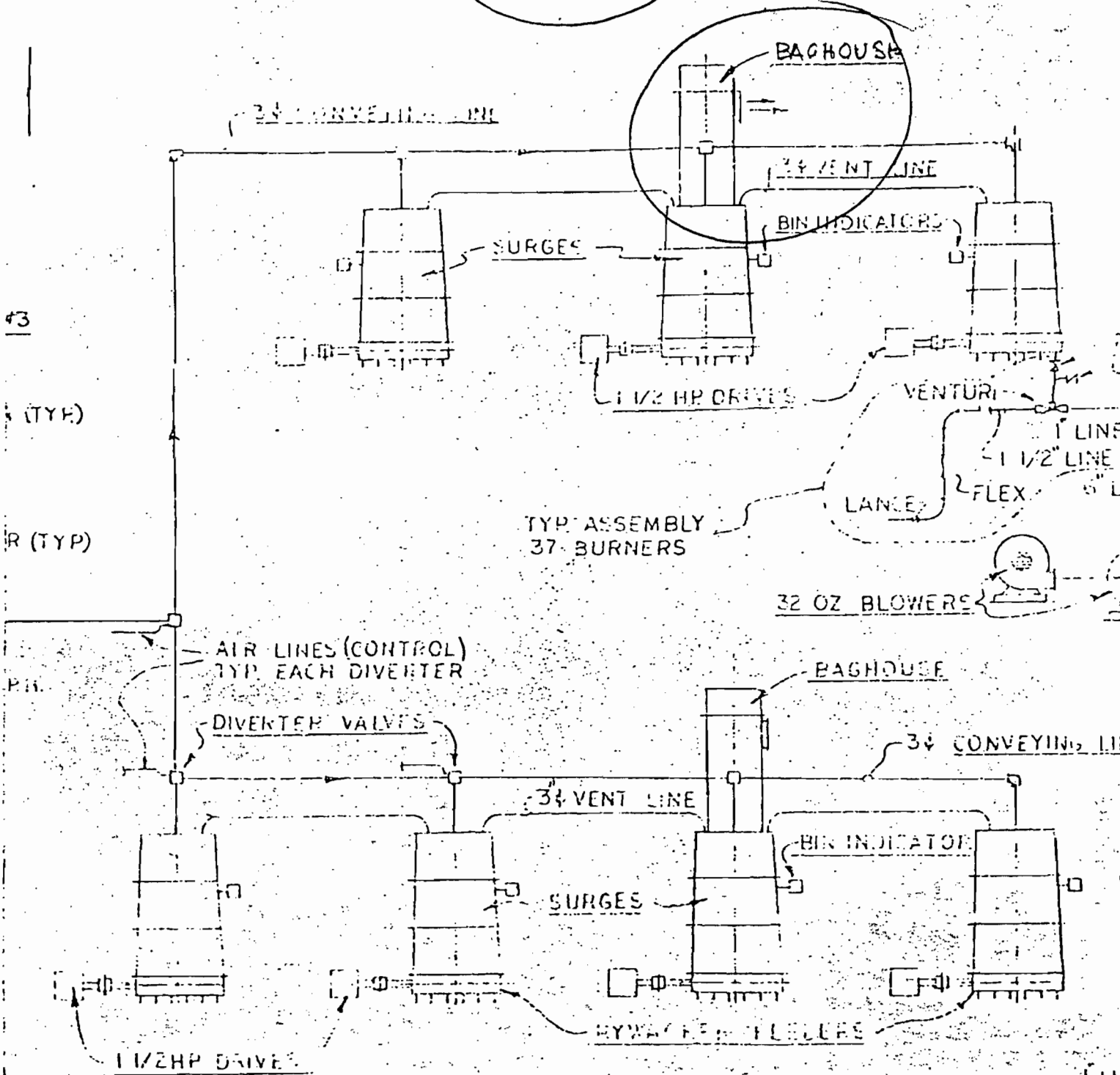
Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

KILN #1
(1.6 T.P.H.)
SEGMENT #4-B



KILN #2
(0.7 T.P.H.)
(SEGMENT #4-A)

Best Available Copy

Booth

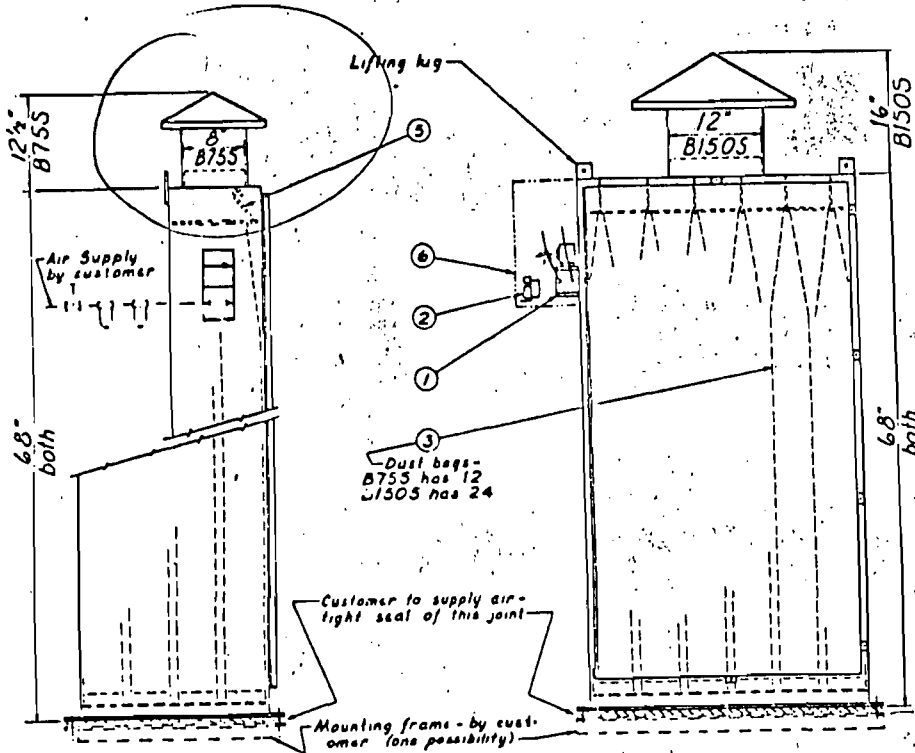
"The Air Conveyor People"

DUST COLLECTORS

MODEL B-75-E; PART # 09238

MODEL B-150-E; PART # 09239

SHAKER TYPE-S; PART # 75450



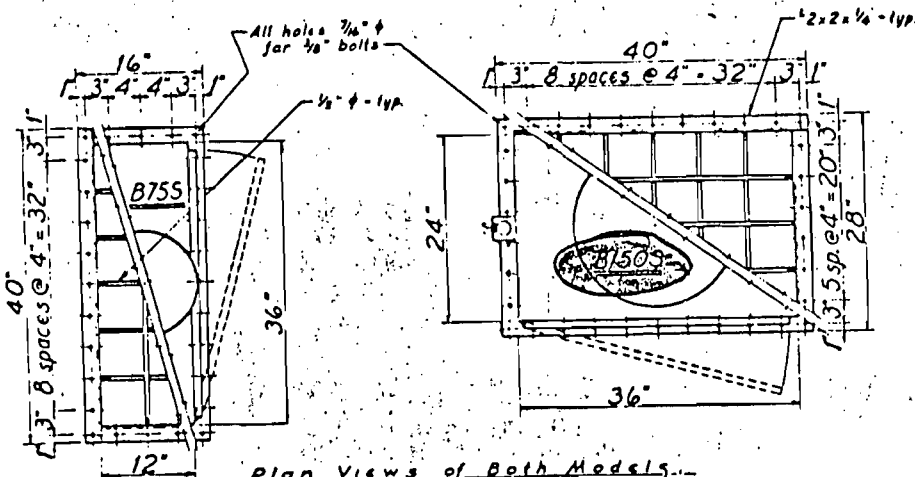
Booth's shaker-type dust collectors have been developed to exhaust the air used in pneumatic conveying, while trapping airborne dust and letting it fall back into the receiving bin. Shaking action is by the double-acting bag shakers by which the tops of the dust bags are moved vigorously back and forth during the 'charging' period of the conveying cycle. The 2-way solenoid valves, which operate the shakers, are self energized and de-energized repeatedly by the motorized cam switch, which is normally installed in the booth's electrical control panel and wired as shown below.

Dust collector bags have a cloth area of 6.25 ft² each, for a total cloth area of 75 ft² on the B755 and 150 ft² on the B150S. At a 4:1 air-to-cloth ratio, the B755 has an air capacity of 300 SCFM and the B150S, 600 SCFM. This gives an air velocity of 4 ft/min and a normal pressure drop of 2" H₂O and a maximum pressure drop of 7" H₂O if the bags are very dirty. Efficiency of dust removal exceeds 99%.

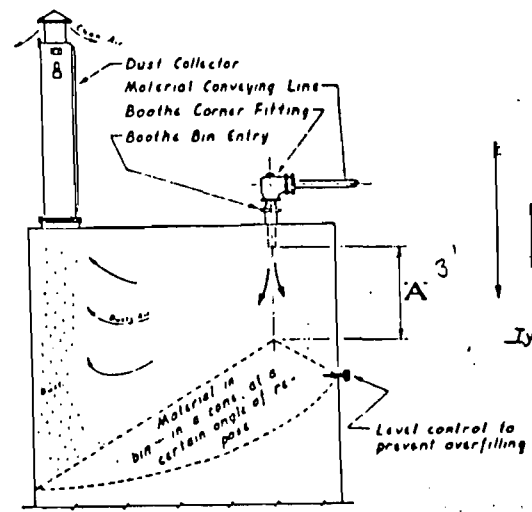
Standard bag material is cotton flannel, with Terylene, fiberglass and Nomex available at extra cost.

Air supply to the solenoid valve is to be supplied by customer. Air must be at 80-100 psig, filtered and lubricated, at a rate of 1 SCFM for B755 and 2 SCFM for B150S.

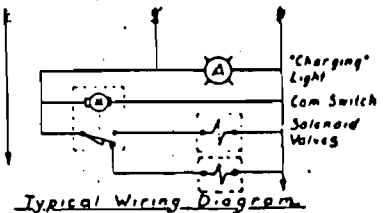
- For most efficient filtering action of dust collectors, several steps must be taken to help as much dust as possible settle out of the conveying air by gravity BEFORE the air gets to the dust collector.
1. Mount dust collector and air conveyor discharge as far apart as possible, as shown below.
 2. The distance "A" in the view below must be at least one foot for each inch of conveying line inside diameter; for example, with a 3" line, "A" must be at least 3'-0". If the material being conveyed is extremely fine, i.e. 80% - 325 mesh, increase "A" by one foot. NOTE: "A" is determined by the location of the level control.
 3. The volume of the free space above the theoretical maximum material height must be at least four times the sum of the volumes of the fluidizer tank and the conveying line. 1/2" tubing has a volume of 0.012 ft³/linear ft; 2", 0.022; 2 1/2", 0.034; 3", 0.049; 4", 0.087.
- Total weights, installed — B755, 200 lb; B150S, 350 lb.



Plan Views of Both Models. Showing also, mounting frames with safety grids, suggested by Booth Engineering as one way for customer to install dust collectors



Typical Receiving Bin. Showing material inlet and dust collector, mounted on top. No Scale.



Typical Wiring Diagram

Your system utilizes 80 SCFM

Model B150S
150 sq ft of cloth area

BEST AVAILABLE COPY

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Clair Fancy

INITIAL

DATE

2.

Bureau of Air Quality Management

INITIAL

DATE

3.

INITIAL

DATE

4.

RE: Dixie Lime & Stone

INITIAL

DATE

REMARKS:

Attached are four additional const. permit applications for Dixie.

The Lime Kila #2 filter baghouse is not a new source. The application is to allow Dixie to burn coal and/or oil.

Also attached is a copy of the const. permit we issued to Dixie for a coal grinding system.

INFORMATION

REVIEW & RETURN

REVIEW & FILE

INITIAL & FORWARD

DISPOSITION

REVIEW & RESPOND

PREPARE RESPONSE

FOR MY SIGNATURE

FOR YOUR SIGNATURE

LET'S DISCUSS

SET UP MEETING

INVESTIGATE & REPT

INITIAL & FORWARD

DISTRIBUTE

CONCURRENCE

FOR PROCESSING

INITIAL & RETURN

FROM:

Don A Williams

DATE

2-17-82

PHONE

I told Dr. Chapnerkar
the const. permit for the
coal grinding system may be
subject to a BACT determination
if all the new sources trigger
a PSD application.

He has contracted with
ESE in Gainesville to do
the modelling work for
him.

If you have any questions
give me a call.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610



BOB GRAHAM
GOVERNOR

~~JACOB XXXXX~~
Vicki Tschinkel
SECRETARY
WILLIAM K. HENNESSEY
DISTRICT MANAGER

Sumter County AP

DER

FEB 19 1982

BAQM

Dr. Vasant D. Chapnerkar
Dixie Lime & Stone Company
P.O. Drawer 217
Sumterville, FL 33585

Dear Dr. Chapnerkar:

Enclosed is Permit Number AC60-49009, dated Feb. 16, 1982,
to construct the subject air pollution
issued pursuant to Section 403, Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.201, Florida Administrative Code, (see reverse side of this letter). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,

W.K. Hennessey
W.K. Hennessey
District Manager

cc: Tom Terpening, P.E.

Enclosure

DER Form 17-1.122(66) 1/2

RULES OF THE ADMINISTRATION COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

PART II
FORMAL PROCEEDINGS

28-5.201 Initiation of Formal Proceedings.

- (1) Initiation of formal proceedings shall be made by petition to the agency responsible for rendering final agency action. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced and indented.
- (2) All petitions filed under these rules should contain:
 - (a) The name and address of each agency affected and each agency's file or identification number, if known;
 - (b) The name and address of the petitioner or petitioners, and an explanation of how his/her substantial interests will be affected by the agency determination;
 - (c) A statement of when and how petitioner received notice of the agency decision or intent to render a decision;
 - (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
 - (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief;
 - (f) A demand for relief to which the petitioner deems himself entitled; and
 - (g) Other information which the petitioner contends is material.

A petition may be denied if the petitioner does not state adequately a material factual allegation, such as a substantial interest in the agency determination, or if the petition is untimely. (Section 28-5.201(3)(a), FAC).

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610



BOB GRAHAM
GOVERNOR

XXXXXXXXXX

SECRETARY
Vicki Tschinke
WILLIAM K. HENNESSEY
DISTRICT MANAGER

APPLICANT:

Dixie Lime & Stone Company
P.O. Drawer 217
Sumterville, FL 33585

PERMIT/CERTIFICATION
NO. AC60-49009

COUNTY: Sumter

PROJECT: Coal Grinding
System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of a coal grinding system using a Raymond bowl mill with emissions controlled by a Micro-Pulsaire Model 133-10-100 TRH-C dust collector.

Located at SR 470, 1/2 mile east of 301, Sumterville, Sumter County.

UTM: 17-397.2E 3182.0N

Replaces Permit NO: N/A

NEDS NO: 0001 Point ID: 14

Expires: September 30, 1982

PERMIT NO.: AC60-49009
APPLICANT: Dixie Lime & Stone Company

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact 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 revocation of this permit.
4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor 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.
5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.
8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.
13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC60-49009
APPLICANT: Dixie Lime & Stone Co.

SPECIFIC CONDITIONS:

1. The construction of this facility shall be completed by 6/30/82. An application to operate this installation shall be submitted to the Department 60 days prior to expiration date of this permit.
2. This construction permit expires on 9/30/82, following an initial period of operation for appropriate testing to determine compliance with the Rules of the Florida Department of Environmental Regulation Commission. (Chapter 17-4.07(7) F.A.C.)
3. All applicable rules of the Department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction. (Chapter 17-4.07(1), F.A.C.)
4. The particulate emission rate from this source shall not exceed 9.73 pounds per hour or 40.87 tons per year.
5. Visible emissions shall not exceed 20% opacity.
6. The total operation time shall not exceed 8400 hours a year.
7. Test for emissions of total suspended particulate matter and plume density in accordance with the applicable methods described in Chapter 17-2.700, F.A.C. Submit the test data to the District Office within 15 days of such testing.

PERMIT NO.: AC60-49009
APPLICANT: Dixie Lime & Stone Co.

Expiration Date: September 30, 1982

Issued this 16th day of February, 1982.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Don A. Williams

Signature

PAGE 4 OF 4 *for*

W.K. Hennessey
District Manager



Consulting Services, Inc.

TELEPHONE (904) 796-9646

439 SUMMIT DRIVE • P.O. BOX 1113 • BROOKSVILLE, FLORIDA 33512

JON F. HAMLIN
PROFESSIONAL ENGINEER

Thomas B. Terpening
P. E.

October 9, 1981

Department of Environmental
Regulation
7601 Hwy. 301 North
Tampa, Florida 33610

Att: Dan Williams

Dear Dan;

Included are the completed forms for a construction permit for the coal grinding system fugitive dust system and process fugitive dust system at Dixie Lime & Stone at Sumterville, Florida.

This is a bag house control system to be tested by visual observation after completion and start up.

Very truly yours,

Thomas B. Terpening
Thomas B. Terpening, P.E.

TBT/lt

Enclosure

*No Check
Rec'd
See # 57556 Receipt
11/20/81 Ba*

D.E.R.

OCT 13 1981

SOUTHWEST DISTRICT
TAMPA

DIXIE LIME AND STONE COMPANY

Plants in Florida and Georgia

INDUSTRIAL MINERALS AND CHEMICALS DIVISION
P.O. DRAWER 217, SUMTERVILLE, FLORIDA 33585 • (904) 793-2063 • TELEX: 056-4348



SUBSIDIARY OF
ROSARIO RESOURCES CORPORATION

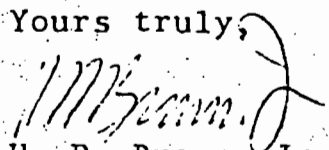
APRIL 8, 1980

Mr. Vasant Chapnerkar
Manager of Technical Services
DIXIE LIME & STONE COMPANY
P. O. Drawer 217
Sumterville, Florida 33585

Dear Vasant:

This letter is your authorization to represent DIXIE LIME AND STONE COMPANY on matters relating to and pertaining to the Department of Environmental Regulation.

Yours truly,


H. D. Brown, Jr.
President

HDB/cc

D. E. R.

OCT 18 1980

SOUTHWEST DISTRICT
TAMPA

State of Florida



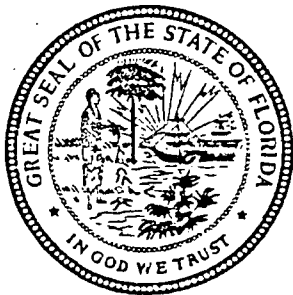
Department of State

I certify from the records of this office that DIXIE LIME AND STONE COMPANY, is a corporation organized under the laws of the State of Delaware, and is authorized to transact business within the State of Florida.

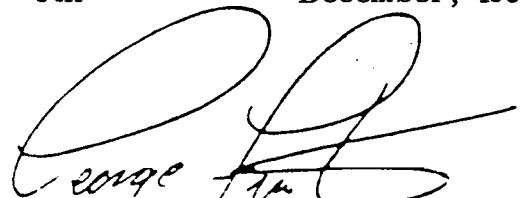
The charter number for this corporation is 820394.

I further certify that said corporation has filed all annual reports and has paid all annual report filing fees due this office through December 31, 1980, and its status is active.

Given under my hand and the
Great Seal of the State of Florida,
at Tallahassee, the Capital, this the
9th day of December, 1980



CER 101 Rev. 5-79


George Firestone
Secretary of State



PAID NOV 20 1981

DER

OCT 19 1981

SOUTHWEST DISTRICT TAMPA

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT
AIR POLLUTION SOURCES

SOURCE TYPE: Process Dust Control New¹ [] Existing¹
APPLICATION TYPE: Construction [] Operation [] Modification
COMPANY NAME: Dixie Lime & Stone Company COUNTY: Sumter

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

SOURCE LOCATION: Street SRD 470, 1/2 mile east of 301 City Sumterville
UTM: East 3972.00 North 3182.00
Latitude 28 ° 46 ' 27 "N Longitude 82 ° 02 ' 55 "W

APPLICANT NAME AND TITLE: Vasant D. Chapnerkar, Research & Dev. Manager
APPLICANT ADDRESS: P.O. Drawer 217, Sumterville, FL 33585

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Dixie Lime & Stone Company

I certify that the statements made in this application for a contract permit to install 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: Vasant D. Chapnerkar
Vasant D. Chapnerkar, R&D Manager
Name and Title (Please Type)
Date: 10/5/81 Telephone No. (904) 793-2063

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 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: Thomas B. Terpening
Thomas B. Terpening
Name (Please Type)
Consulting Services, Inc.
Company Name (Please Type)
P. O. Box 1113, Brooksville, FL33512
Mailing Address (Please Type)
Date: 10/9/81 Telephone No. 904/536-3181

(Affix Seal)

Florida Registration No. 4843

¹See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

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.

This is a process dust pick up system. This dust collector shown on the attached drawing will collect dust from the air that has to be discharged to the atmosphere after the coal is milled in the coal mill.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction Nov. 1, 1981 Completion of Construction Feb. 1, 1982

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.)

Baghouse	\$30,000
Duct Work	5,000
Fan	5,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 50 ; if power plant, hrs/yr _____ ; if seasonal, describe: _____

G. 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? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. N/A
3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. N/A
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? N/A
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? N/A

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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		
5 Tons/hr. Coal	Coal dust	1%	10,000 lbs/hr	1

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 10,000

2. Product Weight (lbs/hr): 10,000

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Coal dust	0.1	.42	N/A	22.39 #/hr	100	39.6	
	(Based on AP42 1.1-3)						

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Micro-Pulsaire Model 133-10-100TRH-C	coal dust	99.9% .02 gr/cf	100 - 2 microns	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
N/A			

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, 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. Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

NONE

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 20' ft. Stack Diameter: 18" ft.

Gas Flow Rate: 7500 ACFM Gas Exit Temperature: 90 °F.

Water Vapor Content: less than 1% % Velocity: 71 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
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, 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 8½" 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 8½" 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 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. 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

A. 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

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) Yes No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Pulverized Coal	

D. Describe the existing control and treatment technology (if any).

- 1. Control Device/System: Baghouse
- 2. Operating Principles: ~~Filton~~ Fabric
- 3. Efficiency: * 99.9% 0.1 micron by wt.
- 4. Capital Costs: 40,000
- 5. Useful Life: 1-2 yrs min for bags
- 6. Operating Costs: 1,000
- 7. Energy:
- 8. Maintenance Cost: 500
- 9. Emissions: 0.2 gr/c.f.

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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: ESP - no data for ESP use in controlling pulverized coal in vent emissions
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy*:
- 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: Wet scrubber - no data for wet scrubber use in controlling pulverized coal in vent emissions
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy**:
- h. Maintenance Costs:
- 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:

* Explain method of determining efficiency.

** Energy to be reported in units of electrical power - KWH design rate.

3.

- a. Control Device:
- b. Operating Principles:

- c. Efficiency*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- h. Maintenance Cost:

* Explain method of determining efficiency above.

- 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*:
- d. Capital Cost:
- e. Life:
- f. Operating Cost:
- g. Energy:
- 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:

F. Describe the control technology selected:

- 1. Control Device: Baghouse
- 2. Efficiency*: 99.9% 0.1 micron by wt
- 3. Capital Cost:
- 4. Life:
- 5. Operating Cost:
- 6. Energy:
- 7. Maintenance Cost:
- 8. Manufacturer: Micropul
- 9. Other locations where employed on similar processes:

a.

- (1) Company: SWPCCO/Ideal Cement/Flinkote/Cal Pca Cement
- (2) Mailing Address: (CAL) (Colorado) (CAL) (CAL)
- (3) City:
- (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:

*Explain method of determining efficiency above.

- (7) Emissions*: Lab and field testing

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

- (8) Process Rate*:

b.

- (1) Company: Mikropul
- (2) Mailing Address: 10 Chatham Road
- (3) City: Summit
- (4) State: New Jersey 07901

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager: Jack Shaughneesy

(6) Telephone No.: (201) 273-6360

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*: 5 STPH at 3% final moisture

10. Reason for selection and description of systems:

*Applicant 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

A. Company Monitored Data

1. N/A 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.

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

B. 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) _____

C. 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.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ²	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

*Specify bubbler (B) or continuous (C).

G. 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.

H. 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.



MikroPul

CORPORATION

UNITED STATES FILTER CORPORATION / 10 CHATHAM ROAD, SUMMIT, NEW JERSEY 07901 / 201-273-6260 / CABLE: MIKROPUL / TELEX: 13-8157

September 14, 1981

C. E. Raymond
200 West Monroe Street
Chicago, IL 60606

Attention: Keven Coughlin

Gentlemen:

Subject: MikroPul Proposal #81-3260

PERFORMANCE GUARANTEE

MikroPul Corporation guarantees the performance of one (1) MIKRO-PULSAIRE Model 133-10-100 TRH "C" Dust Collector with 16 oz/yd² Polyester HCE with copper grounded wire bags operating under the following conditions:

1. Gas Flow 6,400 ACFM air maximum at 200°F temperature.
2. Dust Load and Source Maximum of 5 grains/actual cubic foot of coal dust ventic coal mill.
3. Filter Ratio 4:1 actual cubic feet of air per minute/ft² filter media.
4. Differential Pressure 6 inches w.g. maximum expected differential pressure across the filter media.
5. Collection Efficiency Dust load of effluent leaving MIKRO-PULSAIRE Dust Collector will not exceed 0.02 grains per actual cubic foot of air per minute. Efficiency of collector will be 99.9% or better on .1 micron by weight.

The MIKRO-PULSAIRE is guaranteed to be structurally sound and free from dust leakage when assembled according to MikroPul instructions.

D.T.E.R.

OCT 13 1981


SOUTHWEST DISTRICT
TAMPA

MikroPul accepts no responsibility for loss of rated capacity or increased differential pressure resulting from: (1) condensed vapor coming in contact with the filter surface; (2) polymerization of polymers within the interstices of the filter; (3) crystallization of chemicals within the interstices of the filter; (4) the presence of extraneous vapors, solids, or gases in the gas stream.

MikroPul's liability shall be limited to modification of the equipment (within a reasonable period of time) to meet the performance guarantee. Failing that, MikroPul's liability shall be limited to reimbursement of the original purchase price to the customer only after return of the equipment to MikroPul.

The guarantee is considered firm for one full year of operation or 18 months after shipment (whichever comes first), so long as the unit is operated under conditions of good engineering practice. Any alteration to original equipment performed by others than MikroPul or without MikroPul's consent will act to invalidate this guarantee effective as of the date of delivery of the equipment.

Field tests to verify equipment performance as stated in this guarantee will remain the owner's responsibility. All performance tests shall be made in accord with one of the following (or equivalent) published testing procedures: EPA, Federal Register Volume 36, No. 247, Part II; ASTM No. D2928; or IGC I Publication No. 101, or the latest revisions thereof published as of the date this guarantee is effective.

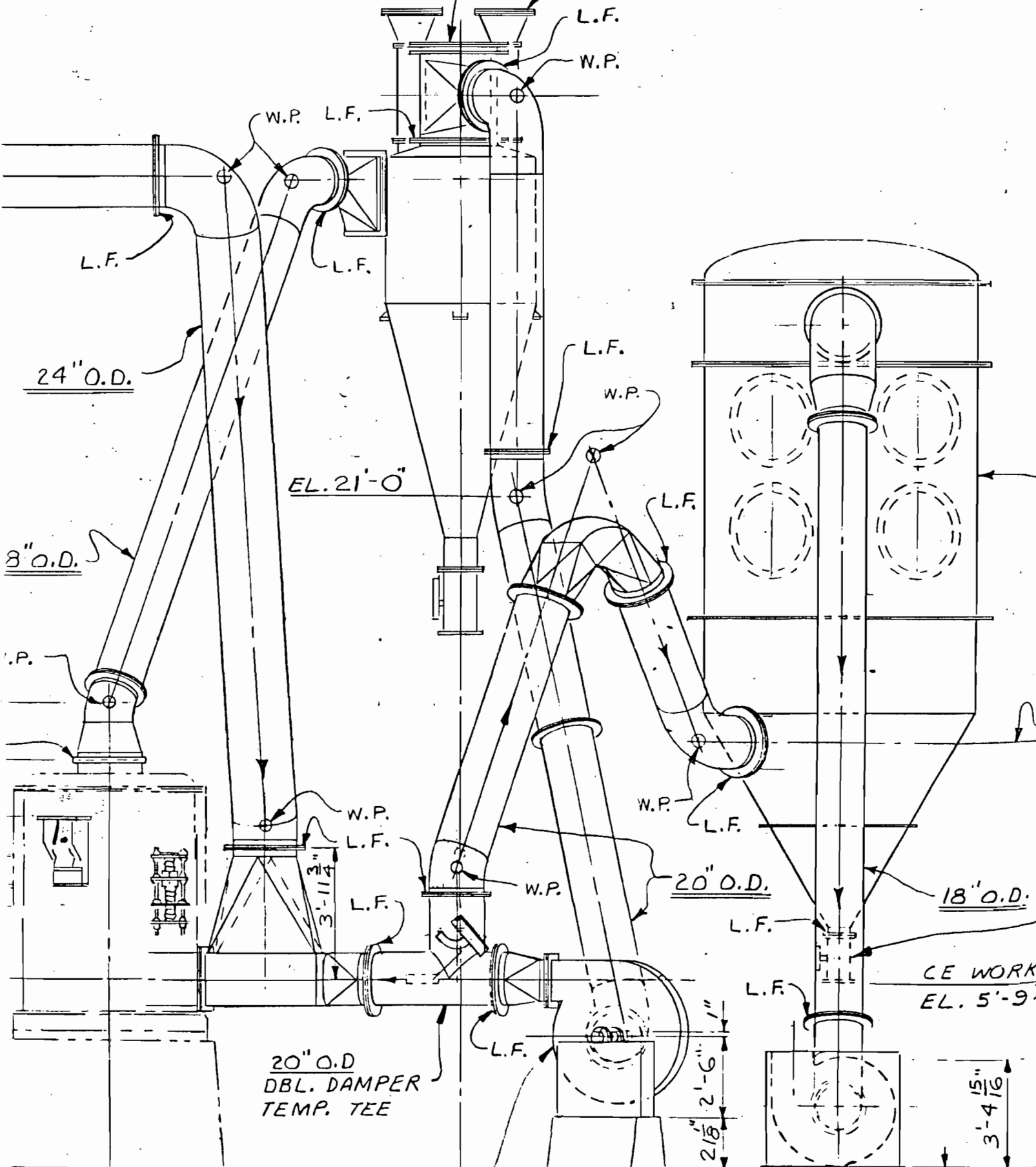

E. J. Oliver
Manager, Fabric Filters
MikroPul Corporation

AK:ck

SC-7646M RELIEF VENT

SC-7646C RELIEF VENT
(2) REQ'D.

BEST AVAILABLE COPY



1836-12 FAN
V VELT DRIVER & GUARD BY CE

ROUT
BY CE



MikroPul
CORPORATION

BEST AVAILABLE COPY

UNITED STATES FILTER CORPORATION / .10 CHATHAM ROAD, SUMMIT, NEW JERSEY 07901 / 201-273-8260 / CABLE: MIKROPUL / TELEX: 13-8157

September 14, 1981

C. E. Raymond
200 West Monroe Street
Chicago, IL 60606

Attention: Keven Coughlin

Gentlemen:

Subject: MikroPul Proposal #81-3260

PERFORMANCE GUARANTEE

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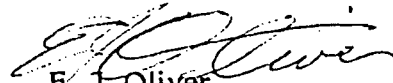
RECEIVED
SEP 15 1981
SOUTHWEST DISTRICT
EMPLOYEE

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E. J. Oliver
Manager, Fabric Filters
MikroPul Corporation

AK:ck



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

November 16, 1981

Mr. Dan A. Williams, P.E.
Air District Engineer
Air Programs
Department of Environmental Regulation
7601 Highway 301 North
Tampa, FL 33610

Dear Dan Williams:

In reference to your letter dated October 23, 1981, to Mr. Tom Terpening, I am providing the following information:

1. The coal grinding system involves a Raymond Bowl-Mill. This mill takes the -2" sized coal and grinds it to 80% -200 mesh. As shown in the drawing the ground coal is collected in a surge bin and from there fed to Rywacker feeders which will have it's own baghouse and then it is fed in the kilns and burnt. The kilns have their own baghouse systems to take care of the flyash from combustion. Experiments conducted have shown that most of the flyash goes with the lime product.

The air from the grinding system is exhausted through a MicroPul baghouse, the details of which have been attached to the permit application sent to you.

2. Since this application is for the grinding system, the other pickup points are only mentioned in 1, above but not detailed here. We will apply permits for these baghouses.
3. Plot plan is attached.
4. I do not know any other way to estimate this. The next best thing is Section 8.9-1 of AP42 which is for coal cleaning and this states uncontrolled emission of 20#/ton which will mean $20 \times 4.5 = 90\#/hour$. With 99.9% efficient baghouse the controlled emission will be 0.09#/hour.
5. The coal dust is collected with the MicroPul baghouse and used in the kiln along with the ground coal.
6. The gas flow should be 6000 ACFM and the velocity should be changed from 71 to 57 fps.

DIER

NOV 20 1981

SOUTHWEST DISTRICT
TAMPA

7. The other points are shown on the flow diagram and permits for the other baghouses will be applied for as soon as they are selected.
8. The application fee of \$20.00 is attached.

I hope that this information is sufficient for you to process this application.

Vasant
11/16/81

V. D. Chapnerkar

VDC/brs

cc: Mr. Tom Terpening

REPORT OF CONTACT WITH ELECTED OR APPOINTED OFFICIAL OR STAFF

TO: VICTORIA J. TSCHINKEL

DATE: February 12, 1982

FROM: Suzanne P. Walker

Person who called Rep. Everett Kelly was from the office of
himself. Phone number is 488-5991.

Summary of Conversation:

Rep. Kelly called me about Dixie Lime and Stone Company in Sumter County. The new owner, Mr. John Paul Gheur (904/793-2063) has been working with Mr. Williams in the Tampa office who has been quite helpful but he now needs help from Tallahassee. The facility used to have two kilns in operation, but one was shut down before the ownership changed. Since it had been shut down "beyond the time limit" it now has to go to Tallahassee for the permit instead of Tampa. Customers are waiting for the products, and Mr. Kelly wanted to know if I could do whatever I could to hurry the approval up.

I called Steve Smallwood and gave him all of the information about this. Clair Fancy then called me back. He said that they want to burn coal in the kiln and that based on a legal opinion by Marti Hall it may need a federal PSD permit. Clair is not sure yet, however. I suggested that Clair or Steve call the owner and begin working things out and if Rep. Kelly calls me again, I will just refer him to one of them.

cc: ~~File No:~~ Steve Smallwood/Clair Fancy

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP		ACTION NO.
		ACTION DUE DATE
1. TO: (NAME, OFFICE, LOCATION)	INITIAL	DATE
<i>Steve Smallwood</i>	<i>[Signature]</i>	<i>2-17-82</i>
2.	INITIAL	DATE
<i>Clair Jancy</i>		
3.	INITIAL	DATE
<i>Bruce [Signature]</i>		<i>2-23-82</i>
4.	INITIAL	DATE
<i>Patty Adams - Mark File</i>		
REMARKS:		INFORMATION
<p style="font-size: 2em; text-align: center;">for Dixie File</p> <p style="text-align: center; font-size: 1.5em; margin-top: 20px;">DER</p> <p style="text-align: center; font-size: 1.2em; margin-top: 10px;">FEB 15 1982</p> <p style="text-align: center; font-size: 1.5em; margin-top: 10px;">BAQM</p> <p style="font-size: 1.5em; margin-top: 20px;">I do not need a copy!</p> <p style="text-align: right; margin-top: 10px;"><i>Bruce</i></p>		REVIEW & RETURN
		REVIEW & FILE
		INITIAL & FORWARD
		DISPOSITION
		REVIEW & RESPOND
		PREPARE RESPONSE
		FOR MY SIGNATURE
		FOR YOUR SIGNATURE
		LET'S DISCUSS
		SET UP MEETING
INVESTIGATE & REPT		
INITIAL & FORWARD		
DISTRIBUTE		
CONCURRENCE		
FOR PROCESSING		
INITIAL & RETURN		

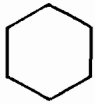
FROM:

Suzanne Walker

DATE

2/12

PHONE



POST OFFICE DRAWER 217 • SUMTerville, FLORIDA 33585 • U.S.A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

June 30, 1981

Mr. Vasant D. Chapnerkar
Dixie Lime and Stone Company
Post Office Drawer 217
Sumterville, Florida 33585

Dear Mr. Chapnerkar:

As you are solely responsible for handling all matters pertaining to the Department of Environmental Regulations, I wish to confirm your authorization to represent Dixie Lime and Stone Co. on all matters pertaining to the permitting of air and water pollution sources with regard to the Department of Environmental Regulation standards.

Yours truly,

DIXIE LIME AND STONE CO.

Jean-Paul Gheur
President & CEO

JPG/jw

CC: Department of Environmental
Regulations
Dan Williams, District Engineer, Air

J. H. Kerns, District Water Engineer

Jon Hamlin, CONSULTING SERVICES, INC.

bc: C. de Liedekerke
J. Simon
G. Schaffer

D.E.R.

FEB 8 1982

SOUTHWEST DISTRICT
TAMPA



DIXIE LIME AND STONE COMPANY

POST OFFICE DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • U. S. A.
(904) 793-2063 • TELEX: 056-4346

MS
SUBSIDIARY OF
AMCAR, INC.

October 13, 1981

D.E.R.

FEB 8 1982

SOUTHWEST DISTRICT
TAMPA

Mr. Jon Hamlin, P. E.
CONSULTING SERVICES, INC.
439 Summit Drive
Post Office Box 1113
Brooksville, FL 33512

Dear Jon:

This letter is to advise that Dixie Lime and Stone Company will retain Consulting Services, Inc., for professional engineering services.

Service to consist of investigation and application for permits from Department of Environmental Regulation pertaining to the air pollution control equipment as related to the coal grinding system.

I will be available to furnish any assistance you may need on these projects.

Very truly yours,

DIXIE LIME AND STONE COMPANY

V. D. Chapnerkar
Research and Development Manager

VDC/ss

cc: J. P. Gheur

State of Florida



Department of State

I certify from the records of this office that DIXIE LIME AND STONE COMPANY, is a corporation organized under the laws of the State of Delaware, and is authorized to transact business within the State of Florida.

The charter number for this corporation is 820394.

I further certify that said corporation has filed all annual reports and has paid all annual report filing fees due this office through December 31, 1979, and its status is active.

Given under my hand and the
Great Seal of the State of Florida,
at Tallahassee, the Capital, this the
4th day of October, 1979.



CER 101 Rev. 5-79

A handwritten signature in cursive script, appearing to read "George Firestone".

George Firestone
Secretary of State

DIXIE LIME AND STONE COMPANY

Plants in Florida and Georgia

INDUSTRIAL MINERALS AND CHEMICALS DIVISION
P.O. DRAWER 217, SUMTERVILLE, FLORIDA 33585 • (904) 793-2063 • TELEX: 056-4346

file i Sumter Co - AP



SUBSIDIARY OF
ROSARIO RESOURCES CORPORATION

Douglas Bramlett
Division of Environmental Permitting
State of Florida
Department of Environmental Regulation
7601 Highway 301 North
Tampa, Florida 33610

August 1st, 1978

D.E.R.

AUG 3 1978

SOUTHWEST DISTRICT
TAMPA

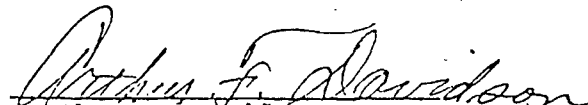
Dear Sir;

Per your request the following equipment has either been deactivated or renamed. The equipment reads as follows:

1. Old Kiln - Permit No. # A 060 - ²³⁰⁰2030 has been deactivated and is not in use at this time.
2. Old Industrial Plant dryer - Permitt No, not known, deactivated and not in use.
3. Precipitated Calcium Carbonate - to be renamed to Dolomitic Limestone Bagging Plant - Permitt No. # A 060-2304.

To the best of my knowledge, these are the only air pollution sources that have either been changed or deactivated. If you have any futher questions, please do not hesitate to contact me.

Sincerely,


Arthur F. Davidson

AFD/mb



D. E. R.

APR 22 1977
SOUTH WEST DISTRICT
ST. PETERSBURG

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Source Type: Air Pollution Incinerator

Type application: Operation Construction Modification

Source Status: New Existing

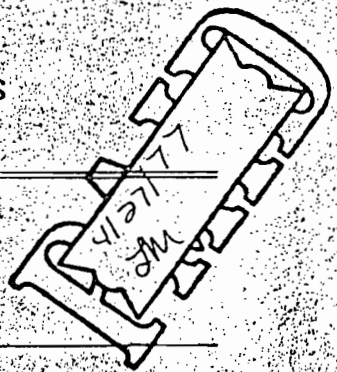
Source Name: Dixie Lime & Stone County: Sumter

Source Location: Street North of St. Rd. 470 City Sumterville

UTM: East 3972.00 North 3182.60

Appl. Name and Title: _____

Appl. Address: _____



STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

The undersigned owner or authorized representative of * Dixie Lime & Stone Company, Sumterville, Fla. is fully aware that the statements made in this application for a _____ permit are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department or revisions thereof. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted establishment.

Handwritten signature of Harold Butler

Signature of the Owner or Authorized Representative
Harold Butler, Project Manager

Date: April 13, 1977 Telephone No.: 904/793-3312

* Attach a letter of authorization. If applicant is a corporation, a Certificate of Good Standing must be submitted with application. This may be obtained, for a \$5.00 charge, from the Secretary of State, Bureau of Corporate Records, Tallahassee, Florida 32304.

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA

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 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 the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signature: *Handwritten signature of E. A. Sawitzke*
Name: E. A. Sawitzke, P.E.
(Please Type)

Mailing Address: Southern Machine & Steel, Inc
3945 Edison Avenue
Fort Myers, Florida 33901

Company Name: Southern Machine & Steel

Telephone No.: 813/334-4327

Florida Registration Number 10120
(Affix Seal)

Date: APR 22 1977

DETAILED DESCRIPTION OF SOURCE

A. Describe the nature and extent of the project. Refer to existing pollution control facilities, expected improvement in performance of the facilities and state whether the project will result in full compliance. Attach additional sheet if necessary.

The main process is the calcination of mine run limestone to produce Lime with the emission of CO2. This is done in a Calcimatic Kiln, the gas CO2 is processed thru a fuller baghouse. The end product of Lime is put thru a mechanical cooler and then conveyed to storage. The cooler is connected to a suction fan, thru ducting and it too goes thru the second baghouse where any contaminants are caught and disposed of in dust tight screw conveyors

B. Schedule of Project Covered in this Application (Construction Permit Application Only)

Start of Construction September 20, 1976

Completion of Construction September 20, 1977

C. Costs of Construction (Show a breakdown of costs for individual components/units of the project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

Pollution control equipment

1.	Fuller plenum plus collector - 10 Zone	195,827
2.	Fuller plenum plus collector - 6 Zone	125,026

D. For this source indicate any previous DER permit: issuance dates, and expiration dates; and orders and notices.

AO 60-2300 Issued 3/4/76 - Expires 3/1/79

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 221 -2, Florida Administrative Code ?Yes .X....No



BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

WILLIAM K. HENNESSEY
DISTRICT MANAGER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT
Sumter County AP

Mr. Gary D. Schaffer
Dixie Lime & Stone Company
P.O. Drawer 217
Sumterville, Fla. 33585

Dear Mr. Schaffer:

Enclosed is Permit Number AO60-30853 dated August 1, 1980,
to operate the subject air pollution source
issued pursuant to Section 403, Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.201, Florida Administrative Code, (see reverse side of this letter). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

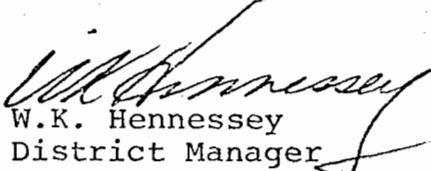
If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,

cc: Record Center ✓
Jon Hamlin, P.E.

Enclosure


W.K. Hennessey
District Manager

RULES OF THE ADMINISTRATION COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

PART II
FORMAL PROCEEDINGS

28-5.201 Initiation of Formal Proceedings.

- (1) Initiation of formal proceedings shall be made by petition to the agency responsible for rendering final agency action. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced and indented.
- (2) All petitions filed under these rules should contain:
 - (a) The name and address of each agency affected and each agency's file or identification number, if known;
 - (b) The name and address of the petitioner or petitioners, and an explanation of how his/her substantial interests will be affected by the agency determination;
 - (c) A statement of when and how petitioner received notice of the agency decision or intent to render a decision;
 - (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
 - (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief;
 - (f) A demand for relief to which the petitioner deems himself entitled; and
 - (g) Other information which the petitioner contends is material.

A petition may be denied if the petitioner does not state adequately a material factual allegation, such as a substantial interest in the agency determination, or if the petition is untimely. (Section 28-5.201(3)(a), FAC)

7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610



BOB GRAHAM
GOVERNOR
JACOB D. VARN
SECRETARY
DAVID SPICER
DISTRICT MANAGER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTHWEST DISTRICT

APPLICANT:

Dixie Lime & Stone Company
P.O. Drawer 217
Sumterville, Fla. 33585

PERMIT/CERTIFICATION
NO. A060-30853

COUNTY: Sumter

PROJECT: Lime Kiln #2
Fuller Baghouse

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the operation of the lime kiln #2 with Fuller Baghouse using #6 fuel oil with 2.0% sulfur. The allowable particulate emissions is 24.74 #/hr @ 22.5 TPH.

Located at North of SR 470, Sumterville, Sumter County.

UTM: 17-397.2 E 3182.6 N

Replaces Permit NO: A060-2302 NEDS NO: 0001 Point ID: 02

Expires: July 28, 1985

PERMIT NO.: AO60-30853
APPLICANT: Dixie Lime & Stone Company

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact 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 revocation of this permit.
4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor 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.
5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.
8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.
13. This permit also constitutes:
 - Determination of Best Available Control Technology (BACT)
 - Determination of Prevention of Significant Deterioration (PSD)
 - Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

Expiration Date: July 28, 1985

Issued this 1st day of August, 1980

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____ Pages Attached.

W.K. Hennessey

Signature

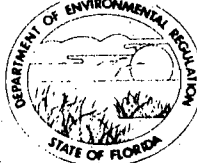
PAGE 4 OF 4

W.K. Hennessey
District Manager

D.E.R.

MAY 15 1980

SOUTHWEST DISTRICT
TAMPA



STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT
AIR POLLUTION SOURCES

5/15/80
4060-30853
KW

SOURCE TYPE: AIR POLLUTION [] New¹ [X] Existing¹

APPLICATION TYPE: [] Construction [X] Operation [] Modification

COMPANY NAME: DIXIE LIME & STONE COMPANY COUNTY: SUMTER

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Lime Kiln #2 with Fuller Baghouse, oil fired

SOURCE LOCATION: Street North of State Road 470 City Sumterville

UTM: East 3972.00 North 3182.60

Latitude ° ' "N Longitude ° ' "W

APPLICANT NAME AND TITLE: Gary D. Schaffer-Industrial Relations Manager

APPLICANT ADDRESS: Post Office Drawer 217, Sumterville, Florida 33585

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of DIXIE LIME & STONE COMPANY

I certify that the statements made in this application for a AIR POLLUTION, OPERATING 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: Gary D. Schaffer
Gary D. Schaffer, Industrial Relations
Name and Title (Please Type) Manager

Date: 3-25-80 Telephone No. (904) 793-2063

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 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: Jon F. Hamlin
JON F. HAMLIN
Name (Please Type)

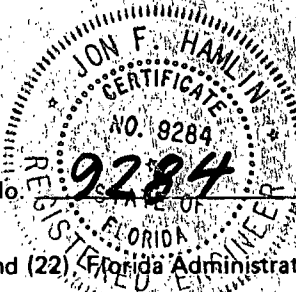
CONSULTING SERVICE INC.
Company Name (Please Type)

439 SUMMIT DR.
Mailing Address (Please Type) BROOKSVILLE FLA 33572

Date: 3-28-80 Telephone No. 904-796-7646

(Affix Seal)

Florida Registration No. 9284



¹See Section 17-2.02(15) and (22) Florida Administrative Code, (F.A.C.)

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.

The main process is the calcination of mine run limestone to produce lime with the emission of CO2. This is done in a Calcimatic kiln. The gas (CO2) is processed through a Fuller Baghouse. The draft required to support the fire creates the fine dust and carries it to the stack where the collector reclaims it to the system or to a storage silo.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction _____ Completion of Construction _____

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.)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A060-2302 Issuance: May 23, 1977
Expiration: May 23, 1980

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 50 ; if power plant, hrs/yr _____ ; if seasonal, describe: _____

G. 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?
 - a. If yes, has "offset" been applied? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
- 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. _____
- 3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. _____
- 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? _____
- 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? _____

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

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		
CaCO3	Dust	12	45000	1

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 45,000 #/hour

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission ¹		Allowed Emission ² Rate per Ch. 17-2, F.A.C.	Allowable ³ Emission lbs/hr	Potential Emission ⁴		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
CaCO3+CaO	3.76	NA		2879	1620*		
	see Test			27.89	6804		1
	3/21/80						

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)
Fuller Baghouse	CaCO3+CaO	99%		

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 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)

⁵If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
#6 Fuel Oil	500 Gal.	575 Gal.	85

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 2.0 Percent Ash: 0.03
 Density: .9787 lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: 18,430 BTU/lb 150,297 BTU/gal
 Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

NONE

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 70 ft. Stack Diameter: 4'6" ft.
 Gas Flow Rate: ~~56,700~~ 39250 ACFM Gas Exit Temperature: ~~250~~ 244 °F.
 Water Vapor Content: 10. % Velocity: 41.15 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation.
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, 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 8½" 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 8½" 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 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. 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

- A. 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

- B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) Yes No

Contaminant	Rate or Concentration

- C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

- D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|----------------------|
| 1. Control Device/System: | 4. Capital Costs: |
| 2. Operating Principles: | 6. Operating Costs: |
| 3. Efficiency:* | 8. Maintenance Cost: |
| 5. Useful Life: | |
| 7. Energy: | |
| 9. Emissions: | |

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

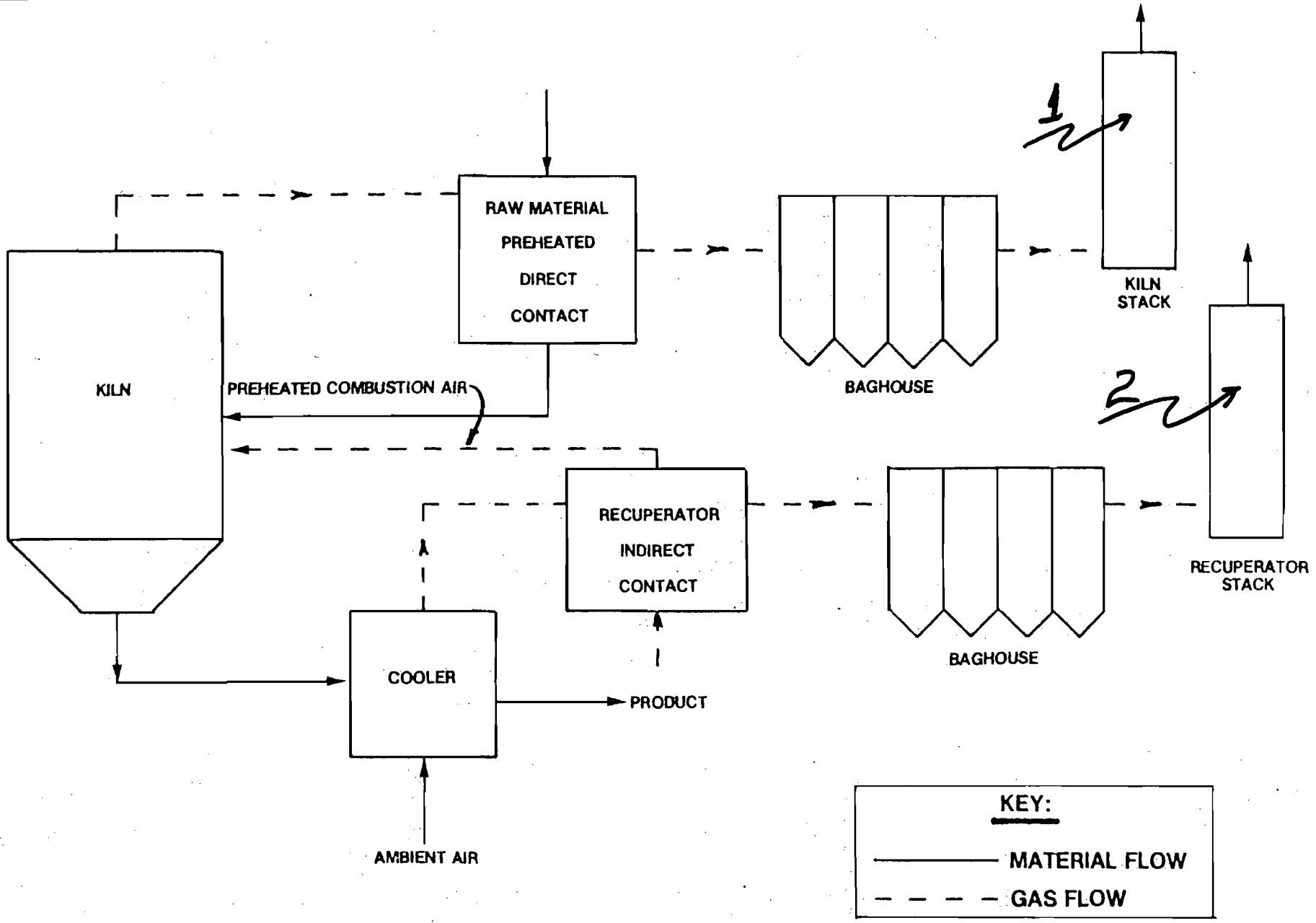
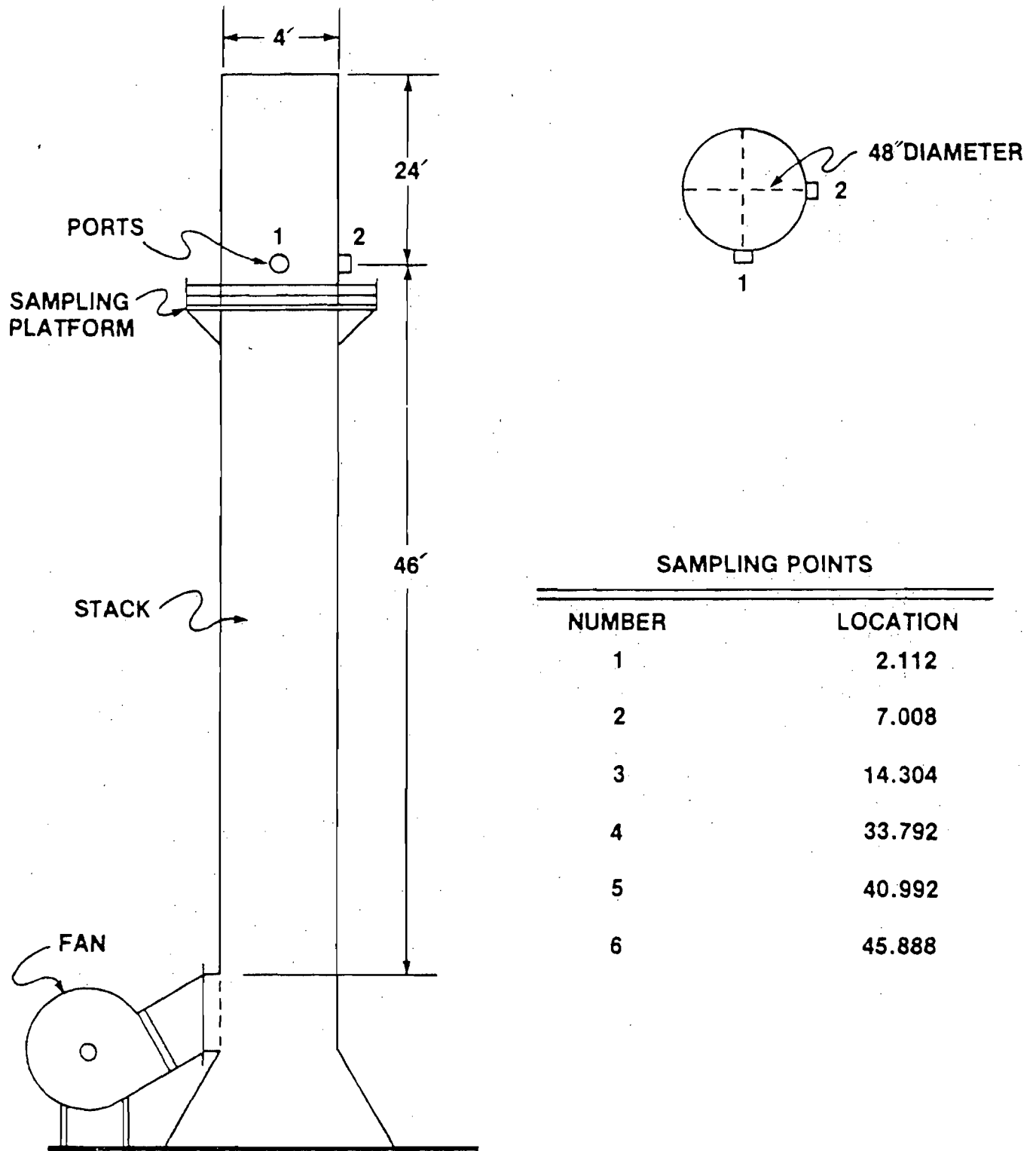


Figure 1 KILN SYSTEM



SAMPLING POINTS

NUMBER	LOCATION
1	2.112
2	7.008
3	14.304
4	33.792
5	40.992
6	45.888

Figure 2

COOLER RECUPERATOR / NO. 2 KILN



DIXIE LIME AND STONE COMPANY

P.O. DRAWER 217 • SUMTERVILLE, FLORIDA 33585 • (904) 793-2063 • TELEX: 056-4346



April 1, 1980

Mr. John Hamlin; P.E.
CONSULTING SERVICES, INC.
439 Summit Drive
Brooksville, Florida 33512

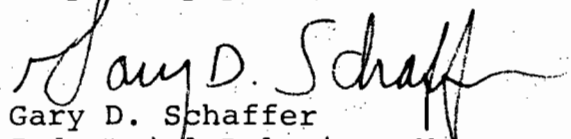
Dear John:

This letter is to advise that Dixie Lime and Stone Company will retain Consulting Services, Inc. for professional engineering services.

Service to consist of investigation and application for permit from Department of Environmental Regulation pertaining to containment of all air pollution from operations at the Sumterville complex.

I will be available to furnish any assistance you may need on these projects.

Very truly yours,


Gary D. Schaffer
Industrial Relations Manager

GDS/sc

DIXIE LIME AND STONE COMPANY

Plants in Florida and Georgia

INDUSTRIAL MINERALS AND CHEMICALS DIVISION
P.O. DRAWER 217, SUMTERVILLE, FLORIDA 33585 • (904) 793-2063 • TELEX 056-4346



SUBSIDIARY OF
ROSARIO RESOURCES CORPORATION

APRIL 8, 1980

Mr. Vasant Chapnerkar
Manager of Technical Services
DIXIE LIME & STONE COMPANY
P. O. Drawer 217
Sumterville, Florida 33585

Dear Vasant:

This letter is your authorization to represent DIXIE LIME AND STONE COMPANY on matters relating to and pertaining to the Department of Environmental Regulation.

Yours truly,

H. D. Brown, Jr.
President

HDB/cc

State of Florida



Department of State

I certify from the records of this office that DIXIE LIME AND STONE COMPANY, is a corporation organized under the laws of the State of Delaware, and is authorized to transact business within the State of Florida.

The charter number for this corporation is 820394.

I further certify that said corporation has filed all annual reports and has paid all annual report filing fees due this office through December 31, 1979, and its status is active.



Given under my hand and the
Great Seal of the State of Florida,
at Tallahassee, the Capital, this the
4th day of October, 1979.

A handwritten signature in cursive script, appearing to read "George Firestone".

George Firestone
Secretary of State

AIR PERMIT INVENTORY
DIXIE LIME & STONE CO.

①

4.02

PERMIT NUMBER	ISSUED	EXPIRES	CLASS	BACT	PSD	DESCRIPTION	PROCESS RATE TPH	() TYP	EMISSION TEST DATA #/lw
								#/lw	
A060-30853 D-1	80/08/01	85/07/28	A			Lime Kiln No. 2 (Exhaust)	26.95	(112) 27.89	(21) 5.21
A060-24513 D-2	80/01/08	85/01/02	A			Limestone Dryer	100	(146) 36.17	(144) 35.62
A060-7096 D-3	78/09/26	83/09/22	A			'A' Screening Dust Collector		20%	Avg 0.42% Max 5.0 VE
A060-7095 D-4	78/09/26	83/09/22	A			'B' Screening Dust Collector		20%	Avg 0.21% Max 5 VE
A060-30864 D-5	80/08/01	85/07/28	A			Lime Kiln No. 2 Cooler	30.2	(120) 29.71	(12) 2.93
A060-39124 D-6	81/03/10	86/02/20	A			Lime Loadant Scavenger System	100	36.17 (20%)	Avg 1.46 Max 15% VE
A060-39495 D-7	81/03/10	86/02/20	A			Lime Crusher & Handling Scavenger System	100	(146) 36.17 (20%)	Avg 0.21% Max 5.0 VE
AC60-34476 D-8	80/01/29	82/03/01	A			Calcium Carbonate Process Scavenger System	70	(139) 34.54	VE
AC60-34477 D-9	80/01/29	82/03/01	A			Calcium Carbonate Loadant Scavenger System	30	(120) 29.92	VE

Plant Op. Permit: AO-60-2199 (replaced Gulf Hammock 4-25-72)
 2-12-75 → 2-10-78

AO-38-350
 4-25-72

NGOS: 0001	Permit #/Dates	Replaces	Replaces	Process Description
pt. i: 02 D-1 Op. Ex.	AO 60-30853 8-1-80 → 7-28-85 24.74#/hr @ 45,000#/hr.	← AO 60-2302 5-23-77 → 5-23-80 (Limestone grinding & drying) 50,000#/hr	← AO 60-712 dated Expired 9-25-73	Lime kiln #2 Cooler/Recuperator/Baghouse Fuller #2 Dix Fil B.C. / 100-5-8-30 24.74#/hr
New	03 AO 60-2304 6-27-77 → 6-27-80 (Folder)	← AC 60-2301 5-7-76 → 11-15-76 Folder	← AO 60-2300 3-4-76 → 3-1-79 (Folder) Deact: Oct. '77 vs '76	"AO 60-2300" (Both, 1 a Xerox) H060-711 dated 9/25/73 Pilot Plant Bayhouse const. New Pilot Plant for Sys. "A"
Op. Exist. D Mod.	04 AO 60-2302 5-23-77 → 5-23-80	← AC 60-2302 8-30-76 → 2-28-77 (Folder)	Reactivate dormant plant Industrial Products Limestone Grinding & Drying	Limestone Dryer/Ejector Dust Discharge Pt. (Kiln #2) (450 TPD) 50,000#/hr TPIR PW (8 hr/day) #6 EO, Cyclone & Cyclonic Venturi Combo
Op. Ex.	05 AO 60-24513 1-4-80 → 1-2-84 (None) 100TPH	← AO 60-2303 6-13-77 → 6-3-79 Folder 80TPH		8' x 32' Limestone Dryer, #5 FO, multiconed venturi (160,000#/hr T# Process Input) Product 4# (8-24)
Op. New	06 AO 60-7094 9-26-78 → 9-22-83	? OIL PER (const. permit?) N/A (None)		Lime Crusher Dust Collector #3 (CaO) (Baghouse) - Micro Pulsaire 1005-STR-8-2 CaO 24,000#/hr 100 3-8TR-20
Op. New	07 AO 60-7096 9-26-78 → 9-22-83	? N/A (None)		Dust Collector for Screening Sys. "A" - Micro Pulsaire Kiln Silo D.C. #1 (South) on top of Silo No. 2 - Dedusts 'A' Sys. and screen 'A' CaO 24,000#/hr 64 STR-8-20
Op. New	08 AO 60-7095 9-26-78 → 9-22-83	? N/A (None)		Kiln Silo D.C. #2 (North) on top of Silo No. 1 - Dedusts Sys B & Screen B CaO 24,000#/hr 64 STR-8-20
Op. Ex.	09 AO 60-30864 8-1-80 → 7-28-85 24.74#/hr @ 45,000#/hr	← AO 60-2302 5-23-77 → 5-23-80	← AO 60-712 dated 9/25/73	Kiln No. 2 Lime Cooler/ Recuperator Fuller Baghouse
Mod. Exist. D6 VE	10 AO 60-39124 3-10-81 → 2-20-86 100TPH	← AC 60-32381 8-21-80 → 6-15-81 100TPH	const (Mod. Existing) ? (replaces) N/A	Limestone loadout Scavenging Sys. w/ Baghouse Mikro-Pulsaire Model 1005-8-TR 20

NEDS:0001 pt. 02 Bayhouse Discharge in connection with Calcimatic kiln
A060-30853

NEDS:0001, pt. 03

A0-60-2300 → AC60-2301 → "A060-2304"
3-4-76 → 3-1-79 5-7-76 → 11-15-76 6-27-77 → 6-27-80

Calcium Carbonate Spray Dryer with Bag Filter [Kiln #2]

NEDS:0001, pt. 04

A060-2302 ← AC60-2302
5-23-77 → 5-23-80
Limestone Dryer & Fugitive Dust Discharge Pt.

NEDS:0001, pt. 05

30
"A060-24513" Raw mat replaces A060-2303
1-8-80 → 1-2-84 160000
[Kiln # ?] Limestone Dryer using #5 F.O.
with multicyclone & venturi scrub.

NEDS:0001 pt. 06 A060-7094 - 39495 1980
9-26-78 → 9-22-83 Lime Crusher + Dust Collector #3 (Bayhouse)

NEDS:0001 07 A0-60-7096
9-22-78 → 9-22-83

NEDS:0001 pt. 08 A0-60-7095
9-26-78 → 9-22-83 Dust Collector For Screening Sys. "B" (Kiln Silo #1, D.C. #2)

NEDS:0001 pt. 09 A060-30864 ← A060-2302 ← AC60-2302
8-1-80 → 7-28-85

Lime Cooler/Recuperator Fuller Bayhouse

NEDS:0001 pt. 10 A060-39124 ← AC60-32381
3-10-81 → 2-20-86 ~~8-21-80~~ 8-21-80 → 6-15-81
Limestone loadout scavenging sys @ Bayhouse

NEDS:0001 pt. 11 A060-39495 ← AC60-32383 ← A0-60-7094
3-10-81 → 2-20-86 8-21-80 → 6-15-81
Limestone crusher's material handling Scavenger sys @ Bayhouse #3

Dust Collector For Screening Sys "A" (Kiln Silo #1, D.C. #2)

NEOS:0001
pt. #12

AC 60-34476
10-29-80 → 4-30-81
Calcium Carbonate Loadout Scavenging Sys w/Baghouse

Expired
No Update

NEOS:0001
pt. 13

AC 60-34477
10-29-80 → 4-30-81
CaCO₃ Loadout Scavenging Sys

Expired
No Update

NEOS:0001
pt. 14

AC 60-44627
9-10-81 → 2-28-82

Fugitive Dust Pickup Sys "I"

(New)

2. AO 60-2300 → AC 60-2301 → AO 60-2304 NEDS:0001 pt. 03
6-27-77 6-27-80

AO 60 2304 * replaces AO-60-2300 7-11-77 → 2-27-80

1 precipitated CaCO₃ pilot plant @ a design of 2000 #/hr, using #2 FO + Micro-Pulsaine D.C. 1008-10-20

New

copy of AC60-2301 referenced AO 60-2300

" CaCO₃ spray dryer "

~~IO 60-2524 see IO 60-42153~~

~~FO 60-2529 replaces IC 60 2524 2521~~

~~FO 60-2165 overall Op permit~~

~~replaces~~

NEDS 0001 #105

AO 60-2303 No Const P.?

8'x32' limestone dryer

#5 FO

6-13-77 → 6-3-79

See AO 60-24513

multiclone & wet scrubber

NEDS 0001 pt. 09

AC-60-2302

replaces AO-60-712 exp. 9-25-73

8-30-76 → 2-28-77

limestone drying & sizing

See AO 60-30864

activated

~~NEDS: 0001 pt. 11 AC 60-32383 replaces: N/A Mod-Exist 8-21-80 → 6-15-81
 100TPH Material Handling scavenger sys for limestone crusher + 100 S-8-TR 20 Baghouse~~

~~NEDS: 0001 pt. 10 AC 60-32381 replaces: N/A Mod-Exist 8-21-80 → 6-15-81
 lime loadout Scavenger Sys~~

NEDS: 0001 pt. 09 AD 60-30864 replaces: AD 60-2302 8-1-80 → 7-18-85
 lime cooler recuperator baghouse
 Allowable: 24.74 #/hr @ 22.5 TPH
 Existing → Operate Permit
 Lime Kiln #2 - Cooler - with Fuller Baghouse
 #6 F.O. Fired @ 290 S
 85 MM BTU/hr
 stack 95'

NEDS: 0001 pt. 02 AD 60-30853 replaces: AD 60-2302 8-1-80 → 7-28-85
 Lime kiln #2 Fuller Baghouse
 85 MM BTU/hr
 #6 F.O @ 290 S
 18,430 Btu/#
 150,297 "/sec
 stack 70'

~~NEDS: 0001 pt. 06 AC 60-7097 10-20-78 → 4-1-79
 [#2 Dix Fil bag collector] model 100-S-8-30 baghouse serving calciner
 carbonate grinding & air classification eq.~~

NEDS: 0001 pt. 08 AD 60-7095 9-26-78 → 9-22-83
 [Kiln silo AC #2 Top of Kiln Silo #1] New Micro Pulse dust collector to control dust
 from the "B" screening sys. [64 STR-8-20]

NEDS: 0001 pt. 06 AD 60-7094 9-26-78 → 9-22-83
 [Crusher D.C. #3]

NEDS: 0001 pt. 07 AD 60-7096 9-26-78 → 9-22-83
 [Kiln silo D.C. #1 + De-dusts 'A' sys. screen 'A']
 Micro Pulse D.C. to control dust from the "A" screening sys [64 STR-8-20]

used Process Wt. Table
 $E = 3.59 P^{0.62}$ @ $P = 16.67 T P H$

Kiln 1 : deactivated (10) Oct. -1977
 AD-60-2300 3-4-76 → 3-1-79

Calcimatic Kiln
 #200
 Fuel: #6 60MMBtu/hr
 10000 spm '62"
 Incinerators: 200 TPD

~~Kiln ? : 5-3-77 → 5-23-80
 + 2 Baghouses
 AD-60-2302~~

Raw Materials: 400 TPD = 16.67 TPH
 Finished 200 TPD = 8.33 TPH
 Process Wt.:
 1. Total wt. 36,708 #/hr.
 Product wt. 16,606 #/hr 8.33 TPH
 Discharge: Actual Allowable
 1.022 20.54
 #/106822
 /hr

Calcium Carbonate Sprayer:

Pilot Project:
 for a dust collector

AC 60-2301
 * AD 60-2300

~~I.P. Plant 3-24-76 → 3-27-81
 IO 60-2521~~ See below

main
 op. plant *
 IW Plant

IO 60-2165 10-10-75 → 10-8-79

Portable dolomite drying & sizing plant + dry cyclone & scrubbing
 AD 60-2199 2-12-75 → 2-10-78

NEOS: 0001
 pt: 11

AD 60-39495 replaces AD 60-7094 AC 60-32383 3-10-81 → 2-20-86
 line crusher, handling scavenging sys, baghouse

NEOS: 0001
 pt: 05

AD 60-24513 replaces AD 60-2303 1-8-80 → 1-2-85
 8'x32' limestone dryer w process input of 100 TPH of limestone lined @ #5 F.O
 multicyclone separator then wet venturi

IO 60-42153 replaces IO 60-2524 2521 23810 5-28-81 → 11-13-87

NEOS: 0001
 pt: 10

AD 60-39124 replaces AC 60-32381 3-10-81 → 2-20-86
 lime loadout scavenging sys @ baghouse

NEOS: 0001
 pt: 13

AC 60-34477 30TPH replaces: ? N/A (however, existing + modification) 10-27-80 → 4-30-81
 Calcium Carbonate loadout Scavenger Sys + baghouse

NEOS: 0001
 pt: 12

AD 60-34476 40TPH MOD-Exst. Model 100 S-8-TR 20 replaces ? N/A

Mod. Exist 11 AD 60-39495 AC 60-32383 AD 60-7094 Crusher Material Handling Scavenger
 D-7 3-10-81 → 2-20-86 8-21-80 → 6-15-81 9-26-78 → 9-22-83 Sys. (Fugitives)
 VE 100 TPH (17% contaminant lime dust) 100 TPH 100 s-8-TR 20

Mod. Exist 12 AC 60-34476 ? replaces. Ground CaCO₃ Process Scavenger
 D-8 10-29-80 → 4-30-81 (N/A) (Mod-Existing) Sys. w/D.C. - 100 s-8-TR 20
 VE 70 TPH (1%)

Mod. Exist 13 AC 60-34477 ? replaces. CaCO₃ Loadout Scavenger Sys
 D-9 10-29-80 → 4-30-81 (N/A) (Mod-Existing) w/D.C. - 100 s-8-TR 20
 VE 30 TPH (1%)

? New APIS 14 AC 60-44627 ? replaces Not on file in Central Files
 D-10 9-10-81 → 2-28-82 Fugitive Dust Pickup sys "I"

D-11 Kiln #1
 D-12 Coal Grinding Sys.
 D-13?

1 Existing

4 permit APP

- 4 - New Const Permit
- ← Dryer Op -
- Screening Sys -
-
-

Const - Coal Grind w/ Baghouse
 40 TPH + BACT

Must meet ^{satisfy} states Regulations
 → never
 →

Kent Williams
 August 1 1980

Kiln No 1

3/4/76

Op Permit

Application says 1976, then shut down
until 12/28/81 letter

< 8/1/78

Deactivated

(10/1/77?)

'76 Permit expired 3/1/79

A060-2300

3/4/76

5/23/77

A060-2302

Kiln W 2 Bay house

7/11/77

A060-2304



9000 lbs/hr 20

122,500

122.5 MBTU/hr

12,500

4.5

450
 150
 22500
 450
 67500,000

12,500
 50000
 42500
 2000

25,000,000

1. NO_x calc All Poll. Calc

CO calc

2. 8400 hrs op.

3. F.O. - 67.63 MMBTU/hr

max 112.50 "

avg 87.50

App.
vs 70 MMBTU/hr

NEPS 0001 pt 02

A060-30853

20.54#/hr

~~8-1-80~~ → 7-28-85

Baghouse discharge with calcimatic kiln

70'

NEPS 0001 pt. 03

A060-2304

AC 60-2301

6-27-77 → 6-27-80

5-7-76 → 11-15-76

heating systems are also available for exhausts containing inorganic materials and/or particulates. Heat recovery is utilized, whenever possible, to insure maximum energy efficiency.

MIDLAND-ROSS PROCESS DISPOSES OF TOXIC WASTES

In the late 1960s, Midland-Ross began experimenting with pyrolytic incineration to destroy toxic sludge, solids and liquids. Pyrolysis is the chemical change brought about by the action of heat. It can also be defined as the decomposing of matter in the absence of oxygen or other oxidants.

The company's efforts to refine pyrolytic incineration evolved from its goal to innovate a process that would exceed the capabilities of traditional waste-treating equipment. The result is a multi-function thermal system that gasifies the wastes in a controlled setting and incinerates the fumes rich in fuel value. Every hour thousands of pounds of waste can be gasified, and subsequently incinerated.

Midland-Ross manufactures and installs equipment to dispose of toxic materials via pyrolytic incineration. The Midland-Ross process is unique in its ability to separate organics and inorganics from the waste and to break the bonds of organics. The system can process wastes containing inorganic salts and still permits the use of heat recovery equipment without the maintenance problems that normally negate the heat recovery process.

Midland-Ross is able to decompose the pesticide Kepone, as well as nerve and mustard gases, until no threat is posed to the community or the environment. For the Army, the company completed a nerve gas disposal plant in 1978 in Utah. The following year it began a pilot project to demonstrate the deactivation and detoxification of chemical munitions.

The system includes three components: a rotary hearth furnace, a rich fume reactor and a heat recovery device.

Waste is fed onto the hearth, which during one rotation volatilizes the organics and retains the inorganics in char form. Next, the gaseous fraction, which contains energy, is delivered to the reactor and undergoes combustion to complete the destruction of hazardous compounds and produce energy. The gaseous fraction, following excess air combustion, is released to the boiler or other heat recovery device and Btus are extracted.

When the system is designed for constant operation, a bypass duct is provided for continuing operation in the event of a heat recovery device malfunction.

INDUSTRY NEWS

F.K. CYCLONES FOR LIME KILN

Fisher-Klosterman has received a contract for two cyclone systems from Dixie Lime & Stone Co., Sumterville, FL. The cyclones will serve as the gas cleaning equipment on two lime kiln heat recovery systems. In these systems the hot gas from kilns passes through the Fisher-Klosterman

high efficiency cyclones for removal of all possible particulate and then is returned to the kilns as preheated gas.

For Kiln No. 1 a XQ120-20 Quad Cyclone will be used with individual discharge containers, inlet manifold, outlet manifold, and support steel. Kiln No. 2 will use a XQ120-24 Quad Cyclone with same features as described above. In addition to this, all cyclones will have welded inlet wrappers of abrasion resistant steel plate Brinell 200-240. The selling price for this equipment was over \$57,000.00. These units will deliver approximately 98 percent collection efficiency on 7.5 micron lime dust particles.

CARLSON PROVIDES METALS FOR TOUGH ENVIRONMENTS

G. O. Carlson Inc., Thorndale, PA offers specialty metals to solve air-pollution-control problems. A typical application of Carlson Nitronic 50 is one of 10 large spray-duct sections for a wet-wall electrostatic precipitator installation at Reserve Mining Co., Silver Bay, MN.

Nitronic 50 is a nitrogen-strengthened, chromium-nickel-manganese stainless steel with twice the yield strength of Type 316 stainless and with superior corrosion resistance. The 5/16 in. (8 mm) gauge plate produced for this application is subjected to a hot, wet, corrosive environment with a very low pH, consisting of sodium salts, chloride acid and abrasive iron-oxide dust.

ARTICLES OF INTEREST IN OTHER NEWSLETTERS

SIERRA OFFERS IN-STACK CYCLONE SAMPLERS (*Air Pollution Monitoring & Sampling Newsletter* - Dec. 30, 1981). Sierra Instruments, Carmel Valley, CA, offers the 280 series Cyclade In-Stack Cascade Cyclone samplers which have a 10 gram capacity. The samplers were developed by EPA in a comprehensive R&D program and manufactured by Sierra. The 280 Cyclades are available individually or in complete kits, with one to six stages, including sampling nozzles, back-up filter, and attachments for EPA Method 5 or other stack samplers.

CALENDAR

The Air/Water/Energy Conference and Exhibit Calendar for 1982-83 is available for \$35/year, including quarterly updates, from The McIlvaine Co. The calendar is also furnished as a part of the Electrostatic Precipitator Manual.

MARCH 1982

- 01-03 TAPPI Annual meeting, Washington, D.C. Contact TAPPI, 1 Dunwoody Park, Atlanta, GA 30338
- 01-04 Engineering and Operations Workshop of the American Public Power Association, Los Angeles, CA, Century Plaza Hotel. Contact Alex Radin, American Public Power Association, 2600 Virginia Ave., NW, Washington, DC 20037 (202) 342-7200
- 29-01 National Plant Engineering & Maintenance Show, Chicago, IL, McCormick Place. Contact Clapp & Poliak, Inc., Management, 245 Park Ave., New York, NY 10167 (212) 661-8410
- 31-02 In-Stack Impactor Workshop, Denver, CO. Contact Dr. Michael Durham, Denver Research Institute, PO Box 10127, Denver, CO 80208 (303) 753-2241