

file

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. Paul J. Magnell, General Manager
Container Corporation of America
North 8th Street
Fernandina Beach, Florida 32034

April 19, 1988

Enclosed are permits Nos. AC 45-141871, -141872, -141873, -141874, -141875, -141877, and -141878, for Container Corporation of America to make several changes at its existing mill in order to achieve compliance with the total reduced sulfur (TRS) regulations contained in Florida Administrative Code Rule 17-2 and to modernize the existing causticizing system. The changes include replacement of some existing equipment, addition of some new equipment, and the collection, transportation and incineration of the TRS gases. The TRS gases will be incinerated in a new 630 TPD lime kiln (No. 4), which will replace the existing Nos. 2 and 3 lime kilns at Container Corporation of America's facility located in Fernandina Beach, Nassau County, Florida. These permits are issued pursuant to Section 403, Florida Statutes.

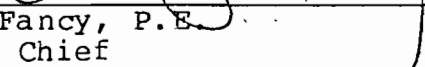
Any Party to these permits has the right to seek judicial review of the permits pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee,

Mr. Paul J. Magnell, General Manager
April 19, 1988
Page Two

Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date these permits are filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

B. Stewart, NE Dist.
B. Williams, JSC
R. Hagan, CCA
D. Buff, P.E., KBN
B. Pittman, Esq.

Final Determination

Container Corporation of America
Nassau County
Fernandina Beach, Florida

State Construction Permits:

AC 45-141871
45-141872
45-141873
45-141874
45-141875
45-141877
45-141878

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

April 12, 1988

Final Determination

The construction permit applications have been reviewed by the Department. Public Notice of the Department's Intent to Issue was published in the Fernandina Beach News-Leader on March 3, 1988. The Technical Evaluation and Preliminary Determination (TE and PD) were available for public inspection at the Department's Northeast District office and Bureau of Air Quality Management office.

Comments were received from Mr. Paul J. Magnell, General Manager of Container Corporation of America (CCA) on March 15, 1988, and Mr. Roger P. Hagan, Technical Director of CCA, on April 1, 1988. CCA's Variance, OGC Case No. VE-45-313, which was signed by Secretary Twachtman on March 15, 1988, affects the final determination. An Interoffice Memorandum dated March 15, 1988, by Bruce Mitchell, was offered as comments. The Bureau's responses to the comments will follow:

A. The Variance, VE-45-313, effectively changes the final compliance date for the Kamyrdigester system, batch digester system and No. 5 Multiple Effect Evaporator system, from May 12, 1989, to June 1, 1990. Therefore, the following will be changed:

1. AC 45-141871, -141872, and 141873
Expiration Date:

From: September 24, 1989
To: October 14, 1990

2. AC 45-141871
Specific Condition:
No. 10:

From: Pursuant to FAC Rule 17-2.600(4)(c)1.d., the Kamyrdigester system is subject to the provisions of FAC Rule 17-2.960(1), Compliance Schedules, which requires that final compliance be demonstrated by May 12, 1989, unless the Variance, OGC Case No. VE-45-313, is approved to allow final compliance by June 1, 1990.

To: Pursuant to VE-45-313, the Kamyrdigester system shall be in final compliance by June 1, 1990, and the permittee shall provide proof of final compliance to the DER's Northeast District office by July 16, 1990.

3. AC 45-141872
Specific Condition:
No. 10:

From: Pursuant to FAC Rule 17-2.600(4)(c)1.d., the batch digester system is subject to the provisions of FAC Rule 17-2.960(1), Compliance Schedules, which requires that final compliance be demonstrated by May 12, 1989, unless

the Variance, OGC Case No. VE-45-313, is approved to allow final compliance by June 1, 1990.

To: Pursuant to VE-45-313, the batch digester system shall be in final compliance by June 1, 1990, and the permittee shall provide proof of final compliance to the DER's Northeast District office by July 16, 1990.

4. AC 45-141873

Specific Condition:

No. 8:

From: Pursuant to FAC Rule 17-2.600(4)(c)1.d., the No. 5 MEE System is subject to the provisions of FAC Rule 17-2.960(1), Compliance Schedules, which requires that final compliance be demonstrated by May 12, 1989, unless the Variance, OGC Case No. VE-45-313, is approved to allow final compliance by June 1, 1990.

To: Pursuant to VE-45-313, the No. 5 MEE system shall be in final compliance by June 1, 1990, and the permittee shall provide proof of final compliance to the DER's Northeast District office by July 16, 1990.

5. AC 45-141877

Specific Condition:

No. 13:

From: For the affected sources, the permittee shall provide proof to the DER's Northeast District office of compliance with FAC Rule 17-2.960(1)(d)1.b., by May 12, 1989, unless the Variance OGC Case No. VE-45-313, is approved to allow final compliance by June 1, 1990.

To: Pursuant to VE-45-313, the Kamyrdigester system, batch digester system and No. 5 Multiple Effect Evaporator system, shall be in final compliance by June 1, 1990, and the permittee shall provide proof of final compliance to the DER's Northeast District office by July 16, 1990.

- B. Mr. Magnell's letter received on March 15, 1988, was followed by a meeting on March 24, 1988, and Mr. Hagan's letter received April 1, 1988. Since the meeting resolved the issues contained in Mr. Magnell's letter and CCA's final comments were addressed in Mr. Hagan's letter, the Bureau will respond to only Mr. Hagan's comments:

1. AC 45-141871

The Bureau agrees with the request and the following will be changed:

Specific Condition:

No. 2:

From: The production rate of the Kamyrd digester system shall not exceed 1819 TPD ADP (tons per day of air dried pulp and based on a nominal utilization rate of 264,798 lbs/hr wood chips (dry) and 1,388,110 lbs/hr black/white liquor).

To: The maximum production rate of the Kamyrd digester system shall not exceed 85 tons per hour of air dried pulp and based on a nominal utilization rate of 300,104 lbs/hr wood chips (dry) and 1,573,191 lbs/hr black/white liquor. For PSD purposes, the maximum production rate shall not exceed 1819 TPD ADP.

2. AC 45-141872

The Bureau agrees with the request and the following will be changed:

Specific Condition:

No. 2:

From: The maximum production rate of the batch digester system shall not exceed 1391 TPD ADP (tons per day of air dried pulp and based on a nominal utilization rate of 212,418 lbs/hr wood chips (dry) and 443,954 lbs/hr of black/white liquor).

To: The maximum production rate of the batch digester system shall not exceed 101.5 tons per hour of air dried pulp and based on a nominal utilization rate of 392,305 lbs/hr wood chips (dry) and 819,918 lbs/hr black/white liquor. For PSD purposes, the maximum production rate shall not exceed 1391 TPD ADP.

3. AC 45-141873

No response is required.

4. AC 45-141875

No response is required.

5. AC 45-141877

Specific Conditions:

- a. The error on the hourly PM emission limit was consistently used in the TE and PD and draft permit, even though the

annual limit was and is correctly used. Therefore, the following will be changed:

No. 4:

From: In accordance with 40 CFR 60.282(a)(3), the particulate matter (PM) emissions from the No. 4 Lime Kiln and its associated ESP control system shall not exceed 0.30 g/dscfm (0.13 gr/dscf; 45.3 lbs/hr, 190.0 TPY) corrected to 10% oxygen when liquid fossil fuel is burned.

To: In accordance with 40 CFR 60.282(a)(3), the particulate matter (PM) emissions from the No. 4 Lime Kiln and its associated ESP control system shall not exceed 0.30 g/dscfm (0.13 gr/dscf; 43.5 lbs/hr, 190.0 TPY) corrected to 10% oxygen when liquid fossil fuel is burned.

- b. The Bureau agrees with the comment to incorporate the affected sources in Specific Condition No. 13. See A.5. of the final determination.
- c. The language will better express the intent of this condition and the following will be changed:

No. 19:

From: The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions before and after connecting the TRS NCG handling system to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The TRS emissions tests, using EPA Methods 3 and 16 or 16A pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used to verify complete destruction of the pollutant. The SO₂ emissions tests, using EPA Method 6 pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used to establish the overall removal efficiency of the No. 4 Lime Kiln. The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee(s) pursuant to FAC Rule 17-4 for the NCG handling system's associated sources (see Specific Condition No. 8).

To: The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions before and after connecting the TRS NCG handling system to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The TRS emissions tests, using EPA Methods 3 and 16 or 16A pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used to demonstrate the destruction efficiency of the pollutant. The SO₂ emissions tests, using EPA Method 6 pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used to establish the overall removal efficiency

of the No. 4 Lime Kiln. The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee(s) pursuant to FAC Rule 17-4 for the NCG handling system's associated sources (see Specific Condition No. 8).

- d. Since other sources at the mill are permitted to fire fuel oil with 3.0% sulfur content, by weight, the following will be changed:

No. 22:

From: A separate No. 6 fuel oil storage tank shall be provided to store the fuel oil with the maximum 3.0% sulfur content, by weight, which will be permitted for use exclusively in the No. 4 Lime Kiln.

To: Deleted.

- C. Based on the Interoffice Memorandum of March 15, 1988, the following will be changed:

1. AC 45-141873

Specific Condition:

No. 3:

From: The No. 5 MEE System is subject to the total reduced sulfur (TRS) emission limiting standard pursuant to Florida Administrative Code (FAC) Rule 17-2.400(4)(c)1.b., which is 5 ppmvd at standard conditions corrected to the actual oxygen content of the untreated flue gas stream as a 12-hour average, unless the TRS gases are combusted in the No. 4 Lime Kiln, from which the exhaust gases shall not contain TRS in excess of 8 ppmvd corrected to 10% O₂, in accordance with 40 CFR 60.283(a)(1).

To: The No. 5 MEE system is subject to the total reduced sulfur (TRS) emission limiting standard pursuant to Florida Administrative Code (FAC) Rule 17-2.600(4)(c)1.b., which is 5 ppmvd at standard conditions corrected to the actual oxygen content of the untreated flue gas stream as a 12-hour average, unless the TRS gases are combusted in the No. 4 Lime Kiln, from which the exhaust gases shall not contain TRS in excess of 8 ppmvd corrected to 10% O₂, in accordance with 40 CFR 60.283(a)(1).

2. AC 45-141874

Specific Condition:

No. 8:

From: Pursuant to FAC Rule 17-2.400(4)(c)2.b., the Tall Oil Plant is subject to the provisions of FAC Rule 17-2.710, Continuous Monitoring Requirements, which includes FAC Rules 17-2.710(3), General Requirements and Establishing Specific Surrogate Parameters, and 17-2.710(4), Quarterly Reporting Requirements. The source is subject to the provisions of FAC Rule 17-4.140, Reports.

To: Pursuant to FAC Rule 17-2.600(4)(c)2.b., the Tall Oil Plant is subject to the provisions of FAC Rule 17-2.710, Continuous Monitoring Requirements, which includes FAC Rules 17-2.710(3), General Requirements and Establishing Specific Surrogate Parameters, and 17-2.710(4), Quarterly Reporting Requirements. The source is subject to the provisions of FAC Rule 17-4.140, Reports.

3. AC 45-141877

Specific Conditions:

a. No. 21:

From: The No. 2 and No. 3 Lime Kilns shall be shutdown and their operating permits surrendered to the DER's Northeast District office no later than the expiration date of this permit.

To: The No. 2 and No. 3 Lime Kilns shall be shutdown and their operating permits surrendered to the DER's Northeast District office no later than November 12, 1990.

b. Since Specific Condition No. 22 was deleted (see B.5.d. of the final determination), the following condition will be inserted:

No. 22: (New)

The No. 4 Lime Kiln shall be in final compliance by November 12, 1990, in accordance with FAC Rule 17-2.960(1)(d)3.b.(ii), and the permittee shall provide proof of final compliance to the DER's Northeast District office by December 27, 1990.

Attachments to be Incorporated:

A. AC 45-141871 and -141872

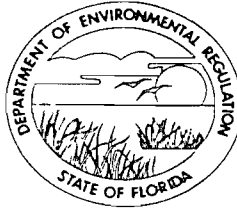
8. Mr. Paul J. Magnell's letter dated March 10, 1988, and received March 15, 1988.

9. VE-45-313 dated/signed March 15, 1988.
 10. Mr. Roger P. Hagan's letter dated March 25, 1988, and received April 1, 1988.
- B. AC 45-141873
8. Mr. Paul J. Magnell's letter dated March 10, 1988, and received March 15, 1988.
 9. Bruce Mitchell's Interoffice Memorandum dated March 15, 1988.
 10. VE-45-313 dated/signed March 15, 1988.
 11. Mr. Roger P. Hagan's letter dated March 25, 1988, and received April 1, 1988.
- C. AC 45-141874
6. Bruce Mitchell's Interoffice Memorandum dated March 15, 1988.
- D. AC 45-141875
6. Mr. Paul J. Magnell's letter dated March 10, 1988, and received March 15, 1988.
 7. Mr. Roger P. Hagan's letter dated March 25, 1988, and received April 1, 1988.
- E. AC 45-141877
8. Mr. Paul J. Magnell's letter dated March 10, 1988, and received March 15, 1988.
 9. Bruce Mitchell's Interoffice Memorandum dated March 15, 1988.
 10. Mr. Roger P. Hagan's letter dated March 25, 1988, and received April 1, 1988.

The Bureau will incorporate the changes in the appropriate construction permits, as referenced above in the final determination. It is recommended that the construction permits be issued as drafted, with the above revisions and attachments incorporated.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141871
Expiration Date: October 14, 1990
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: Kamyrdigester System

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

For the permitting of the Kamyrdigester system and the construction/installation of a noncondensable gas (NCG) handling system to capture and deliver pollutant emissions to the new No. 4 Lime Kiln for incineration. The existing Kamyrdigester consists of a chip steaming tank, continuous digester, blow tank, two flash tanks, and a turpentine recovery system. Two new flash tanks and turpentine recovery system will be constructed to replace the existing ones. For PSD purposes, the maximum daily pulp production will be 1819 TPD ADP (tons per day of air dried pulp). The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Kamyrdigester System 3-07-001-01

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

ATTACHMENTS

AC 45-141871

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Mr. C. H. Fancy's letter dated January 22, 1988.
6. Mr. Paul J. Magnell's letter dated February 23, 1988, and received February 24, 1988.
7. Technical Evaluation and Preliminary Determination dated March 1, 1988.
8. Mr. Paul J. Magnell's letter dated March 10, 1988, and received March 15, 1988.
9. VE-45-313 dated/signed March 15, 1988.
10. Mr. Roger P. Hagan's letter dated March 25, 1988, and received April 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: October 14, 1990

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Kamyrr digester system's operating hours shall not exceed 8736 hours per year.

2. The maximum production rate of the Kamyrr digester system shall not exceed 85 tons per hour of air dried pulp and based on a nominal utilization rate of 300,104 lbs/hr wood chips (dry) and 1,573,191 lbs/hr black/white liquor. For PSD purposes, the maximum production rate shall not exceed 1819 TPD ADP.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: October 14, 1990

SPECIFIC CONDITIONS:

3. The Kamyrd digester system is subject to the total reduced sulfur (TRS) emission limiting standard pursuant to Florida Administrative Code (FAC) Rule 17-2.600(4)(c)1.b., which is 5 ppmvd at standard conditions corrected to the actual oxygen content of the untreated flue gas stream as a 12-hour average, unless the TRS gases are combusted in the No. 4 Lime Kiln, from which the exhaust gases shall not contain TRS in excess of 8 ppmvd corrected to 10% O₂, in accordance with 40 CFR 60.283(a)(1).

4. The Kamyrd digester system is subject to the provisions of FAC Rule 17-2.600(4)(c)1.c., which includes the requirement of establishing a contingency plan.

5. Objectionable odors shall not be allowed off of plant property in accordance with FAC Rule 17-2.620(2).

6. The Kamyrd digester system is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.

7. The Kamyrd digester system is subject to the provisions of FAC Rules 17-2.710(4), Quarterly Reporting Requirements, and 17-4.140, Reports.

8. Compliance tests using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be conducted if the permittee does not incinerate the TRS gases from the Kamyrd digester system in the No. 4 Lime Kiln.

9. All process equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.

10. Pursuant to VE-45-313, the Kamyrd digester system shall be in final compliance by June 1, 1990, and the permittee shall provide proof of final compliance to the DER's Northeast District office by July 16, 1990.

11. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.

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PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: October 14, 1990

SPECIFIC CONDITIONS:

12. The DER's Northeast District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.

13. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results, the Certificate of Completion, and the contingency plan, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

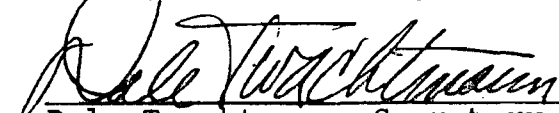
14. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to DER's Bureau of Air Quality Management office and Northeast District office.

15. The No. 4 Lime Kiln construction/operating permit(s) shall have a Specific Condition that the No. 4 Lime Kiln is the pollution control device for the Kamyr digester system.

16. The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions after the Kamyr digester system's TRS noncondensable gas handling system has been connected to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee pursuant to FAC Rule 17-4, of which \$100.00 (less than 25 TPY potential emissions) has already been received.

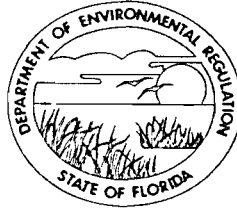
Issued this 18 day of April,
1988

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141872
Expiration Date: October 14, 1990
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: Batch Digester System

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

For the permitting of the batch digester system and the construction/installation of a noncondensable gas (NCG) handling system to capture and deliver pollutant emissions to the new No. 4 Lime Kiln for incineration. The existing batch digester system consists of 7 batch digesters, 2 blow tanks, and a turpentine recovery system. A new hot water accumulator will be constructed to condense steam from the blow tanks. Also, a new turpentine recovery system will be constructed to replace the existing one. For PSD purposes, the maximum daily pulp production will be 1391 TPD ADP (tons per day of air dried pulp). The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Batch Digester System 3-07-001-01

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

ATTACHMENTS

AC 45-141872

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Mr. C. H. Fancy's letter dated January 22, 1988.
6. Mr. Paul J. Magnell's letter dated February 23, 1988, and received February 24, 1988.
7. Technical Evaluation and Preliminary Determination dated March 1, 1988.
8. Mr. Paul J. Magnell's letter dated March 10, 1988, and received on March 15, 1988.
9. VE-45-313 dated/signed March 15, 1988.
10. Mr. Roger P. Hagan's letter dated March 25, 1988, and received on April 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: October 14, 1990

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The batch digester system's operating hours shall not exceed 8736 hours per year.
2. The maximum production rate of the batch digester system shall not exceed 101.5 tons per hour of air dried pulp and based on a nominal utilization rate of 392,305 lbs/hr wood chips (dry) and 819,918 lbs/hr of black/white liquor. For PSD purposes, the maximum production rate shall not exceed 1391 TPD ADP.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: October 14, 1990

SPECIFIC CONDITIONS:

3. The batch digester system is subject to the total reduced sulfur (TRS) emission limiting standard pursuant to Florida Administrative Code (FAC) Rule 17-2.600(4)(c)1.b., which is 5 ppmvd at standard conditions corrected to the actual oxygen content of the untreated flue gas stream as a 12-hour average, unless the TRS gases are combusted in the No. 4 Lime Kiln, from which the exhaust gases shall not contain TRS in excess of 8 ppmvd corrected to 10% O₂, in accordance with 40 CFR 60.283(a)(1).
4. The batch digester system is subject to the provisions of FAC Rule 17-2.600(4)(c)1.c., which includes the requirement of establishing a contingency plan.
5. Objectionable odors shall not be allowed off of plant property in accordance with FAC Rule 17-2.620(2).
6. The batch digester system is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.
7. The batch digester system is subject to the provisions of FAC Rules 17-2.710(4), Quarterly Reporting Requirements, and 17-4.140, Reports.
8. Compliance tests using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be conducted if the permittee does not incinerate the TRS gases from the batch digester system in the No. 4 Lime Kiln.
9. All process equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.
10. Pursuant to VE-45-313, the batch digester system shall be in final compliance by June 1, 1990, and the permittee shall provide proof of final compliance to the DER's Northeast District office by July 16, 1990.
11. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: October 14, 1990

SPECIFIC CONDITIONS:

12. The DER's Northeast District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.

13. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results, the Certificate of Completion, and the contingency plan, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

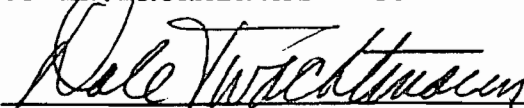
14. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to DER's Bureau of Air Quality Management office and Northeast District office.

15. The No. 4 Lime Kiln construction/operating permit(s) shall have a Specific Condition that the No. 4 Lime Kiln is the pollution control device for the batch digester system.

16. The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions after the batch digester system's TRS noncondensable gas handling system has been connected to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee pursuant to FAC Rule 17-4, of which \$100.00 (less than 25 TPY potential emissions) has already been received.

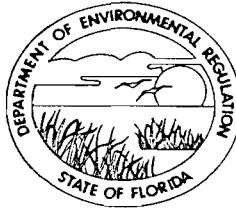
Issued this 18 day of April,
1988

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOS MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141873
Expiration Date: October 14, 1990
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: No. 5 Multiple Effect
Evaporator System

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

For the permitting of the No. 5 Multiple Effect Evaporator (MEE) System, which includes the multiple effect evaporators and the associated condenser(s), hot well(s) and concentrator(s). A new hot well will replace the existing hot well. A noncondensable gas handling system will be constructed to collect and transport all of the pollutant emissions from the No. 5 MEE System to the No. 4 Lime Kiln for incineration. The project will occur at the permittee's existing kraft pulp mill. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o No. 5 MEE System 3-07-001-03

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

ATTACHMENTS

AC 45-141873

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Mr. C. H. Fancy's letter dated January 22, 1988.
6. Mr. Paul J. Magnell's letter dated February 23, 1988, and received February 24, 1988.
7. Technical Evaluation and Preliminary Determination dated March 1, 1988.
8. Mr. Paul J. Magnell's letter dated March 10, 1988, and received March 15, 1988.
9. Bruce Mitchell's Interoffice Memorandum dated March 15, 1988.
10. VE-45-313 dated/signed March 15, 1988.
11. Mr. Roger P. Hagan's letter dated March 25, 1988, and received April 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: October 14, 1990

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: October 14, 1990

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum hours of operation of the No. 5 MEE system shall not exceed 8736 annually.
2. The maximum total process input rate of black liquor to the No. 5 MEE system shall not exceed 1,340,690 lbs/hr at 23% solids (equivalent to 308,359 lbs/hr of black liquor solids (BLS)).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: October 14, 1990

SPECIFIC CONDITIONS:

3. The No. 5 MEE system is subject to the total reduced sulfur (TRS) emission limiting standard pursuant to Florida Administrative Code (FAC) Rule 17-2.600(4)(c)1.b., which is 5 ppmvd at standard conditions corrected to the actual oxygen content of the untreated flue gas stream as a 12-hour average, unless the TRS gases are combusted in the No. 4 Lime Kiln, from which the exhaust gases shall not contain TRS in excess of 8 ppmvd corrected to 10% O₂, in accordance with 40 CFR 60.283(a)(1).
4. The No. 5 MEE system is subject to the provisions of FAC Rule 17-2.600(4)(c)1.c., which includes the requirement of establishing a contingency plan.
5. All process equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.
6. Objectionable odors shall not be allowed off of plant property in accordance with FAC Rule 17-2.620(2).
7. In the event that a compliance test has to be performed on the No. 5 MEE system for TRS emissions, EPA Method 16 or 16A pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used.
8. Pursuant to VE-45-313, the No. 5 MEE system shall be in final compliance by June 1, 1990, and the permittee shall provide proof of final compliance to the DER's Northeast District office by July 16, 1990.
9. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.
10. The No. 5 MEE system is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.
11. The No. 5 MEE System is subject to the provisions of FAC Rules 17-2.710(4), Quarterly Reporting Requirements, and 17-4.140, Reports.
12. The DER's Northeast District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to the district office within 45 days of test completion.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: October 14, 1990

SPECIFIC CONDITIONS:

13. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the compliance test results, the Certificate of Completion, and the contingency plan, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit. (FAC Rules 17-2 & 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)


14. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to DER's BAQM office and the Northeast District office.

15. The No. 4 Lime Kiln construction/operating permit(s) shall have a Specific Condition that it is the pollution control device for the No. 5 MEE system.

16. The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions after the No. 5 MEE system's TRS noncondensable gas handling system has been connected to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee pursuant to FAC Rule 17-4, of which \$100.00 (less than 25 TPY potential emissions) has already been received.

Issued this 18 day of April,
1988.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141874
Expiration Date: September 24, 1989
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: Tall Oil Plant and
Control System

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

For the permitting of the Tall Oil Plant and the construction of a new wet scrubber control system to control pollutant emissions from the acidulator, the lignin tank and the saltcake tank. The scrubber system will be a packed tower type and will use a solution of caustic soda as the absorbing medium. The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Tall Oil Plant 3-07-001-99

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Technical Evaluation and Preliminary Determination dated March 1, 1988.
6. Bruce Mitchell's Interoffice Memorandum dated March 15, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Permit Number: AC 45-141874
Container Corporation of America Expiration Date: September 24, 1989

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Tall Oil Plant may operate continuously (i.e., 8760 hrs/yr).
2. The maximum production rate shall not exceed 17,000 lbs/hr of tall oil (based on a process input of 24,573 lbs/hr soap, 3,866 lbs/hr Sulfuric Acid, and 5,872 lbs/hr caustic).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

3. In accordance with Florida Administrative Code (FAC) Rule 17-2.600(4)(c)2., total reduced sulfur (TRS) emissions from the Tall Oil Plant shall not exceed 0.05 lb/ton crude tall oil produced as a 12-hour average (0.43 lb/hr or 1.9 TPY). A caustic scrubber shall be used to control TRS emissions continuously.

4. Initial and annual compliance tests shall be conducted using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

5. Objectionable odors shall not be allowed off of plant property in accordance with FAC Rule 17-2.620(2).

6. The permittee shall provide proof of final compliance to the DER's Northeast District office by May 12, 1989, pursuant to FAC Rule 17-2.960(1)(d)1.b.

7. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.

8. Pursuant to FAC Rule 17-2.600(4)(c)2.b., the Tall Oil Plant is subject to the provisions of FAC Rule 17-2.710, Continuous Monitoring Requirements, which includes FAC Rules 17-2.710(3), General Requirements and Establishing Specific Surrogate Parameters, and 17-2.710(4), Quarterly Reporting Requirements. The source is subject to the provisions of FAC Rule 17-4.140, Reports.

9. The project is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.

10. The DER's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to FAC Rule 17-2.700(2)(a)5. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.

11. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the compliance test results, the

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

specific surrogate parameters to be monitored, and the Certificate of Completion, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. (FAC Rules 17-2 and 17-4)

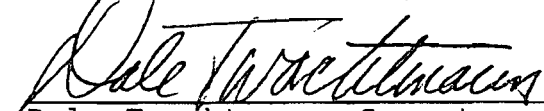
If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

12. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to the DER's Bureau of Air Quality Management office and Northeast District office.

13. The Tall Oil Plant is subject to the provisions of FAC Rule 17-2.971(2)(c), Compliance Schedules for Continuous Monitoring Requirements, which requires compliance by August 12, 1989.

Issued this 18 day of April,
1988

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141875
Expiration Date: September 24, 1989
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: No. 4 Smelt Dissolving
Tank

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

For the permitting of the No. 4 Smelt Dissolving Tank (SDT) and the construction/installation of a new flooded elbow type venturi scrubber control system, which will replace the existing demister pad. The maximum total process input rate is 56,513 lbs/hr smelt (green liquor solids).

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Smelt Dissolving Tank 3-07-001-05

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Technical Evaluation and Preliminary Determination dated March 1, 1988.
6. Mr. Paul J. Magnell's letter dated March 10, 1988, and received March 15, 1988.
7. Mr. Roger P. Hagan's letter dated March 25, 1988, and received April 1, 1988.

PERMITTEE: Container Corporation of America
Permit Number: AC 45-141875
Expiration Date: September 24, 1989

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE: Permit Number: AC 45-141875
Container Corporation of America Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE: Permit Number: AC 45-141875
Container Corporation of America Expiration Date: September 24, 1989

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The No. 4 Smelt Dissolving Tank (SDT) may operate continuously (i.e., 8760 hrs/yr).

2. Total reduced sulfur (TRS) emissions as hydrogen sulfide (H₂S) shall not exceed 0.048 lb/3000 pounds black liquor solids (2.2 lbs/hr or 9.6 TPY and based on a permitted maximum processing capacity of 137,500 lbs/hr black liquor solids (BLS) in the No. 4 Recovery Boiler (RB) - equivalent to 56,513 lbs/hr green liquor solids (GLS)).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

3. The maximum PM mass allowable emissions shall not exceed 28.5 lbs/hr or 122 TPY. These limits are based on the process capacity of 56,513 lbs/hr of GLS, and in accordance with Florida Administrative Code (FAC) Rule 17-2.610(1).

4. Visible emissions shall be less than 20% opacity in accordance with Rule 17-2.610(2), FAC.

5. Objectionable odors shall not be allowed off of plant property in accordance with Rule 17-2.620(2), FAC.

6. Initial and annual compliance tests shall be conducted using the following test methods in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A:

- a) EPA Method 5, Determination of Particulate Emissions from Stationary Sources
- b) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources
- c) EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources

7. The permittee shall provide proof of compliance with FAC Rule 17-2.960(1), by May 12, 1989, to the DER's Northeast District office.

8. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.

9. Pursuant to FAC Rule 17-2.710, Continuous Monitoring Requirements, the No. 4 SDT is subject to the provisions of FAC Rules 17-2.710(3)(d), Establishing Specific Surrogate Parameters, and 17-2.710(4), Quarterly Reporting Requirements. The No. 4 SDT is subject to the provisions of FAC Rule 17-4.140, Reports.

10. The No. 4 SDT is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

11. The DER's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to FAC Rule 17-2.700(2)(a)5. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.


12. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the compliance test results, the specific surrogate parameters to be monitored, and the Certificate of Completion, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

13. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to the DER's Bureau of Air Quality Management office and Northeast District office.

14. The No. 4 SDT is subject to the provisions of FAC Rule 17-2.971(2)(c), Compliance Schedules for Continuous Monitoring Requirements, which requires compliance by August 12, 1989.

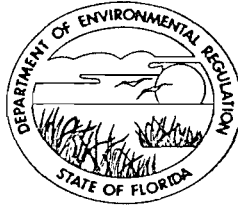
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtmann, Secretary

Issued this 18 day of April,
1988.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141877
Expiration Date: March 27, 1991
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: No. 4 Lime Kiln with an
Electrostatic Precipitator

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

For the construction of a new 630 TPD lime kiln (No. 4), with an associated electrostatic precipitator (ESP) control system, to replace the existing Nos. 2 and 3 Lime Kilns. The lime kiln will be heated using No. 6 fuel oil with a maximum sulfur content of 3.0%, by weight. The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry

- A. Pulp and Paper Industry
 - Major Group 26: Sulfate (Kraft) Pulping
 - o Lime Kiln 3-07-001-06
- B. Mineral Products
 - Major Group 32: Lime Manufacture
 - o Calcining-Rotary Lime Kiln 3-05-016-04

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

ATTACHMENTS

AC 45-141877

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Mr. C. H. Fancy's letter dated January 22, 1988.
6. Mr. Paul J. Magnell's letter dated February 23, 1988, and received February 24, 1988.
7. Technical Evaluation and Preliminary Determination dated March 1, 1988.
8. Mr. Paul J. Magnell's letter dated March 10, 1988, and received March 15, 1988.
9. Bruce Mitchell's Interoffice Memorandum dated March 15, 1988.
10. Mr. Roger P. Hagan's letter dated March 25, 1988, and received April 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The No. 4 Lime Kiln operating hours shall not exceed 8736 hours annually.
2. The maximum lime production rate shall not exceed 630 TPD (tons/day), corresponding to a process input rate of 93,749 lbs/hr of lime mud.
3. The No. 6 fuel oil firing rate shall not exceed 1176.8 gals/hr (170.63 MMBtu/hr heat input). The sulfur content of the fuel oil shall not exceed 3.0%, by weight.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

4. In accordance with 40 CFR 60.282(a)(3), the particulate matter (PM) emissions from the No. 4 Lime Kiln and its associated ESP control system shall not exceed 0.30 g/dscfm (0.13 gr/dscf; 43.5 lbs/hr, 190.0 TPY) corrected to 10% oxygen when liquid fossil fuel is burned.

5. In accordance with 40 CFR 60.283(a)(5), the total reduced sulfur (TRS) from the No. 4 Lime Kiln and its associated ESP control system shall not exceed 8 ppm by volume on a dry basis, corrected to 10% oxygen (2.63 lbs/hr, 11.5 TPY).

6. For inventory and future PSD review purposes:

Pollutant	Emissions	Basis
SO ₂	26.8 lbs/hr, 117.1 TPY	0.2 lb/ton ADP
NO _x	819.9 TPY	1.1 lb/10 ⁶ Btu
VOC	44.7 TPY	0.06 lb/10 ⁶ Btu
CO	29.8 TPY	0.04 lb/10 ⁶ Btu
PM ₁₀	168.2 TPY	88.5% of PM (TSP)

Note: Pollutant emissions are based on 8736 hrs/yr (PSD permit restriction)

7. Visible emissions shall be limited to less than 20% opacity, in accordance with Florida Administrative Code (FAC) Rule 17-2.610(2).

8. The noncondensable gas (NCG) handling system associated with the batch digester system, the Kamyr digester system, and the No. 5 Multiple Effect Evaporator System, shall be connected to the No. 4 Lime Kiln to incinerate the gases.

9. Monitoring of emissions and operations shall be in accordance with 40 CFR 60.284(a), (c), (d) and (e).

10. The No. 4 Lime Kiln is subject to the provisions of FAC Rules 17-2.710(4), Quarterly Reporting Requirements, and 17-4.140, Reports.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

11. Initial and annual compliance tests shall be conducted in accordance with FAC Rule 17-2.700, 40 CFR 60.285, and 40 CFR 60, Appendix A:

- a) EPA Method 5, Determination of Particulate Emissions from Stationary Sources
- b) EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources
- c) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources

12. All process equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.

13. Pursuant to VE-45-313, the Kamyr digester system, batch digester system and No. 5 Multiple Effect Evaporator system, shall be in final compliance by June 1, 1990, and the permittee shall provide proof of final compliance to the DER's Northeast District office by July 16, 1990.

14. This project shall comply with all the applicable requirements of FAC Rules 17-2 and 17-4, and 40 CFR 60, Subpart BB, Standards of Performance for Kraft Pulp Mills.

15. The DER's Northeast District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to the NE District office within 45 days of the test completion.

16. The construction shall reasonably conform to the plans and schedule submitted in the application. If the permittee is unable to complete construction and achieve final compliance on schedule, the DER's Bureau of Air Quality Management (BAQM) office and Northeast District office must be notified in writing 60 days prior to the final compliance date of the construction permit and the permittee shall submit appropriate information pursuant to FAC Rule 17-2.960(1)(e).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

17. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results and Certificate of Completion, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee requesting an extension or obtaining a permit to operate, then all activities at the project must cease and the permittee must apply for a new permit to construct, which can take up to 90 days to process a complete application. (FAC Rule 17-4)

18. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to the DER's BAQM office and Northeast District office.

19. The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions before and after connecting the TRS NCG handling system to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The TRS emissions tests, using EPA Methods 3 and 16 or 16A pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used to demonstrate the destruction efficiency of the pollutant. The SO₂ emissions tests, using EPA Method 6 pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used to establish the overall removal efficiency of the No. 4 Lime Kiln. The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee(s) pursuant to FAC Rule 17-4 for the NCG handling system's associated sources (see Specific Condition # 8).

20. Objectionable odors shall not be allowed off of the plant property pursuant to FAC Rule 17-2.620(2).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

21. The No. 2 and No. 3 lime kilns shall be shut down and their operating permits surrendered to the DER's Northeast District office no later than the expiration date of this permit.

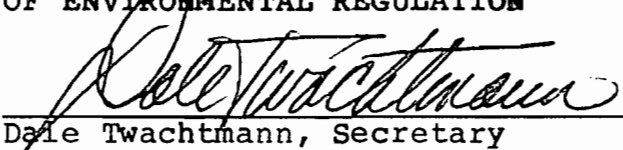
22. The No. 4 Lime Kiln shall be in final compliance by November 12, 1990, in accordance with FAC Rule 17-2.960(1)(d)3.d.(ii), and the permittee shall provide proof of final compliance to the DER's Northeast District office by December 27, 1990.

23.. Reasonable precautions shall be taken to control emissions of unconfined PM pursuant to FAC Rule 17-2.610(3).

24. The No. 4 Lime Kiln is subject to the provisions of 40 CFR 60, Subpart A, General Provisions.

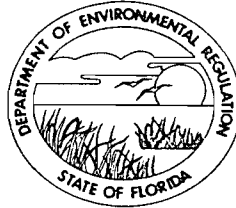
Issued this 18 day of April,
1988

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141878
Expiration Date: March 27, 1991
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: Lime Slakers/Lime Bins
& Associated Control Sys.

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

For the construction of two new lime slakers, to replace the existing lime slakers, and three new causticizers to serve each lime slaker (the two slaker systems will operate in parallel). Two new lime storage bins will be constructed to replace the existing bins, which will support the new No. 4 Lime Kiln and the slaker systems. The No. 1 Lime Bin will receive lime from the No. 4 Lime Kiln by bucket elevator and by truck using a pneumatic conveyor. The No. 2 Lime Bin will receive purchased lime only by rail or truck. The lime slaker systems will have scrubber control systems to control pollutant emissions. The lime storage bins will have baghouse filter control systems to control pollutant emissions. The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are:

A. Pulp & Paper Industry

Major Group 26: Sulfate (Kraft) Pulping

o Lime Slakers (2) 3-07-001-99

o Lime Bins (2) 3-07-001-99

B. Mineral Products

Major Group 32: Lime Manufacture

o Raw Material Transfer & Handling 3-05-016-07

o Raw Material Unloading 3-05-016-08

o Lime Silos 3-05-016-13

The source shall be in accordance with the permit application, plans, documents, supplementary material and drawings, except as otherwise noted in the Specific Conditions.

ATTACHMENTS

AC 45-141878

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Technical Evaluation and Preliminary Determination dated March 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Lime Slaker systems may operate continuously (i.e. 8760 hours per year).
2. The maximum lime feed rate to each slaker shall not exceed 380 tons per day, which reflects 45.8 tons per hour green liquor solids (dry) feed rate.
3. The maximum process input rate to Nos. 1 and 2 Lime Bins shall not exceed 52,500 lbs/hr and 88,000 lbs/hr respectively.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

4. Particulate matter (PM) emissions from each slaker system, which includes the lime slaker and the associated causticizers, shall not exceed 1.0 lb/hr or 4.4 TPY. Visible emissions (VE) shall be limited to less than 20% opacity in accordance with Florida Administrative Code (FAC) Rule 17-2.610(2).

5. Each baghouse control system associated with the lime storage bins (Nos. 1 & 2) shall not exhibit any VE (5% opacity) pursuant to FAC Rule 17-2.700(3)(d). Compliance shall be demonstrated using EPA Method 9 pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

6. Failure to comply with Specific Condition No. 5 will necessitate the requirement to perform a mass emissions test for PM using EPA Methods 1, 2, 3, and 5, pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A. PM emissions shall not exceed 0.03 gr/dscf (Lime Bin #1: 1.2 lbs/hr, 5.3 TPY; Lime Bin #2: 0.74 lb/hr, 3.2 TPY).

7. Initial and annual compliance test for the slaker systems shall be conducted using EPA Method 5 or 17, Determination of Particulate Emissions from Stationary Sources, in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

8. The lime handling system (i.e., conveyors, shutes, elevators, storage bins, etc.) shall be enclosed to minimize PM emissions pursuant to FAC Rule 17-2.610(3).

9. The project shall comply with all applicable provisions of FAC Rule 17-2 and 17-4.

10. The slaker systems and lime storage bins are subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.

11. The DER's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to FAC Rule 17-2.700(2)(a)5. Written reports of the tests shall be submitted to the DER's Northeast District office within 45 days of test completion.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

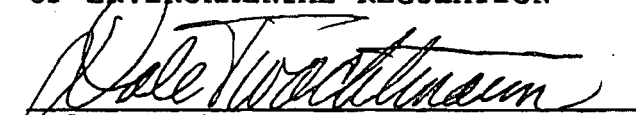
12. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the compliance test results and the Certificate of Completion, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

13. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to the DER's Bureau of Air Quality Management office and Northeast District office.

Issued this 13 day of April,
1988

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtmann, Secretary



JSC/CCA

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Mill Division
NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

CERTIFIED MAIL

March 25, 1988

RECEIVED
APR 1 1988
DER-BAQM

Mr. Bruce Mitchell
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Mitchell:

We would like to express our appreciation for the opportunity to meet with the Department on March 24 to discuss Container Corporation of America's comments on the draft construction permits for the TRS compliance project. The following will summarize our understanding of the conclusions reached during that meeting and the actions agreed upon at that time.

Permit No. AC 45-141871

It was agreed at the meeting to change the wording of Specific Condition No. 2 of the referenced permit for the Kamyrd digester system to read as follows:

- "2. For testing purposes, the peak production rate of the Kamyrd digester system shall not exceed 85 tons of air dried pulp per hour based on a utilization rate of 300,104 lbs/hr wood chips (dry) and 1,573,191 lbs/hr/black/white liquor. For PSD purposes, the maximum production rate shall not exceed 1819 TADP/D (tons air dried pulp per day)."

Permit No. AC 45-141872

Similarly, it was agreed that the wording of Specific Condition No. 2 of the referenced batch digester system be changed to the following:

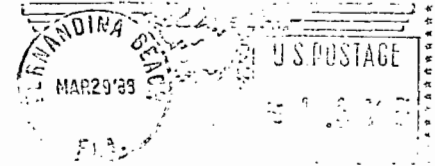
- "2. For testing purposes, the peak production rate of the batch digester system shall not exceed 101.5 tons of air dried pulp per hour based on a utilization rate of 392,305 lbs/hr wood chips (dry) and 819,918 lbs/hr black/white liquor. For PSD purposes, the maximum production rate shall not exceed 1391 TADP/D (tons air dried pulp per day)."

Permit No. AC 45-141873

Upon further review we believe that Specific Condition No. 2 of the referenced permit for the No. 5 MEE should stand as written.

CCA

Container
Corporation
of America



North Eighth Street
Fernandina Beach, Florida 32034

CERTIFIED

P 565 014 084

MAIL

Mr. Bruce Mitchell
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

4188



CHF
~~CHF~~ > FYI

M

Mr. Bruce Mitchell
Page 2
March 25, 1988

Permit No. AC 45-141875

We understand that the Department feels that all applicable pollutants should be addressed in the TRS construction permits. For that reason, the current limit on particulate matter is included in the referenced permit for the No. 4 smelt dissolving tank. However, we disagree as to the applicability of a Visible Emissions (VE) requirement for this type of source. The nature of the process and the control system (wet scrubbing) render it impossible to determine an objective VE. In the interest of expediting the construction permitting process, we have agreed that the general VE limit be left in the construction permit until the DER addresses the inapplicability of this provision to this source through the rule-making process.

Permit No. AC 45-141877

Several changes were agreed upon for the referenced permit for construction of a new No. 4 lime kiln. The changes proposed in your memo of March 15 are acceptable as written. In addition, it was agreed that since the proposed No. 4 lime kiln is not the only source permitted to burn No. 6 fuel oil at 3% or less sulfur content, Specific Condition No. 22 will be deleted. It was also agreed to change the erroneous emission rate listed in the Technical Evaluation and in the draft permit to the correct rate of 43.5 lb/hr PM. Specific Condition No. 13 will be altered to clarify that it refers only to the compliance date of the sources for which the No. 4 kiln will be the control device, i.e. the Kamyr digester, the batch digester, and the No. 5 MEE. Finally, it was agreed that the language in Specific Condition No. 19 lines 6 and 7 shall be changed from ..."used to verify complete destruction of the pollutant", to ..."used to demonstrate the destruction efficiency of the pollutant".

It is our understanding that these changes will be incorporated in the final permits. We wish to thank the Department for meeting with us to address some of our concerns with the draft permits. If you have any further questions, please contact me at (904) 261-5551.

Sincerely,



Roger P. Hagan
Technical Director

RPH/js

cc: Bill Thomas - FDER - Tallahassee
E. E. Frey - FDER - Jacksonville

Copied: Bruce Mitchell }
Bradley Raval } 4.11.88
CHF/BT }

Attendee list

March 27, 1988

Container Corporation of America @ the BAQM

Bruce Mitchell (904) 488-1344 BAQM/CAPs

Bill Thomas " "

Pradeep Raval " "

Christine Nardy (904) 261-5551 JSC/CCA

Roger Hagan " "



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

Interoffice Memorandum

TO: Dale Twachtmann

FROM: Howard L. Rhodes *[Signature]*

SUBJ: Construction Permit Numbers: AC 45-141871
 AC 45-141872
 AC 45-141873
 AC 45-141874
 AC 45-141875
 AC 45-141877
 AC 45-141878

Container Corporation of America

DATE: April 12, 1988

Attached for your approval and signature are permits prepared by Central Air Permitting for the above mentioned company to make several changes at its existing mill in order to achieve compliance with the total reduced sulfur (TRS) regulations contained in FAC Rule 17-2 and to modernize the existing causticizing system. The changes include replacement of some existing equipment, addition of some new equipment, and the collection, transportation, and incineration of the TRS gases. The TRS gases will be incinerated in a new 630 TPD lime kiln (No. 4), which will replace two existing lime kilns (Nos. 2 and 3). The facility is located in Fernandina Beach, Nassau County, Florida. Comments were received during the public notice period.

Day 90, after which these permits will be issued by default, is April 19, 1988.

I recommend your approval and signature.

HLR/aqm/bm

attachments

RECEIVED

APR 18 1988

DER-BAQM

Check Sheet

Company Name: *Container Corporation of America*
Permit Number: *AC 45-141871, 72, 73, 74, -75, -77, -78*
PSD Number: *PSD-AC-165*
County: *AC 45-160382, 490383*
Permit Engineer:
Others involved:

Application:

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

Intent:

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

Attachments:

-
-
-
- Correspondence with:
 - EPA
 - Park Services
 - County
 - Other
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination

FD
PSD *

Post Permit Correspondence:

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



CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

CERTIFIED MAIL

February 20, 1990

RECEIVED

FEB 23 1990

DER-BAQM

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

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

Re: Particulate Matter (PM) Emissions Testing Requirements
Lime Slakers/Lime Bins & Associated Control Sys.
Permit Number: AC 45-141878

Dear Mr. Fancy:

This letter is to follow-up discussions I've had with Mr. Andy Kutyna and Mr. Bruce Mitchell on February 14 and February 15, 1990 regarding particulate matter emission limitations of the slaker vents as outlined in Specific Condition No. 4 of the referenced permit.

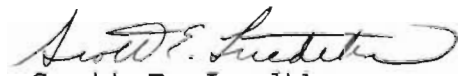
During a tour of our No. 4 Lime Kiln and slaker area on November 28, 1989, Mr. Kutyna and I discovered that the configuration of the referenced slaker vents is such that the emissions pass through a wet scrubber and are then discharged directly to a sewer. As a result of this design, particulate matter during normal and expected operations will not be released into the air from the slakers. Mr. Kutyna confirmed that based on his emissions testing experience the slaker vent design and configuration at this facility will not allow particulate emissions into the air, and moreover there is no EPA method available to test for particulate matter emissions into the air from this type control device configuration. At that time Mr. Kutyna suggested we correspond with you regarding this matter to allow for amendment of the appropriate specific conditions in the referenced construction permit. We elected to prove out the vent design prior to correspondence to account for any modifications to the vent system if required. After several months of operation the slaker vent design has proven to operate extremely effectively as designed and required no further modification.

Mr. Clair Fancy, P.E.
February 20, 1990
Page 2

In our February 15th telephone conversation, Mr. Mitchell agreed that it is better to address this matter with a letter of request prior to issuance of the final operating permit. This letter is to serve as a written request to amend the referenced permit due to the slaker control device configuration as described above.

Should you have any further questions regarding this matter, please contact either me (904-277-5807) or Roger Hagan (904-277-5808).

Sincerely,



Scott E. Luedtke
Environmental Supervisor

SEL/js

cc: A. Kutyna - FDER NE District
B. Mitchell - FDER Tallahassee
R. Hagan
R. Caffo
B. Campbell
Env. File

P 938 762 831

RECEIPT FOR CERTIFIED MAIL

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

PS Form 3800, June 1985

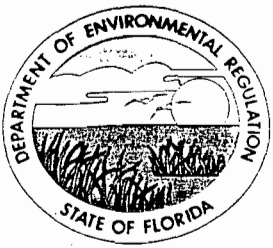
Sent to Mr. Roger Hagan	
366/Container Corp. of America	
North Eighth Street	
P.O. State and ZIP Code Fernandina Beach, FL 32034	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date mailed: 2/9/90 TRS File ✓ AC 45-141877	

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge) 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. Roger Hagan Container Corporation of America North Eighth Street Fernandina Beach, FL 32034	4. Article Number P 938 762 831 Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
5. Signature - Address X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>J. Sanders</i>	
7. Date of Delivery <i>2-13-90</i>	

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



File Copy
AC45-141877

Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

February 9, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Roger Hagan
Container Corporation of America
North Eighth Street
Fernandina Beach, Florida 32034

Dear Mr. Hagan:

Re: No. 4 Lime Kiln - Pre and Post Tests for SO₂ Emissions

As Mr. Bruce Mitchell discussed with you on Tuesday, February 6, 1990, the Department is currently preparing a response to EPA Region IV regarding PSD review of the SO₂ emissions arising from the incineration of TRS gases. The information that is being used are the pre and post tests for SO₂ emissions. Since your new No. 4 Lime Kiln has not yet been connected to the TRS NCG system, the Department requests that a mass test for SO₂ emissions be performed prior to connecting the TRS NCG system to the No. 4 Lime Kiln and another one performed after the connection has been made. Your cooperation in providing this data is very much appreciated.

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

Sincerely,

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

CHF/BM/plm

cc: A. Kutyna, NE District
B. Mitchell
Readily File } 2-9-90 RAN
TRS File }
Variansa File }

PM
5-9-89
Fernandina Beach, FL

Main File



JSC/CCA

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Mill Division
NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

May 9, 1989

RECEIVED

MAY 10 1989

DER - BAQM

Mr. Clair Fancy
Florida Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32301-8241

Dear Mr. Fancy:

Pursuant to our TRS compliance plan as required by FAC 17-2.960 and submitted to you on January 30, 1987, this letter is to certify initiation of construction on the NCG handling system for the No. 5 MEE, batch digester, and Kamyrdigester systems. The project is proceeding on schedule as outlined in the compliance plan.

Please let us know if there are any questions or comments on this.

Sincerely,


Paul J. Magner
General Manager

PJM/j

cc: E. E. Frey - FDER, Jax

5/13
RM
Bruce 5-22-89

State of Florida
 DEPARTMENT OF ENVIRONMENTAL REGULATION



Interoffice Memorandum

NORTHEAST DISTRICT, JACKSONVILLE

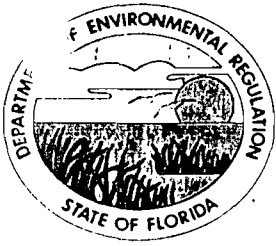
For Routing To Other Than The Addressee	
To _____	Location _____
To _____	Location _____
To _____	Location _____
From _____	Date _____

TO: Jim Pennington, BAQM
 THRU: W. P. Stewart *WPS*
 FROM: Mort Benjamin *MB*
 DATE: March 23, 1989
 SUBJECT: Container Corporation of America
 Mr. Brady's Request for Update on TRS Schedule

Several items on the container corporation schedule are near completion and others are being initiated.

I.	<u>Complete</u>	<u>Final Compliance</u>	<u>Comment</u>
No. 4 SDT* Scrubber	4/1/89	5/12/89	Installed Not tested
Tall Oil Plant* Scrubber	4/1/89	5/12/89	Installed Not tested
II.	<u>Scheduled Equipment Orders</u>	<u>Initial Constr.</u>	<u>Comment</u>
Kamyr Digester	2/1/89		Ordered 10/18/88
Batch Digester	1/1/89		Ordered 10/3/88
No. 5 MEE	2/1/89		Ordered 12/19/88
No. 4 Lime Kiln*	Not yet committed		Constr. Initiated (foundations)

*DER Staff Inspection



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

April 4, 1989

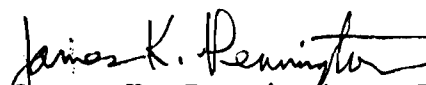
Mr. John E. Braddy
1567 Pen Brook Drive
Fernandina Beach, Florida 32034

Dear Mr. Braddy:

This letter is in response to your letter of March 13, 1989 to Mr. Bruce Mitchell. Attached is a copy of a memorandum showing the status of Container Corporation of America's (CCA) progress in constructing for TRS control. As is noted in the memo, CCA is on schedule with their compliance plan.

As to your complaint of nauseous odors, by copy of this letter the Northeast District is asked to include your complaint in their investigation of CCA. The District has requested and received permission from Secretary Twachtmann to obtain a substantial settlement from CCA for violations which were determined from similar citizen complaints. Your complaint will be addressed. Please contact Bill Stewart at (904) 798-4200 if you have any questions on the above.

Sincerely,


James K. Pennington, P.E.
Administrator
Compliance Monitoring Section
Bureau of Air Quality
Management

JKP/ht

Attachment

cc: Bill Stewart





JSC/CCA

PM
3-2-89
Fax, FL

File Copy

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

February 28, 1989

RECEIVED

MAR 6 1989

DER - BAQM

Mr. Clair Fancy
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Dear Mr. Fancy:

Pursuant to our TRS compliance plan as required by FAC 17-2.960 and submitted to you on January 30, 1987, this letter is to certify the purchase of equipment for the installation of a TRS control system for the Batch and Kamyrdigester systems and No. 5 MEE. Attached are copies of pertinent purchase orders which were issued in October, 1988.

In addition, by this letter we are providing certification of initiation of construction of the new No. 4 lime kiln which will replace Nos. 2 and 3 lime kilns upon completion.

Please let us know if there are any questions or comments on these certifications.

Sincerely,

Paul J. Magrelli
General Manager

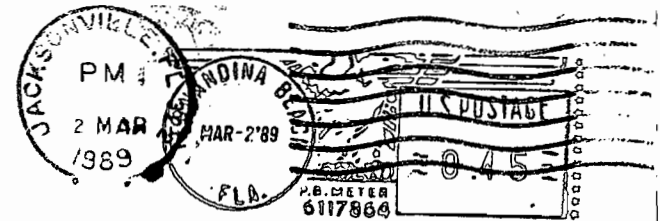
PJM/js
Attachments

cc: E. E. Frey - FDER, Jax
Bruce Mitchell 3-29-89 BSM

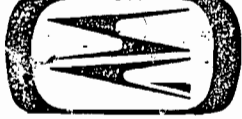


JSC/CCA

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA
NORTH EIGHTH STREET, FERNANDINA BEACH, FLORIDA 32034



Mr. Clair Fancy
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301-8241



file

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

Wanted
SEE BELOW

Terms
NET 60 DAYS

Purchase Order No.
192596-290

F.O.B. PLANT SITE
FERNANDINA BEACH, FL
Via BEST WAY

Req. No.

Date OCTOBER 3, 1988

To:

A.H. LUNDBERG ASSOCIATES, INC.
P.O. Box 597
Bellevue, Washington 98004
ATTN: Mr. Bruce W. Beckstrom

Invoice To: BILL IN TRIPLICATE
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: M. Gardner

Ship To:

SAME AS ABOVE

Please enter our order
for the following

Order number must appear on
invoices, B/L and all packages

This Purchase Order constitutes the final understanding between the parties for the supply of a Batch Digester Blow Heat Recovery System and Non Condensable Gas Collection and Transportation System for the Fernandina TRS Control Project. Verbal award of this Purchase Order was made on August 24, 1988.

A.H. LUNDBERG ASSOCIATES shall: system detailed design; fabricate; deliver to the job-site; receive, unload and store (accumulator tank with primary condenser only); mechanically erect (accumulator tank with primary condenser only - on CCA foundation); provide erection advisory service for the erection of Lundberg equipment installed by others; provide check-out and start-up assistance; and provide personnel for performance testing for the systems and equipment outlined below.

The batch digester Blow Heat Recovery System shall be as outlined below, including the purchase order attachments and also in accordance with Reynolds, Smith & Hills (RS&H) technical specification No. 18065, entitled 'Blow Heat Recovery System'. The Non Condensable Gas Collection and Transportation System shall be as outlined below, including the purchase order attachments and also in accordance with Reynolds, Smith & Hills (RS&H) technical specification No. 18685, entitled 'Non-Condensable Gas Collection System'.

DETAILED SCOPE OF SUPPLY

A. Batch Digester Blow Heat Recovery System

Appendix 1 to this Purchase Order provides the detailed outline of the scope of supply for the Batch Digester Blow Heat Recovery System, including:

Taxable Not Taxable

Continued on Page 2

81382

Mail all invoices in triplicate
together with B/L direct to
destination

Important: This order is subject
to the terms set forth herein and
on the reverse side hereof.



CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

F.O.B.

PLANT SITE

FERNANDINA BEACH, FL

Via

NO CHANGE

To:

A.H. LUNDBERG ASSOCIATES, INC.
P.O. Box 597
Bellevue, Washington 98004
ATTN: Mr. Bruce W. Beckstrom

Wanted

NO CHANGE

Terms

NET 60 DAYS

Purchase Order No.

192596-290-A

Req. No.

Date
NOV 30, 1988

Invoice To: BILL IN TRIPLICATE

CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034

ATTN: M. Gardner
Ship To:

SAME AS ABOVE

Please enter our order
for the following

Order number must appear on
invoices, B/L and all packages

-3-

II. Incorporate Certain Options from P.O.'s Appendix 5

As established in Appendix 5, entitled "Options", to CCA Purchase Order No. 192596-290, incorporate the following Options into A.H. Lundberg's Scope of Supply:

- Option 1 - Blow Heat Recovery Blow Tank Cyclones (2)
- Option 2 - Batch Turpentine Collection System [as Modified]
- Option 3 - Kamyr Turpentine Collection System

DETAILED SCOPE OF SUPPLY, CHANGE ORDER ITEM II, "OPTIONS":

Option 1 - Blow Heat Recovery Blow Tank Cyclones (2):

(2) Cyclone Entrainment Separators for Mill's two existing batch digester blow tanks. Each 15'-0" diameter by 15'-0" straight side with overall height of approximately 29'-6". Separators to be carbon steel construction with 1/16" corrosion allowance; design pressure of 10 psig and 15 inches wc vacuum. Features to include flush nozzles for removal of fiber and lower manway. Each to be shipped knocked down in as large as possible pieces for field erection by others. Other features per Appendix 5.

FIRM LUMP SUM PRICE FOR TWO (2) SEPARATORS: \$ 91,895.00/Net Firm

Taxable Not Taxable

Continued on Page 4

81586

Mail all invoices in triplicate
together with B/L direct to
destination

Important: This order is subject
to the terms set forth herein and
on the reverse side hereof.



Best Available Copy
CONTAINER CORPORATION OF AMERICA

file

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

Wanted
SEE BELOW

Terms
NET 60 DAYS

Purchase Order No.
192604-290

F.O.B. **PLANT SITE**
FERNANDINA BEACH, FL
 Via **BEST WAY**

Req. No. _____ Date **OCT 18, 1988**

To:
KAMYR, INC.
1395 Marietta Parkway
Building 900; Suite 900
Marietta, Georgia 30067
ATTN: Mr. Michael Elmore

Invoice To: **BILL IN TRIPLICATE**
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: M. Gardner
 Ship To:
SAME AS ABOVE

Please enter our order
 for the following.

Order number must appear on
 invoices, B/L and all packages

This Purchase Order constitutes the full and final understanding between the parties for the supply of a Kamyrr Digester Two Stage Flash Tank System for the Fernandina TRS Control Project. Verbal award of this Purchase Order was made on September 21, 1988.

KAMYR, INC. shall: detailed design; fabricate; deliver to the jobsite; receive, unload and store; and mechanically erect a Kamyrr Two-Stage Flash Tank System for flashing off steam from the liquor extraction on the Mill's existing Kamyrr continuous digester.

DETAILED SCOPE OF SUPPLY

A. Flash Tank Equipment

Kamyrr Two-Stage Flash Tank System based upon a design loading of 1800 GPM extraction flow at 310°F, with basic size and parameters as outlined in Appendix 1, and further consisting of:

1. First Stage Flash Tank to operate at approximately 13 PSIG; Second Stage Flash Tank to operate at approximately 1 PSIG.
2. Units to be stacked vertically.
3. Tank material of construction to be ASTM SA 516 Grade 70 carbon steel.
4. All wetted parts of tank internals to be stainless steel, type 304L.
5. Internal design to be based on Kamyrr's inverted cone patent.

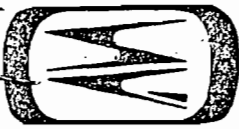
Taxable Not Taxable

Continued on Page 2

81444

Mail all invoices in triplicate together with B/L direct to destination

Important: This order is subject to the terms set forth herein and on the reverse side hereof.



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CONTAINER CORPORATION OF AMERICA

file

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

F.O.B.	Wanted SEE BELOW	Terms NET 60 DAYS	Purchase Order No. 192646-290
Via	PLANT SITE FERNANDINA BEACH, FL SEE BELOW	Req. No.	Date DEC 19, 1988

To:
 HPD INCORPORATED
 HPD Place; Box 3032
 Naperville, IL 60566-7032
 ATTN: Mr. Jean Claude Patel

Invoice To: **BILL IN TRIPLICATE
 CONTAINER CORPORATION OF AMERICA
 MILL DIVISION
 NORTH 8TH STREET
 FERNANDINA BEACH, FLORIDA 32034
 ATTN: Michelle Gardner**

Ship To:
SAME AS ABOVE

Please enter our order
 for the following

Order number must appear on
 invoices, B/L and all packages

This Purchase Order constitutes the full and final understanding between the Parties for a feasibility study on the CCA Fernandina TRS Control Project.

HPD Inc. will perform a feasibility study on the CCA Fernandina Mill's No. 5 Multiple Effect Evaporators and Concentrators. Purpose of the study is to review and analyze the evaporator modifications contemplated by CCA's TRS Project design engineers, Reynolds, Smith and Hills.

Major points to be addressed by the feasibility study:

1. Detailed flowsheet and heat and material balances for the system, to verify system design capacity and correctness of anticipated modifications.
2. Schematic P&IDs (for others to estimate piping changes).
3. Confirm ability of existing heat exchangers HE-3 and HE-3A to handle the flows and pressures contemplated.
4. Preparation and submittal of a detailed proposal by HPD to perform the system design modifications and associated equipment changes to accomplish the new flow, heat and material balances.
5. Preparation and submittal of a detailed proposal by HPD to design and supply entrainment separators.

Continued on Page 2

Taxable Not Taxable

81560

Mail all invoices in triplicate together with B/L direct to destination

Important: This order is subject to the terms set forth herein and on the reverse side hereof.

Best Available Copy



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-24

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

January 13, 1989

Mr. John E. Braddy
1567 Penbrook Drive
Fernandina Beach, Florida 32034

Dear Mr. Braddy:

Per your request, I have enclosed a copy of a status letter associated with the compliance schedule for the No. 4 Smelt Dissolving Tank and the Tall Oil Plant. If you have any questions, please give me a call at (904)488-1344.

Sincerely,

R. Bruce Mitchell
Review Engineer
Bureau of Air Quality
Management

RBM/ks

cc: Main Files: AC 45-141875
AC 45-141874

PM
12-1-88
Fernandina Beach, FL

Main File Copy



JSC/CCA

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

November 30, 1988

RECEIVED

DEC 2 1988

DER-BAQM

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

Mr. Clair Fancy
Florida Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32301-8241

Dear Mr. Fancy:

Pursuant to our TRS compliance plan as required by FAC 17-2.960 and submitted to you on January 30, 1987, this letter is to certify the purchase of equipment for the replacement of our existing lime kilns Nos. 2 and 3 with a new lime kiln, No. 4, with electro-static precipitator control device. Attached are copies of the pertinent purchase orders which were issued in May and June, 1988.

Please let me know if you have any questions or comments on this certification.

Sincerely,

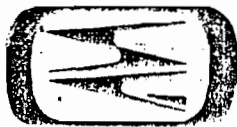
Paul J. Maguire
General Manager

PJM/js
Attachments

cc: E. E. Frey - FDER, Jax

Bruce Mitchell 12-2-88 RAN
Carol Searvey 3-6-89 RAN

Fernandina Beach
resident



Best Available Copy
CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

Wanted
SEE BELOW

Terms
NET 30 DAYS

Purchase Order No.
192550-290

F.O.B. **PLANT SITE**
FERNANDINA BEACH, FL.
 Via **BEST WAY**

Req. No. _____ Date **MAY 25, 1988**

To:
FULLER COMPANY
630 COLONIAL PARK DRIVE, SUITE 230
ROSWELL, GA. 30075
ATTN: Mr. R. W. Baldwin

Invoice To: **BILL IN TRIPLICATE**
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: Michelle Gardner
 Ship To:
SAME AS ABOVE

Please enter our order
 for the following

Order number must appear on
 invoices, B/L and all packages

CONFIRMING - DO NOT DUPLICATE

This PURCHASE ORDER and the outlined documents and attachments constitute the full and final understanding for the No. 4 Lime Kiln and the associated Equipment being supplied. Notification of Award of this Purchase Order occurred October 26, 1987.

DEFINITIONS

Throughout the Purchase Order and the supporting attachments the term "Owner" or "Purchaser" shall mean CONTAINER CORPORATION OF AMERICA. The term "Vendor", "Supplier", or "Manufacturer" shall mean the FULLER COMPANY, including its agents, suppliers, sub-contractors and representatives. The term "Engineer" shall mean REYNOLDS, SMITH and HILLS, INC., Greenville, SC. The term "Equipment" shall mean the total material, parts, machinery, hardware, components, services and the like provided under this Order.

SCOPE OF SUPPLY AND SERVICES:

One (1) FULLER 14'-0" diameter by 380'-0" long lime sludge kiln to produce 600 tons per day of product along with the associated support and ancillary equipment as outlined in this Purchase Order and the supporting documents and attachments. Scope of supply and services to be in strict accordance with the following documents, all of which are attached hereto and are incorporated herein:

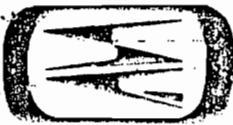
Taxable Not Taxable

81209

FO 2842

Mail all invoices in triplicate
 together with B/L direct to
 destination

Important: This order is subject
 to the terms set forth herein and
 on the reverse side hereof.



BEST AVAILABLE COPY

CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

Wanted
SEE BELOW

Terms
NET 30 DAYS

Purchase Order No.
192550-290

F.O.B. PLANT SITE
Via FERNANDINA BEACH, FL.
BEST WAY

Req. No. Date MAY 25, 1988

To:

FULLER COMPANY
630 COLONIAL PARK DRIVE, SUITE 230
ROSWELL, GA. 30075
ATTN: Mr. R. W. Baldwin

Invoice To: BILL IN TRIPLICATE
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: Michelle Gardner
Ship To:
SAME AS ABOVE

Please enter our order
for the following

Order number must appear on
invoices, B/L and all packages

(2)

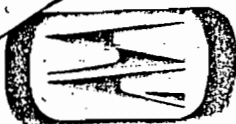
1. Container Corporation of America Purchase Order Conditions of Purchase, as amended.
2. RS&H Technical Specifications 15419, titled 'Rotary Lime Sludge Kiln', pages 1-26, as amended per the Fuller exceptions and clarifications and technical documents.
3. FULLER COMPANY, 'Summary of Equipment to be Furnished by Fuller Company', dated 29 April 1988, sheets 1-2.
4. FULLER CO. 'Specification for 14'-0" Diameter X 380'-0" Long Rotary Kiln for CCA, Fernandina, FL', dated 29 April 1988, Sheets 1 - 11.
5. FULLER CO. 'Specifications for #6 Oil/NCG Kiln Burner', dated 29 April 1988, sheets 1-5..
6. FULLER CO. 'Specifications for Hot Lime Lump Breaker for CCA, Fernandina Beach, FL', dated 29 April 1988, sheet 1.
7. FULLER CO. 'Specification for 35'-0" Long X 6'-0" Retraction Distance Kiln Feed Belt for CCA, Fernandina Beach, FL', dated 29 April 1988, sheets 1-6.
8. FULLER CO. 'Refractory Specifications, 14' X 380' Kiln, Dual Brick Lining', dated 29 April 1988, sheets 1-2.

Taxable Not Taxable

81210

Mail all invoices in triplicate
together with B/L direct to
destination

Important: This order is subject
to the terms set forth herein and
on the reverse side hereof.



CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase OrderWanted
SEE BELOWTerms
NET 30 DAYSPurchase Order No.
192550-290F.O.B. PLANT SITE
FERNANDINA BEACH, FL.

Via BEST WAY

Req. No.

Date MAY 25, 1988

To:

FULLER COMPANY
630 COLONIAL PARK DRIVE, SUITE 230
ROSWELL, GA. 30075
ATTN: Mr. R. W. Baldwin

Invoice To: BILL IN TRIPLICATE
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034

ATTN: Michelle Gardner

Ship To:

SAME AS ABOVE

Please enter our order
for the followingOrder number must appear on
invoices, B/L and all packages

(3)

9. FULLER CO. 'Heat and Material Balances', dated 29 April 1988, sheets 1-3.
10. FULLER CO. 'Technical Summary for Rotary Lime Sludge Kiln', undated, sheets 1-5 (numbered 22-26).
11. FULLER CO. 'New Motor List' and 'Utilities Usage', dated 29 April 1988, each sheet 1.
12. Appendices as specified in this Purchase Order:
 - Performance Warranty
 - Erection, Start-up and Training Services
 - Spare Parts Listing and Pricing

 Taxable Not Taxable

81211

Mail all invoices in triplicate
together with B/L direct to
destination

Important: This order is subject
to the terms set forth herein and
on the reverse side hereof.

CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

Wanted
SEE BELOW

Terms
NET 30 DAYS

Purchase Order No.
192566-290

F.O.B. PLANT SITE
FERNANDINA BEACH, FL
Via BEST WAY

Req. No. Date
June 22, 1988

To:
RESEARCH-COTTRELL CORPORATION
P.O. Box 1500
Somerville, New Jersey 08876
ATTN: Mr. William J. Baron
TRS PROJECT - KILN PRECIPITATOR

Invoice To: BILL IN TRIPLICATE
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: M. Gardner
Ship To:
SAME AS ABOVE

Please enter our order
for the following

Order number must appear on
invoices, B/L and all packages

CONFIRMING - DO NOT DUPLICATE

This PURCHASE ORDER and the outlined documents and attachments constitute the full and final understanding for the Lime Sludge Kiln ELECTROSTATIC PRECIPITATOR SYSTEM and associated Equipment being supplied. Notification of Award of this Purchase Order occurred February 12, 1988.

DEFINITIONS

Throughout the Purchase Order and the supporting attachments the term "Owner", "Purchaser" or "Buyer" shall mean CONTAINER CORPORATION OF AMERICA. The term "Vendor", "Supplier", "Seller", or "Manufacturer" shall mean RESEARCH-COTTRELL INC., including its agents, suppliers, subcontractors and representatives. The term "Engineer" shall mean REYNOLDS, SMITH and HILLS, INC., Greenville, SC. The term "Equipment" shall mean the total material, parts, machinery, hardware, components, services and the like provided under this Order. The term "Erection" or "Construction" shall mean the full receipt, unloading, storage and protection, assembly, erection and construction, check-out, commissioning and placement into service of the Equipment.

SCOPE OF SUPPLY AND SERVICES:

RESEARCH-COTTRELL will design, fabricate, furnish, deliver, erect and place into service a complete ELECTROSTATIC PRECIPITATOR SYSTEM ("ESP") with associated support and ancillary equipment as outlined in this Purchase Order and the supporting documents and attachments. ESP is to serve a new 600 ton per day lime kiln. Detailed scope of supply

Taxable Not Taxable

81314

Mail all invoices in triplicate
together with B/L direct to
destination

Important: This order is subject
to the terms set forth herein and
on the reverse side hereof.



CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

Wanted
SEE BELOW

Terms
NET 30 DAYS

Purchase Order No.
192566-290

F.O.B. PLANT SITE
FERNANDINA BEACH, FL
Via BEST WAY

Req. No. June 22, 1988

To:
RESEARCH-COTTRELL CORPORATION
P.O. Box 1500
Somerville, New Jersey 08876
ATTN: Mr. William J. Baron
TRS PROJECT - KILN PRECIPITATOR

Invoice To: BILL IN TRIPLICATE
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: M. Gardner
Ship To:
SAME AS ABOVE

Please enter our order
for the following

Order number must appear on
invoices, B/L and all packages

and services to be in strict accordance with the following documents,
all of which are attached hereto and are incorporated herein:

1. Container Corporation of America and Research-Cottrell joint 'Conditions of Sale', pages M-1 to M-15, as amended.
2. Container Corporation of America Letter of Authorization .
3. Container Corporation of America Commercial Instructions to Bidders for Electrical, Mechanical and Process Equipment Purchase.
4. Container Corporation of America Technical Instructions to Bidders for Electrical, Mechanical and Process Equipment Purchase.
5. CCA 'Kiln Electrostatic Precipitator Parameters', dated November, 1987.
6. RS&H Technical Specification No. 15611, entitled 'Precipitator for Rotary Lime Sludge Kiln', as amended by the Research-Cottrell technical Scope of Supply documents.
7. RESEARCH-COTTRELL Proposal P-3836A, (originally dated December 1, 1987) As Sold Revision, dated May 20, 1988.

Taxable Not Taxable

81265

Mail all invoices in triplicate
together with B/L direct to
destination

Important: This order is subject
to the terms set forth herein and
on the reverse side hereof

PM
10-21-88
Fernandina Bch, FL



JSC/CCA

RECEIVED

OCT 24 1988

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

DER - BAQM

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

October 20, 1988

Mr. Clair Fancy
Florida Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32301-8241

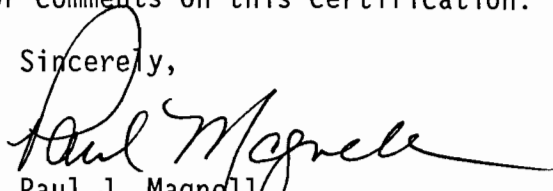
Dear Mr. Fancy:

Pursuant to our TRS compliance plan as required by FAC 17-2.960 and submitted to you on January 30, 1987, this letter is to certify the initiation of construction of the scrubbers being installed on the No. 4 Smelt Dissolving Tank, and the Tall Oil Plant. This activity is covered under air construction permits nos. AC 45-141875, and AC 45-141874, respectively.

Specifically, construction was begun on the No. 4 SDT scrubber on September 5, 1988, and construction began on the Tall Oil Plant scrubber on October 10, 1988. At this writing both projects are on schedule as originally outlined in the TRS compliance plan.

Please let me know if you have any questions or comments on this certification.

Sincerely,


Paul J. Magne
General Manager

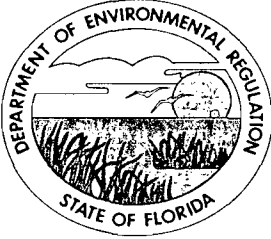
PJM/js

cc: E. E. Frey - FDER, Jax

Bruce - RAM 10/25/88

John E. Braddy } 1-13-89 RAM
1567 Penbrook Dr.
Fernandina Beach, FL 32034

Main File
AC45-141871-75,
-774-78



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

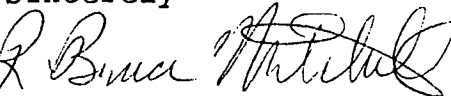
October 20, 1988

Mr. John A. Braddy
1567 Penbrook Drive
Fernandina Beach, Florida 32034

Dear Mr. Braddy:
Re: Container Corporation of America
Variance and Construction Permits

Thank you for your inquiry about the above referenced kraft paper and pulp mill. Per your request, I have enclosed the variance (VE-45-313) and the appropriate construction permits, which relate to affected TRS sources. Please review and give me a call if there are any questions or further clarification is needed.

I hope this information will be helpful. Again, please call me at (904)488-1344 if there are any concerns.

Sincerely


R. Bruce Mitchell
Review Engineer
Bureau of Air Quality
Management

RBM/bm

7-18-88

file copy



JSC/CCA

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Certified Mail

July 1, 1988

RECEIVED

JUL 18 1988

DER - BAQM

Mill Division
NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

Mr. Clair Fancy
Florida Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32301-8241

Dear Mr. Fancy:

Pursuant to our TRS compliance plan as required by FAC 17-2.960 and submitted to you on January 30, 1987, attached is certification of equipment purchase for the scrubbers for the No. 4 smelt dissolving tank and the tall oil plant. This activity is covered under air construction permits nos. AC 45-141875 and AC 45-141874, respectively. The certification hereby submitted is in the form of a copy of the Purchase Order for the referenced equipment.

Please note that both units are being purchased from the same equipment supplier, AirPol, Inc. and are covered under the same purchase order. Also note that the PO submitted is a "draft" document in that while a commitment has been made to purchase the equipment as shown, the general business terms of the agreement are still under review by both CCA and AirPol.

Please let me know if you would like any further information on this certification.

Sincerely,

Paul J. Magne
Paul J. Magne
General Manager

PJM/js
Attachment

cc: E. E. Frey - FDER, Jax

copied: Bruce Mitchell } 7-19-88
CHF/BT

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL NUMBER

6316868913

73602

6316868913

Date 7/18/88	
From (Your Name) Please Print Paul J. Magnell	Your Phone Number (Very Important)
To (Recipient's Name) Please Print Mr. Clair Fancy	Recipient's Phone Number (Very Important)
Company CONTAINER CORR OF AMERICA	Department/Floor No.
Company Florida Dept. of Environmental Regulation	Department/Floor No.
Street Address N. 4TH ST.	Exact Street Address (Use of P.O. Boxes or P.O. Zip Codes Will Delay Delivery And Result in Extra Charge.) 2600 Blairstone Road
City FERNANDINA BEACH FL	State FL
State FL	ZIP Street Address Zip Required 32301-8241

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.)

PAYMENT Bill Sender Bill Recipient's FedEx Acct. No. Bill 3rd Party FedEx Acct. No. Bill Credit Card Cash

HOLD FOR PICK-UP AT THIS FEDERAL EXPRESS LOCATION: Street Address (See Service Guide or Call 800-238-5355)

City _____ State _____

SERVICES CHECK ONLY ONE BOX		DELIVERY AND SPECIAL HANDLING CHECK SERVICES REQUIRED		PACKAGES	WEIGHT	YOUR DECLARED VALUE	SHIP DATE
1 <input type="checkbox"/> PRIORITY 1 Overnight Delivery Using Your Packaging	6 <input checked="" type="checkbox"/> OVERNIGHT LETTER Using Your Packaging	1 <input type="checkbox"/> HOLD FOR PICK-UP (See Section 4 at right)			LBS		
2 <input type="checkbox"/> OVERNIGHT DELIVERY USING OUR PACKAGING Courier-Pak Overnight Envelope® 12" x 15 1/2"		2 <input checked="" type="checkbox"/> DELIVER WEEKDAY			LBS		
3 <input type="checkbox"/> OVERNIGHT BOX 12 1/2" x 17 1/2" x 3"	A <input type="checkbox"/>	3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge)			LBS		
4 <input type="checkbox"/> OVERNIGHT TUBE 38" x 6" x 6"	B <input type="checkbox"/>	4 <input type="checkbox"/> DANGEROUS GOODS (P-1 and Sterilized Air Packages only. Extra charge)			LBS		
*Declared Value Limit \$100.		5 <input type="checkbox"/> CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge. Do not complete Section 3)		Total	Total	Total	
STANDARD AIR Delivery not later than second business day		6 <input type="checkbox"/> DRY ICE _____ lbs.					
SERVICE COMMITMENT PRIORITY 1 - Delivery is scheduled early next business morning in most locations. It may take two or more business days if the destination is outside our primary service areas. STANDARD AIR - Delivery is generally next business day or not later than second business day. It may take three or more business days if the destination is outside our primary service areas.		7 <input type="checkbox"/> OTHER SPECIAL SERVICE					
Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.		8 <input type="checkbox"/>					
Release Signature _____		9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge)					
		10 <input type="checkbox"/>					

ZIP # Zip Code of Street Address Required

Emp. No. _____ Date _____

Cash Received
 Return Shipment
 Third Party Chg. To Del Chg. To Hold

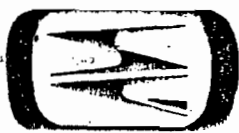
Street Address _____
City _____ State _____ Zip _____

Received By: _____
Date/Time Received _____ FedEx Employee Number _____

Regular Stop
On-Call Stop
Drop Box
Federal Express Cash Employees No. **16551**
Date For Federal Express Use **7-1888 1735**

Federal Express Use
Basic Charges
Declared Value Charge
Origin Agent Charge
Other
Total Charges
PART # 108001
REV. 5/87
PRINTED U.S.A. NOREC
007

RECIPIENT'S COPY



Best Available Copy

CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

Wanted SEE BELOW

Terms NET 30 DAYS

Purchase Order No. 192 -290

F.O.B. PLANT SITE
FERNANDINA BEACH, FL
Via BEST WAY

Req. No. Date July , 1988

To: AIRPOL, INCORPORATED
32 Henry Street
Teterboro, New Jersey 07608
ATTN: Mr. David B. Taub

Invoice To: BILL IN TRIPLICATE
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: M. Gardner

Ship To:
SAME AS ABOVE

* DRAFT *

Please enter our order for the following

Order number must appear on invoices, B/L and all packages

This Purchase Order constitutes the final understanding between the parties for the detailed design, fabrication, delivery to the job-site, erection and start-up of scrubbers for the Mill's No. 4 recovery boiler smelt dissolving tank and the tall oil plant for the Fernandina TRS Control Project. Verbal award of this Purchase Order was made on June 10, 1988.

AIRPOL, INC. shall: detailed design; fabricate; deliver to the job-site; receive, unload and store; mechanically erect; and start-up a scrubber systems for the CCA Fernandina Mill's No. 4 recovery boiler smelt dissolving tank and for the tall oil plant as outlined below and per the purchase order attachments and also in strict accordance with Reynolds, Smith & Hills (RS&H) RFQ No. 001, dated January 28, 1988, as amended, including RS&H technical specifications No. 15889, entitled 'Emissions Scrubber for Smelt Dissolving Tank and No. 15891, entitled 'Emissions Scrubber for Tall Oil Plant.

DETAILED SCOPE OF SUPPLY

A. No. 4 Recovery Boiler Smelt Dissolving Tank Scrubber System

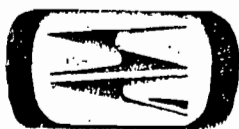
Appendix 1 to this Purchase Order provides the detailed outline of the scope of supply for the recovery boiler smelt dissolving tank scrubber system, including:

1. Design and Operating Conditions
2. Equipment to be Furnished by AIRPOL
3. Engineering to be Furnished by AIRPOL
4. Installation to be Furnished by AIRPOL
5. Performance Guarantee and Guarantee Conditions
6. Services by Purchaser During Installation

Taxable Not Taxable

Mail all invoices in triplicate together with B/L direct to

Important: This order is subject to the terms set forth herein and on the reverse side hereof.



Best Available Copy
CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

		Wanted	Terms	Purchase Order No.
		SEE BELOW	NET 30 DAYS	192 -290
F.O.B.	PLANT SITE			
	FERNANDINA BEACH, FL			
Via	BEST WAY	Req. No.	Date	July , 1988

To:

AIRPOL, INCORPORATED
32 Henry Street
Teterboro, New Jersey 07608
ATTN: Mr. David B. Taub

Invoice To: BILL IN TRIPLICATE
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: M. Gardner

Ship To:
SAME AS ABOVE

Please enter our order
for the following

Order number must appear on
invoices, B/L and all packages

LUMP SUM PURCHASE ORDER AMOUNT, THIS ITEM: \$280,900.00/Net Firm

B. Tall Oil Plant Scrubber System

Appendix 2 to this Purchase Order provides the detailed outline of the scope of supply for the Tall Oil Scrubber System, including:

1. Design and Operating Conditions
2. Equipment to be Furnished by AIRPOL
3. Engineering to be Furnished by AIRPOL
4. Installation to be Furnished by AIRPOL
5. Performance Guarantee and Guarantee Conditions
6. Services by Purchaser During Installation

LUMP SUM PURCHASE ORDER AMOUNT, THIS ITEM: \$140,700.00/Net Firm

LUMP SUM PURCHASE ORDER TOTAL, ALL ABOVE: \$421,600.00/Net Firm

TIMING

AIRPOL shall complete all work under this Purchase Order no later than February 1, 1989. Installation of both scrubber systems can occur simultaneously, however, AIRPOL will provide CCA with sufficient notice as to commencement of construction and any requirement for existing Mill equipment to be taken out of service to support construction. Installation will not unduly restrict Purchaser's operation of the affected equipment.

Taxable Not Taxable



Best Available Copy

CONTAINER CORPORATION OF AMERICA

AN AFFILIATE OF JEFFERSON SMURFIT CORPORATION

Purchase Order

Wanted SEE BELOW

Terms NET 30 DAYS

Purchase Order No. 192 -290

F.O.B. PLANT SITE
FERNANDINA BEACH, FL
Via BEST WAY

Req. No. Date July , 1988

To:
AIRPOL, INCORPORATED
32 Henry Street
Teterboro, New Jersey 07608
ATTN: Mr. David B. Taub

Invoice To: BILL IN TRIPLICATE
CONTAINER CORPORATION OF AMERICA
MILL DIVISION
NORTH 8TH STREET
FERNANDINA BEACH, FLORIDA 32034
ATTN: M. Gardner

Ship To:
SAME AS ABOVE

Please enter our order for the following

Order number must appear on invoices, B/L and all packages

Notes:

1. AIRPOL will provide qualified construction supervision during the periods any installation work is being performed at the mill site. It is expressly understood between the parties that CCA has no contractual relationship with any AIRPOL supplier or subcontractor and that AIRPOL is solely responsible for the on site supervision and direction of its suppliers and contractors.
2. AIRPOL will provide qualified personnel for the start-up of each of the scrubber systems being provided.
3. Engineering performed and supplied by AIRPOL will be submitted to Purchaser and Purchaser's TRS Project design engineers, Reynolds, Smith & Hills, for review and concurrence. AIRPOL is responsible for designing and installing support steel for the smelt recovery boiler scrubber equipment; RS&H will review impact of the loads imposed by the AIRPOL scrubber system on the No. 4 recovery boiler structure. Any modifications to the No. 4 recovery boiler structure outside of those members to directly support the new scrubber equipment shall be designed by RS&H and installed by Purchaser.
4. Except all specified in the detailed scope of supply, all electrical and instrumentation work is to be provided and installed by Purchaser. Purchaser agrees to perform this work in the time frame necessary to be complete and ready for check-out and initial operation within ten (10) days of mechanical completion, provided that AIRPOL furnishes motor horsepower and other electrical and instrument load and location data to Purchaser in a timely manner.

Taxable Not Taxable

Mail all invoices in triplicate

Important: This order is subject to the terms and conditions on file at the time of purchase.

CERTIFIED

CCA

P 724 305 809

MAIL

Container
Corporation
of America

Federal Express



FOR POSTAGE

SENDER: Remove Label, Affix
Postage and Remail

RETURNED TO SENDER

Mr. Fancy
We regret
that our mail room
did not affix postage
We received it back
on 7-18-88.
Secretary to P. Maguire

North Eighth Street
Fernandina Beach, Florida 32034

Mr. Clair Fancy
Florida Dept. of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32301-8241



Best Available Copy

P 702 175 491

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

Paul J. (See Reverse)
~~Magnell~~

Sent to General Manager	
Container Corp. of America	
Street and No. North 8th Street	
P.O., State and ZIP Code Fernandina Beach, FL 32034	
Postage	\$
Certified Fee	/
Special Delivery Fee	a
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 Mailed: 06/01/88 Permits: AC 45-141871, -141872, -141874 and -141875	

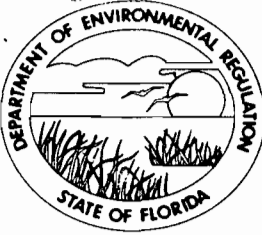
PS Form 3800, June 1985

SENDER. Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery
↑(Extra charge)↑ ↑(Extra charge)↑

<p>3. Article Addressed to:</p> <p>Mr. Paul J. Magnell General Manager Container Corporation of America North 8th Street Fernandina Beach, FL 32034</p>	<p>4. Article Number P 702 175 491</p> <p>Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail</p> <p>Always obtain signature of addressee or agent and <u>DATE DELIVERED.</u></p>
<p>5. Signature - Addressee X</p>	<p>8. Addressee's Address (ONLY if requested and fee paid)</p>
<p>6. Signature - Agent X</p> <p>Date of Delivery 6-2-88</p>	

File Copy



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

May 26, 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Paul J. Magnell
General Manager
Container Corporation of America
North 8th Street
Fernandina Beach, Florida 32034

Dear Mr. Magnell:

Re: Amendments to Construction Permits
AC 45-141871, -141872, -141874, and -141875

The Department received your letter dated May 2, 1988, requesting that the above referenced permits be amended to incorporate specific conditions that have been recently agreed to with other pulp and paper mills.

A. For the digester systems, the following will be changed:

- 1. AC 45-141871: Kamyrr Digester System

Specific Condition

No. 2:

From: The maximum production rate of the Kamyrr digester system shall not exceed 85 tons per hour of air dried pulp and based on a nominal utilization rate of 300,104 lbs/hr wood chips (dry) and 1,573,191 lbs/hr black/white liquor. For PSD purposes, the maximum production rate shall not exceed 1819 TPD ADP.

To: For testing purposes and NSPS applicability purposes, the maximum production rate of the Kamyrr digester system will be 85 TPH ADP (tons per hour of air-dried pulp). Tests for compliance will be performed with the control device (No. 4 lime kiln) operating at 90-100% of the maximum rate and with the Kamyrr digester system operating as near the maximum production rate as possible, but no less than 85% of the maximum rate. For PSD purposes, the maximum production rate

Mr. Paul J. Magnell
Page Two
May 26, 1988

of the Kamyrd digester system will be 1,819 TPD ADP (tons per day of air dried pulp; based on a nominal utilization rate of 3,210 TPD of wood chips (dry) and 12,830 TPD of cooking liquor (dry)).

2. AC 45-141872: Batch Digester System

Specific Condition

No. 2:

From: The maximum production rate of the batch digester system shall not exceed 101.5 tons per hour of air dried pulp and based on a nominal utilization rate of 392,305 lbs/hr wood chips (dry) and 819,918 lbs/hr of black/white liquor. For PSD purposes, the maximum production rate shall not exceed 1391 TPD ADP.

To: For testing purposes and NSPS applicability purposes, the maximum production rate of the batch digester system will be 101.5 TPH ADP (tons per hour of air dried pulp). Tests for compliance will be performed with the control device (No. 4 lime kiln) operating at 90-100% of the maximum rate and with the batch digester system operating as near the maximum production rate as possible, but no less than 85% of the maximum rate. For PSD purposes, the maximum production rate of the batch digester system will be 1,391 TPD ADP (tons per day of air dried pulp; based on a nominal utilization rate of 2,690 TPD of wood chips (dry) and 5,620 TPD of cooking liquor (dry)).

B. Due to the refinement of some Specific Conditions associated with TRS source permitting and a phone conversation with Mr. Roger Hagan on May 20, 1988, the following will be changed:

1. AC 45-141874: Tall Oil Plant and Control System

Specific Condition

No. 6:

From: The permittee shall provide proof of final compliance to the DER's Northeast District office by May 12, 1989, pursuant to FAC Rule 17-2.960(1)(d)1.b.

Mr. Paul J. Magnell
Page Three
May 26, 1988

To: Pursuant to FAC Rule 17-2.960(1), the Tall Oil Plant shall be in final compliance by May 12, 1989, and the permittee shall provide proof of final compliance to the DER's Northeast District office by June 26, 1989.

2. AC 45-141875: No. 4 Smelt Dissolving Tank

Specific Condition

No. 7:

From: The permittee shall provide proof of compliance with FAC Rule 17-2.960(1), by May 12, 1989, to the DER's Northeast District office.

To: Pursuant to FAC Rule 17-2.960(1), the No. 4 SDT shall be in final compliance by May 12, 1989, and the permittee shall provide proof of final compliance to the DER's Northeast District office by June 26, 1989.

C. Since a major modification initiates new source review pursuant to FAC Rules 17-2.500 and 17-2.510 if a pollutant exceeds the significant level contained in FAC Rule 17-2, Table 500-2, then this threshold level, which for TRS is 10 TPY, will be compared to the source's annual allowable TRS emission limit to determine the necessity for requiring annual compliance testing for TRS mass emissions. If the allowable TRS emission limit is greater than 10 TPY, an annual compliance test is required. Therefore, the following will be changed:

1. AC 45-141874: Tall Oil Plant and Control System

Specific Condition

No. 4:

From: Initial and annual compliance tests shall be conducted using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

To: An initial compliance test shall be conducted using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

Mr. Paul J. Magnell
Page Four
May 26, 1988

2. AC 45-141875: No. 4 Smelt Dissolving Tank

Specific Condition

No. 6:

From: Initial and annual compliance tests shall be conducted using the following test methods in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A:

- a) EPA Method 5, Determination of Particulate Emissions from Stationary Sources
- b) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources
- c) EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources

To: a. Initial and annual compliance tests for PM and visible emissions shall be conducted using the following test methods in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A:

- 1) EPA Method 5, Determination of Particulate Emissions from Stationary Sources
- 2) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources

b. An initial compliance test for TRS shall be conducted using the following test method in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A:

- 1) EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources

Attachment to be Incorporated:

A. AC 45-141871 and -141872

11. Mr. Paul J. Magnell's letter dated May 2, 1988, and received May 6, 1988.

Mr. Paul J. Magnell
Page Five
May 26, 1988

B. AC 45-141874

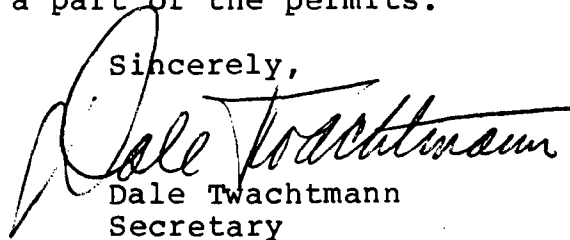
7. Mr. Paul J. Magnell's letter dated May 2, 1988, and received May 6, 1988.

C. AC 45-141875

8. Mr. Paul J. Magnell's letter dated May 2, 1988, and received May 6, 1988.

This letter must be attached to the appropriate construction permits and shall become a part of the permits.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dale Twachtmann", is written over the typed name and title.

Dale Twachtmann
Secretary

DT/ks

cc: B. Stewart, NE District
B. Williams, JSC
R. Hagan, CCA
B. Pittman, Esq., DER

ATTACHMENT 11
PERMITS AC 45-141871 and -141872

ATTACHMENT 7
PERMIT AC 45-141874

ATTACHMENT 8
PERMIT AC 45-141875

3 May 1988
Jefferson Beach, FL

JSC/CCA

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

RECEIVED

Mill Division
NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

May 2, 1988

MAY 06 1988

DER-BAQM

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

Re: Construction Permits No. AC 45-141872 and No. AC 45-141871

Dear Mr. Mitchell:

Pursuant to our telephone conversation of April 28, Container Corporation of America would like to request hereby the following changes to the referenced construction permits. As we discussed, we are in agreement that this language more accurately reflects the requirements of the TRS rule and the practical limitations of the digesting systems in terms of monitoring production and utilization rates.

Permit No. AC 45-141872 - Batch Digester System
Specific Condition No. 2

For testing purposes and NSPS applicability purposes, the maximum production rate of the batch digester system will be 101.5 TPH ADP (tons per hour of air-dried pulp). Tests for compliance will be performed with the control device (No. 4 lime kiln) operating at 90-100% of the maximum rate and with the batch digester system operating as near the maximum production rate as possible, but no less than 85% of the maximum rate. For PSD purposes, the maximum production rate of the batch digester system will be 1391 TPD ADP (tons per day of air-dried pulp based on a nominal utilization rate of 2690 TPD of wood chips (dry) and 5620 TPD of cooking liquor).

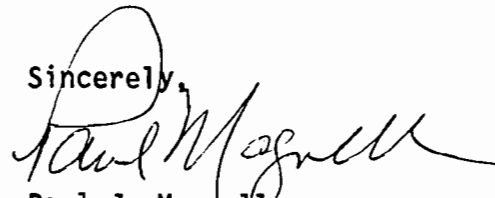
Permit No. AC 45-141871 - Kamyr Digester System
Specific Condition No. 2

For testing purposes and NSPS applicability purposes, the maximum production rate of the Kamyr digester system will be 85 TPH ADP (tons per hour of air-dried pulp). Tests for compliance will be performed with the control device (No. 4 lime kiln) operating at 90-100% of the maximum rate and with the Kamyr digester system operating as near the maximum production rate as possible, but no less than 85% of the maximum rate. For PSD purposes, the maximum production rate of the Kamyr digester system will be 1819 TPD ADP (tons per day of air-dried pulp based on a nominal utilization rate of 3210 TPD of wood chips (dry) and 16830 TPD of cooking liquor).

Mr. Bruce Mitchell
Page 2
May 2, 1988

Thank you for your attention to this request.

Sincerely,



Paul J. Magne
General Manager

PJM/js

cc: E. E. Frey - FDER, Jax

Copied Bruce Mitchell
Randy Rival } 5.9.88 (m)
CHF/BT



Interoffice Memorandum

TO: Dale Twachtmann

FROM: Howard L. Rhodes *HLR*

SUBJ: Approval of Amendments to Construction Permits
Container Corporation of America

State Construction Permit Numbers: AC 45-141871
AC 45-141872
AC 45-141874
AC 45-141875

DATE: May 26, 1988

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

Attached for your approval and signature is a letter amending the above referenced construction permits for Container Corporation of America. The facility is located in Fernandina Beach, Nassau County, Florida. There are no controversies associated with the amendments.

I recommend your approval and signature.

HLR/aqm/bm
attachment

RECEIVED
MAY 31 1988
DER-BAQM

RECEIVED
MAY 27 1988

Office of the Secretary



JSC/CCA

PM
5 May 1988
Fernandina Beach, FL

File Copy

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

RECEIVED

Mill Division
NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

May 2, 1988

MAY 06 1988

DER-BAQM

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

Re: Construction Permits No. AC 45-141872 and No. AC 45-141871

Dear Mr. Mitchell:

Pursuant to our telephone conversation of April 28, Container Corporation of America would like to request hereby the following changes to the referenced construction permits. As we discussed, we are in agreement that this language more accurately reflects the requirements of the TRS rule and the practical limitations of the digesting systems in terms of monitoring production and utilization rates.

Permit No. AC 45-141872 - Batch Digester System
Specific Condition No. 2

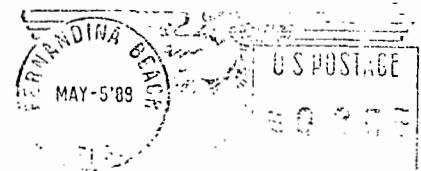
For testing purposes and NSPS applicability purposes, the maximum production rate of the batch digester system will be 101.5 TPH ADP (tons per hour of air-dried pulp). Tests for compliance will be performed with the control device (No. 4 lime kiln) operating at 90-100% of the maximum rate and with the batch digester system operating as near the maximum production rate as possible, but no less than 85% of the maximum rate. For PSD purposes, the maximum production rate of the batch digester system will be 1391 TPD ADP (tons per day of air-dried pulp based on a nominal utilization rate of 2690 TPD of wood chips (dry) and 5620 TPD of cooking liquor).

Permit No. AC 45-141871 - Kamyrdigester System
Specific Condition No. 2

For testing purposes and NSPS applicability purposes, the maximum production rate of the Kamyrdigester system will be 85 TPH ADP (tons per hour of air-dried pulp). Tests for compliance will be performed with the control device (No. 4 lime kiln) operating at 90-100% of the maximum rate and with the Kamyrdigester system operating as near the maximum production rate as possible, but no less than 85% of the maximum rate. For PSD purposes, the maximum production rate of the Kamyrdigester system will be 1819 TPD ADP (tons per day of air-dried pulp based on a nominal utilization rate of 3210 TPD of wood chips (dry) and 16830 TPD of cooking liquor).

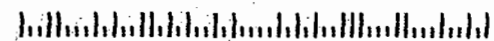
CCA

Container
Corporation
of America



North Eighth Street
Fernandina Beach, Florida 32034

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400



Mr. Bruce Mitchell
Page 2
May 2, 1988

Thank you for your attention to this request.

Sincerely,

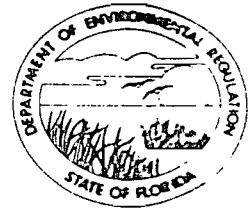


Paul J. Magrell
General Manager

PJM/js

cc: E. E. Frey - FDER, Jax

Copied: Bruce Mitchell
Bradup Raval } 5.9.88 (m)
CHF/BT



Interoffice Memorandum

For Routing To Other Than The Addressee

To _____	Location _____
To _____	Location _____
To _____	Location _____
From _____	Date _____

TO: Main Files
Container Corporation of America: AC 45-141873
AC 45-141874
AC 45-141877

FROM: Bruce Mitchell *BM*

DATE: March 15, 1988

SUBJECT: Comments on the Technical Evaluation and Preliminary
Determination/Draft Construction Permits

1. AC 45-141873: No. 5 Multiple Effect Evaporator System
The Rule citing in Specific Condition No. 3 will be changed:
From: FAC Rule 17-2.400(4)(c)1.b.
To: FAC Rule 17-2.600(4)(c)1.b.
2. AC 45-141874: Tall Oil Plant
The Rule citing in Specific Condition No. 8 will be changed:
From: FAC Rule 17-2.400(4)(c)2.b.
To: FAC Rule 17-2.600(4)(c)2.b.
3. AC 45-141877: No. 4 Lime Kiln
 - a. The requirement of Specific Condition No. 21 is in disagreement with the signed Variance, OGC. Case No. VE-45-313. The variance and the draft construction permit requires that the operating permits of the Nos. 2 and 3 Lime Kilns to be surrendered by November 12, 1990, and March 27, 1991, respectively. Therefore, in order to maintain consistency with applicable documents, the following change will be made:
From: The No. 2 and 3 lime kilns shall be shutdown and their operating permits shall be surrendered to the DER's Northeast District office no later than the expiration date of this permit.
To: The Nos. 2 and 3 Lime Kilns shall be shutdown and their operating permits shall be surrendered to the DER's Northeast District office no later than November 12, 1990.
 - b. A requirement for the final compliance date shall be added:
To: The No. 4 Lime Kiln shall be in final compliance by November 12, 1990, in accordance with FAC Rule 17-2.960(1)(d)3.b.(ii).

Intent to Issue

Mr. Paul J. Magnell
General Manager
Container Corporation of America
Post Office Box 2000
North Eighth Street
Fernandina Beach, Florida 32034

Dear Mr. Magnell:

Container Corporation of America
Petition for Variance
File No. VE-45-313
Nassau County

On March 19, 1987, the Department received the above referenced Petition for Variance pursuant to Rule 17-2.960(1)(g)1., Florida Administrative Code (FAC), and Section 403.201, Florida Statutes (FS). Container Corporation of America requested a variance to June 1, 1990, at which time final compliance will have to be demonstrated for the existing No. 5 multiple effect evaporator (MEE) system, batch digester system and Kamyr digester system.

The Department has reviewed the Petition for Variance and hereby gives notice of its intent to issue to Container Corporation of America (CCA) a variance based on the following findings:

- 1) Part of CCA's current modernization program and proposed "TRS Conceptual Compliance Plan" is the installation of a new No. 4 lime kiln, replacing the existing Nos. 2 and 3 lime kilns.
- 2) Another part of the proposed "TRS Conceptual Compliance Plan" is the installation of a TRS noncondensable gas (NCG) handling system for capturing and transporting TRS emissions from the existing No. 5 MEE system, batch digester system and Kamyr digester system, to a combustion source. Without a variance, final compliance for these existing sources will

have to be demonstrated by May 12, 1989, pursuant to Rule 17-2.960(1)(d), FAC.

- 3) The combustion source selected by CCA to treat/combust the TRS emissions collected by the NCG system is the proposed new No. 4 lime kiln. The proposed new No. 4 lime kiln cannot be constructed and in compliance by May 12, 1989 - the final compliance date for the existing No. 5 MEE system, batch digester system and Kamyr digester system; therefore, the company has requested a variance for the existing No. 5 MEE system, batch digester system and Kamyr digester system, to June 1, 1990, to allow for completion of the construction and start-up of the proposed new No. 4 lime kiln (which is required to be in final compliance by November 12, 1990, pursuant to Rule 17-2.960(1)(d)3.b., FAC).

- 4) Container Corporation of America, therefore, applied to the Department for a variance under Chapter 403.201(1)(b), FS, pursuant to Rule 17-2.960(1)(g)1., FAC. Following a completeness review, supplemental information was requested and received, thus completing the variance application package.

- 5) In order to avoid redundancy and improve cost-effectiveness, CCA does not propose to install and operate a temporary or secondary TRS NCG control system for the existing No. 5 MEE system, batch digester system and Kamyr digester system, because it would be disconnected and dismantled after the proposed new No. 4 lime kiln and TRS NCG system are connected (by June 1, 1990).

- 6) CCA does not want to escalate the final compliance date of the proposed new No. 4 lime kiln to that of the existing sources, already identified for which a variance is sought, because of the time constraints associated with the design, engineering, delivery, construction, and initial compliance testing of the proposed new No. 4 lime kiln (estimated to take two years). Also, CCA wants to spread the total cost of the new No. 4 lime kiln and the TRS NCG system over a multi-year time period instead of a single year.
- 7) Over the last four years, CCA asserts that it has spent over \$100 million on upgrading and modernization, trying to make the mill more efficient and profitable. Besides the \$26 million committed to the proposed new No. 4 lime kiln and TRS NCG system, CCA intends to commit approximately \$2.7 million to upgrade and maintain the present mill in such a way as to minimize the facility's TRS emissions until final compliance is achieved (see Paul J. Magnell's letters dated November 12 and December 11, 1987).
- 8) Nassau County has an estimated population of 41,000. CCA employs greater than 4% of the employed labor force. In 1986, CCA paid over \$2.8 million in property taxes, which is over 22% of the total property taxes collected by the County. CCA's wages are part of the reason that Nassau County is one of the top 4 counties in the State in per capita income.
- 9) The construction of the proposed new No. 4 lime kiln will result in the retirement of two existing lime kilns (Nos. 2 and 3). The proposed new No. 4 lime kiln will be subject to

the emission limiting standards of the federal New Source Performance Standards (NSPS), 40 CFR 60, Subpart BB, adopted by reference in Rule 17-2.660, FAC. Consequently, the proposed new No. 4 lime kiln, as opposed to the two existing lime kilns, will be a more efficient and reliable combustion source for handling the facility's TRS emissions. Also, the particulate matter emissions limiting standard(s) for the proposed new No. 4 lime kiln will be more stringent than the current standard(s) for the existing Nos. 2 and 3 lime kilns.

10) The control system for the proposed new No. 4 lime kiln is an electrostatic precipitator, which is an excellent control device for particulate matter. By eliminating the existing wet scrubber systems on the existing lime kilns, which use contaminated condensate for their scrubbing medium, an additional reduction in TRS emissions will be effected (past test results show a large range of TRS emissions from both systems). Therefore, eliminating two existing air pollution sources for a tightly regulated, more efficient source is more desirable from an environmental and regulatory perspective.

11) Pursuant to Rule 17-2.960(1)(e), FAC, a mill is allowed up to two years extension under a variance. CCA requested from May 12, 1989 to June 1, 1990, under the Petition for Variance, for additional time to demonstrate final compliance for the existing No. 5 MEE system, batch digester system and Kamyr digester system. Approval of the Petition for Variance will result in requiring final compliance of these sources to be demonstrated by June 1, 1990.

The Department hereby gives notice of its intent to issue a variance (VE-45-313) to Container Corporation of America for the No. 5 MEE system, batch digester system and Kamyr digester system, subject to the following conditions:

- 1) The existing No. 5 MEE system, batch digester system and Kamyr digester system, shall be in final compliance with Rule 17-2, FAC, by June 1, 1990.
- 2) By November 12, 1990, an initial compliance test in accordance with 40 CFR 60.8, Subpart A, shall be performed on the proposed new No. 4 lime kiln with the TRS NCG system connected to it and with all of the TRS NCG emission sources, which is to include the No. 6 MEE system, in operation (90-100% of permitted capacities).
- 3) A construction permit application with the appropriate fee shall be submitted by CCA to the Department by May 12, 1988, for the proposed new No. 4 lime kiln pursuant to Rule 17-2.960(1)(d)3.b., FAC.
- 4) CCA shall upgrade, where cost effective and practical, and maintain the present facility in such a manner as to minimize interim TRS emissions. Pursuant to Rule 17-2.600(4)(c)1.c., FAC, a maintenance and malfunction contingency plan shall be submitted to the Department's Northeast District office and the Bureau of Air Quality Management office within ninety days after the effective date of this variance, outlining the interim maintenance

program for minimizing TRS emissions that will be in effect prior to achieving final compliance.

- 5) After compliance has been demonstrated on the proposed new No. 4 lime kiln, CCA shall shut down the existing Nos. 2 and 3 lime kilns and surrender any active Departmental permits for these sources to the Department, but no later than November 12, 1990.
- 6) The TRS emissions from the No. 6 MEE system shall be diverted to the TRS NCG system by June 1, 1990.
- 7) CCA agreed to expend approximately \$2.7 million to minimize TRS emissions from the present facility during the interim period and prior to demonstrating final compliance on the sources for which this variance is sought, unless a greater amount is required to maintain the present facility and minimize TRS emissions during this period (see Paul J. Magnell's letters dated November 12 and December 11, 1987). Documentation shall be required in the form of a Quarterly Report and the first report shall be due March 1, 1988.
- 8) The Quarterly Report shall be submitted to the Department's Northeast District office describing the status of the facility's progress in complying with the terms of this variance. The report shall also describe any equipment upgrades and interim maintenance procedures implemented, and their associated costs, to minimize TRS emissions from the present facility.
- 9) The Department shall be notified in writing prior to any deviation(s) from the terms contained in this variance.

10) This variance is null and void if CCA alters its strategy to comply with the TRS Rule(s) contained in Rule 17-2, FAC, by using an existing source to treat/combust the facility's TRS emissions instead of the proposed new No. 4 lime kiln. Consequently, the mill's existing sources, for which this variance is sought and subject to the TRS Rule, will have to be in final compliance in accordance with Rule 17-2.960, FAC, if the proposed new No. 4 lime kiln is not constructed to treat/combust the facility's TRS emissions as reflected by their application for this variance.

11) The following attachments are incorporated:

1. Mr. Paul J. Magnell's letter dated January 30, 1987, and received February 12, 1987.
2. Mr. C.H. Fancy's letter dated March 12, 1987.
3. Mr. Paul J. Magnell's letter dated March 19, 1987, and received March 25, 1987.
4. Mr. Steve Smallwood's letter dated July 21, 1987.
5. Mr. Paul J. Magnell's letter dated August 19, 1987, and received August 25, 1987.
6. Mr. Paul J. Magnell's letter dated October 13, 1987, and received October 21, 1987.
7. Mr. Paul J. Magnell's letter dated November 12, 1987, and received November 16, 1987.
8. Mr. Paul J. Magnell's letter dated December 11, 1987, and received December 11, 1987 (hand delivered).
9. Public Notice - Fernandina Beach News-Leader: issue of February 28, 1988.
10. Public Notice - Florida Administrative Weekly: issue of February 29, 1988.
11. March 3, 1988 Public Hearing Agenda.
12. March 3, 1988 Public Hearing Attendee List.
13. March 3, 1988 Public Hearing Minutes.
14. Mr. Bruce P. Miller's letter dated February 28, 1988, and received March 4, 1988.

Any administrative relief approved by the Department must also be approved by the Regional Administrator of Region IV, United States Environmental Protection Agency (EPA). The Department will coordinate with the Atlanta office of the EPA in this regard to the maximum extent possible.

Pursuant to Rules 17-103.100 and 17-103.150, FAC, the petitioner shall publish at his expense one time only the attached legal notice in a newspaper of general circulation in the area affected by the proposed project. Proof of publication shall be in the form of an affidavit of publication submitted to the Office of the Director of the Division of Environmental Permitting, Department of Environmental Regulation. The Department will place the public notice in the Florida Administrative Weekly.


This Intent to Issue shall be placed before the Secretary for final action, unless an appropriate petition for a hearing pursuant to the provision of Section 120.57, FS, is filed within fourteen (14) days of publication of the public notice (copy attached) required pursuant to Rule 17-103.150, FAC. Should anyone wish to dispute a material fact or object to a condition of this proposed intent, a petition for a formal hearing shall be filed in accordance with the provisions of Section 120.57(1), FS. The petition must comply with the requirements of Rules 17-103.155 and 28-5.201, FAC (copies attached), and be filed pursuant to Rule 17-103.155(1), FAC, in the Office of General Counsel of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to file a petition within fourteen (14) days constitutes a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, FS.

In the event a formal hearing is conducted pursuant to Section 120.57(1), FS, all parties shall have an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witnesses and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exceptions to any order of the hearing officer's recommended order, and to be represented by counsel. If an informal hearing is requested, pursuant to Section 120.57(2), FS, the agency, in accordance with its rules of procedure, will provide affected persons or parties or their counsel an opportunity at a convenient time and place, to present to the agency or hearing officer, written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction.

The administrative hearing process is designed to formulate agency action. Accordingly, if a petition is filed, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition, may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, FAC, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, FS.

If the Department does not receive a petition for hearing within the time allowed by this letter and does receive proof of public notice from the petitioner, a final order will be issued.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

 15 March 88
Dale Twachtman Date

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

Copies furnished to:

S. Smallwood, DER
H. Rhodes, DER
R. Armstrong, DER
E. Frey, DER
C. Fancy, DER
J. Brown, DER
M. Zilberberg, Esq., DER
B. Pittman, Esq., DER
B. Miller, EPA
M. Flores, NPS
B. Williams, JSC
R. Hagan, CCA

3-14-88

Fernandina Beach, FL

**JSC/CCA**

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Mill Division
 NORTH 8TH STREET
 P.O. BOX 2000
 FERNANDINA BEACH, FL 32034
 TELEPHONE: 904/261-5551

March 10, 1988

RECEIVED

MAR 15 1988

DER-BAQM

Mr. Bill Thomas
 Bureau of Air Quality Management
 Florida Department of Environmental Regulation
 2600 Blair Stone Road
 Tallahassee, FL 32399-2400

Dear Mr. Thomas:

The following comments are in response to the Technical Evaluation and Preliminary Determination and draft permits which we received on March 1, 1988. These draft permits are for the construction of equipment to bring various sources in this mill into compliance with the TRS regulations.

Comments on Permit Nos. **AC 45-141871**, **AC 45-141872**, **AC 45-141873**

Our first comment is directed at the draft permits for the Batch Digesters, the Kamyrdigester, and the No. 5 MEE. These are the three sources from which the NCG will be collected and incinerated in the new No. 4 lime kiln. All three of these draft permits include a specific condition (Specific Condition No. 2 in each case) which limits the production rate or process thru-put rate for each system. In our recent meeting Mr. Steve Smallwood and Mr. Bruce Mitchell spent some time discussing the Department's rationale for these production limitations. While we understand Mr. Smallwood's concerns over adequately describing and controlling the sources so as to ensure compliance with the rule, we do not feel that specific production limitations are necessary or justified.

As the Technical Evaluation and the draft permits state, the incineration device for these three sources will be the No. 4 lime kiln. As such, the NSPS limit of 8 ppm TRS emissions applies to that kiln whether NCG is being incinerated or not. Thus the effective emission limit and potential emissions from those sources is zero.

We recognize the need on the Department's part to use a peak production number in determination of potential and uncontrolled emissions. However, as stated above, since the incineration device in this case is itself a controlled production device, the effective potential emissions from these sources is zero. Therefore, we would like to propose the following alternative language for Specific Condition 2 in each of the three referenced permits:

- "2. For purposes of PSD and other emissions calculations, the peak production rate of the _____ is ...".

3-15-88
 SHF
 FBI
 ☺

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From (Your Name) Please Print Paul J. Magnell	Your Phone Number (Very Important) (MAR 15 1988	To (Recipient's Name) Please Print Bill Thomas	Recipient's Phone Number (Very Important)
Company CONTAINER CORP. OF AMERICA	Department/Floor No. DER-BAQM	Company Florida Dept. of Environmental Regulation	Department/Floor No.
Street Address N. 8TH ST		Exact Street Address (Use of P.O. Boxes or P.O. # Zip Codes Will Delay Delivery And Result in Extra Charge.) 2600 Blair Stone Road	
City FERNANDINA BEACH FL	State FL	City Tallahassee FL	State FL
ZIP Required For Correct Invoicing 32034		ZIP Street Address Zip Required 32399-2400	

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We would also like to point out that Specific condition 14 of each permit states that any change in operation which constitutes a Modification as defined by FAC 17-2.100 (118) must be submitted to DER for approval. Under this definition, any increase in production rate or change in control device which would result in increased emissions must have prior approval from the Department.

We feel that the combination of the proposed language and the limitations of Specific Contion 14 are more than adequate to protect the interests of the Department, the general public and Container Corporation of America.

Comment on Permit No. 45-A141875

This proposed permit is for the No. 4 Smelt Dissolving Tank. This source has been previously permitted, and as such requires only a modification to the existing permit No. A0 45-107514. We feel that the construction permit and subsequent operating permit modification should address only TRS emissions and the construction of the control device only as it pertains to TRS. The existing limitations on particulate emissions, etc. should not be changed or affected by the installation of the new control device providing the new device meets or exceeds those limits.

Therefore, we request the following changes in the referenced proposed permit:

Specific Conditions Nos. 3., 4., 6.a), and 6.b) should be deleted from the proposed construction permit.

Specific Condition No. 12. should be changed to reflect the fact that the existing Operating Permit will be modified and a new Operating Permit is not required.

Comments on AC 45-141877

The Technical Evaluation states that the new No. 4 lime kiln will be the only source permitted to burn fuel oil with a sulfur content limit of 3.0%. The proposed permit then states in Specific Condition 22 that a separate fuel oil storage tank be provided exclusively for the No. 4 kiln. The existing permits for our Nos. 4 and 5 Power Boilers, A0 45-114419 and A0 45-114418 respectively, show that both of sources are permitted to burn No. 6 fuel oil at 3.0% or less sulfur content also. Only our No. 7 Power Boiler is permitted to burn No. 6 fuel oil at less than 2.5% sulfur content. This boiler does not have a dedicated fuel oil storage tank at this time, thus we are presently using only No. 6 fuel oil with less than 2.5% sulfur content. Our regular certifications of ASTM fuel oil analysis which we submit to the Department show that our No. 6 fuel oil has always met this requirement. Future plans allow for the possibility of segregating fuel for No. 7 Power Boiler from that used in the other sources. As a result, we feel that it is unnecessary to require that a separate fuel oil storage tank be provided for this source, and we request that Specific Condition No. 22 be deleted from this permit.

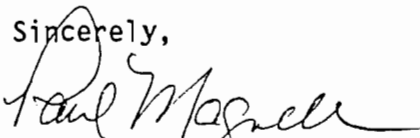
As I explained in my telephone conversation with Mr. Bruce Mitchell, there appear to be two errors in the Technical Evaluation and draft permit pertaining to this source. First, we had requested a particulate emission rate of 43.5 lb/hr from the lime kiln. This was the number used in the calculations of contemporaneous emissions increases for PSD increment assessment in the application. However, the number appears as 45.3 lb/hr in the technical brief and this number is carried through the draft permit as well. As mentioned, the correct emission rate should be 43.5 lb/hr PM. The second error appears in Specific Condition 13 of the draft permit. The date for final compliance is stated as May 12, 1989. However, since this permit is for replacement of the existing kilns, the compliance date should be November 12, 1990. This date is also independent on granting of the Variance, since no variance was requested for the lime kiln.

Finally, in Specific Condition 19, lines 6 and 7 use the words "~~complete destruction of the pollutant~~" in referring to incineration of the TRS in the lime kiln. In fact, since the lime kiln itself will have a TRS limit of 8 ppm, we do not feel we are required to show "complete destruction" of the TRS from the collected sources, only that the lime kiln itself, with the TRS being incinerated in it, meets the 8 ppm limit. A true determination of "complete destruction" of the TRS gasses being incinerated would be very costly due to the very low level of TRS emission from the kiln and is neither necessary nor justified. We would like to request that this wording be changed to reflect that the TRS test need only show that the lime kiln meets its TRS limit with the NCG being incinerated in it.

once again
100% control??

Container Corporation of America has appreciated the prompt and cooperative attention with which the Department has treated these permit applications. We would like to have the opportunity to meet with your staff to discuss these suggestions and comments. Since the 14 day period for formal and informal response to the draft permits is approaching its end, we are arranging under separate cover to petition for an extension of that period to ensure that we have the opportunity to meet and to resolve any issues which may remain on these important construction permits.

Please direct any further questions or comments to Roger Hagan at (904) 261-5551.

Sincerely,

Paul J. Magne
General Manager

PJM/js

cc: E. E. Frey - FDER, Jax

Copied: Bruce Mitchell
Pradeep Raval
Max Hinn
CHF/BT } 3-15-88 (m)

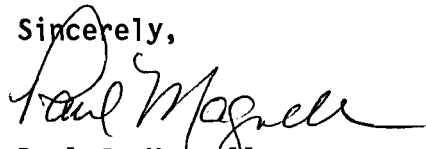
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Container Corporation of America has appreciated the prompt and cooperative attention with which the Department has treated these permit applications. We would like to have the opportunity to meet with your staff to discuss these suggestions and comments. Since the 14 day period for formal and informal response to the draft permits is approaching its end, we are arranging under separate cover to petition for an extension of that period to ensure that we have the opportunity to meet and to resolve any issues which may remain on these important construction permits.

Please direct any further questions or comments to Roger Hagan at (904) 261-5551.

Sincerely,


Paul J. Magne
General Manager

PJM/js

cc: E. E. Frey - FDER, Jax

Copied: Bruce Mitchell
Pradeep Raval
Max Rinn
CHFIBT } 3-15-88 (m)

10000 # 00-0000-0000

BEST AVAILABLE COPY

3-14-88
Fernandina Beach, FL



JSC/CCA

SAVE

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Mill Division
NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

March 10, 1988

RECEIVED

MAR 15 1988

Mr. Bill Thomas
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

DER-BAQM

Dear Mr. Thomas:

The following comments are in response to the Technical Evaluation and Preliminary Determination and draft permits which we received on March 1, 1988. These draft permits are for the construction of equipment to bring various sources in this mill into compliance with the TRS regulations.

Comments on Permit Nos. AC 45-141871, AC 45-141872, AC 45-141873

Our first comment is directed at the draft permits for the Batch Digesters, the Kamyrdigester, and the No. 5 MEE. These are the three sources from which the NCG will be collected and incinerated in the new No. 4 lime kiln. All three of these draft permits include a specific condition (Specific Condition No. 2 in each case) which limits the production rate or process thru-put rate for each system. In our recent meeting Mr. Steve Smallwood and Mr. Bruce Mitchell spent some time discussing the Department's rationale for these production limitations. While we understand Mr. Smallwood's concerns over adequately describing and controlling the sources so as to ensure compliance with the rule, we do not feel that specific production limitations are necessary or justified.

As the Technical Evaluation and the draft permits state, the incineration device for these three sources will be the No. 4 lime kiln. As such, the NSPS limit of 8 ppm TRS emissions applies to that kiln whether NCG is being incinerated or not. Thus the effective emission limit and potential emissions from those sources is zero.

We recognize the need on the Department's part to use a peak production number in determination of potential and uncontrolled emissions. However, as stated above, since the incineration device in this case is itself a controlled production device, the effective potential emissions from these sources is zero. Therefore, we would like to propose the following alternative language for Specific Condition 2 in each of the three referenced permits:

"2. For purposes of PSD and other emissions calculations, the peak production rate of the _____ is ..."

At least - on purpose
this looks reasonable
long as kiln is incinerating
& no "contingency" occurs.

To develop hourly
max's for the batch
Kamyrdigester &
the #5 MEE 3-2-88

We would also like to point out that Specific condition 14 of each permit states that any change in operation which constitutes a Modification as defined by FAC 17-2.100 (118) must be submitted to DER for approval. Under this definition, any increase in production rate or change in control device which would result in increased emissions must have prior approval from the Department.

We feel that the combination of the proposed language and the limitations of Specific Contion 14 are more than adequate to protect the interests of the Department, the general public and Container Corporation of America.

Comment on Permit No. 45-A141875

This proposed permit is for the No. 4 Smelt Dissolving Tank. This source has been previously permitted, and as such requires only a modification to the existing permit No. A0 45-107514. We feel that the construction permit and subsequent operating permit modification should address only TRS emissions and the construction of the control device only as it pertains to TRS. The existing limitations on particulate emissions, etc. should not be changed or affected by the installation of the new control device providing the new device meets or exceeds those limits. 7

Therefore, we request the following changes in the referenced proposed permit:

Specific Conditions Nos. 3., 4., 6.a), and 6.b) should be deleted from the proposed construction permit.

Specific Condition No. 12. should be changed to reflect the fact that the existing Operating Permit will be modified and a new Operating Permit is not required.

Comments on AC 45-141877

The Technical Evaluation states that the new No. 4 lime kiln will be the only source permitted to burn fuel oil with a sulfur content limit of 3.0%. The proposed permit then states in Specific Condition 22 that a separate fuel oil storage tank be provided exclusively for the No. 4 kiln. The existing permits for our Nos. 4 and 5 Power Boilers, A0 45-114419 and A0 45-114418 respectively, show that both of sources are permitted to burn No. 6 fuel oil at 3.0% or less sulfur content also. Only our No. 7 Power Boiler is permitted to burn No. 6 fuel oil at less than 2.5% sulfur content. This boiler does not have a dedicated fuel oil storage tank at this time, thus we are presently using only No. 6 fuel oil with less than 2.5% sulfur content. Our regular certifications of ASTM fuel oil analysis which we submit to the Department show that our No. 6 fuel oil has always met this requirement. Future plans allow for the possibility of segregating fuel for No. 7 Power Boiler from that used in the other sources. As a result, we feel that it is unnecessary to require that a separate fuel oil storage tank be provided for this source, and we request that Specific Condition No. 22 be deleted from this permit.

possibly agree so long as $\leq 2.5\%$ is purchased but require segregation if any 3.0% is purchased



JSC/CCA

PN
14 March 1988
Fernandina Beach, FL

file copy

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

March 14, 1988

RECEIVED

MAR 15 1988

DER - BAQM

Mr. Bruce Mitchell
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Mitchell:

Please find enclosed a certified copy of the public notice pertaining to the Department's notice of intent to issue the construction permits for the TRS compliance project.

If you have any questions, please contact Roger Hagan at (904) 261-5551.

Sincerely,

A handwritten signature in cursive script, appearing to read "Paul J. Maghelli".

Paul J. Maghelli
General Manager

PJM/js
Enclosure

cc: E. E. Frey - DER, Jax

STATE OF FLORIDA
STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION
NOTICE OF INTENT

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.
11 3-3-88
319

The Department of Environmental Regulation hereby gives notice of its intent to issue permits to Container Corporation of America (CCA), to construct/install a new 630 TPD lime kiln (No. 4), which will replace the existing Nos. 2 and 3 Lime Kilns. CCA also proposes to make several changes at its existing facility in order to achieve compliance with the total reduced sulfur (TRS) regulations contained in Florida Administrative Code Rule 17-2 and to modernize the existing causticizing system, which includes replacement of some existing equipment, addition of some new equipment, and the collection, transportation, and incineration of TRS noncondensable gases (NCG) from various sources. The TRS NCG gases will be incinerated in the proposed new No. 4 Lime Kiln. Control systems will be installed on TRS sources that will not be associated with the TRS NCG system, such as the Tail Oil Plant operations and the No. 4 Smelt Dissolving Tank. The location of the proposed modification and project will be CCA's existing facility in Fernandina Beach, Nassau County, Florida. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The applications are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holiday, at:
Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
Northeast District Office
3426 Bills Road

PN
14 March 1988
Fernandina Beach, FL

file copy

News-Leader

Published Weekly

FERNANDINA BEACH, NASSAU COUNTY, FLORIDA

RECEIVED

MAR 15 1988

DER - BAQM

STATE OF FLORIDA
COUNTY OF NASSAU:

Before the undersigned authority personally appeared

Bett Yates Adams

who on oath says that he is Business Manager of The Fernandina Beach News-Leader a weekly newspaper published at Fernandina Beach in Nassau County Florida; that the attached copy of advertisement, being a Legal Notice

in the matter of Notice of Intent

in the Nassau Court, was published in said newspaper in the issues of 3-3-88

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

Sworn to and subscribed before me

this 4th day of March

Bett Yates Adams

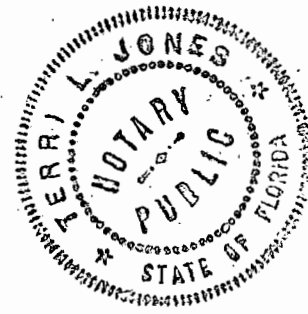
A.D. 1988

Terri L. Jones
Notary Public

NOTARY PUBLIC, STATE OF FLORIDA

My commission expires Feb. 24, 1990

Copied: Bruce Mitchell }
Pradeep Raval } 3.16.88 (m)





North Eighth Street
Fernandina Beach, Florida 32034

Mr. Bruce Mitchell
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400



Original
KIM/MISCELL
BM/MAIN/FILE



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

For Routing To Other Than The Addressee

To: _____ Location: _____
To: _____ Location: _____
To: _____ Location: _____
From: _____ Date: _____

TO: Main Files
Container Corporation of America: AC 45-141873
AC 45-141874
AC 45-141877

FROM: Bruce Mitchell *BM*

DATE: March 15, 1988

SUBJECT: Comments on the Technical Evaluation and Preliminary Determination/Draft Construction Permits

1. AC 45-141873: No. 5 Multiple Effect Evaporator System
The Rule citing in Specific Condition No. 3 will be changed:
From: FAC Rule 17-2.400(4)(c)1.b.
To: FAC Rule 17-2.600(4)(c)1.b.
2. AC 45-141874: Tall Oil Plant
The Rule citing in Specific Condition No. 8 will be changed:
From: FAC Rule 17-2.400(4)(c)2.b.
To: FAC Rule 17-2.600(4)(c)2.b.
3. AC 45-141877: No. 4 Lime Kiln
 - a. The requirement of Specific Condition No. 21 is in disagreement with the signed Variance, OGC. Case No. VE-45-313. The variance and the draft construction permit requires that the operating permits of the Nos. 2 and 3 Lime Kilns to be surrendered by November 12, 1990, and March 27, 1991, respectively. Therefore, in order to maintain consistency with applicable documents, the following change will be made:
From: The No. 2 and 3 lime kilns shall be shutdown and their operating permits shall be surrendered to the DER's Northeast District office no later than the expiration date of this permit.
To: The Nos. 2 and 3 Lime Kilns shall be shutdown and their operating permits shall be surrendered to the DER's Northeast District office no later than November 12, 1990.
 - b. A requirement for the final compliance date shall be added:
To: The No. 4 Lime Kiln shall be in final compliance by November 12, 1990, in accordance with FAC Rule 17-2.960(1)(d)3.b.(ii).

BM/ss

Reading File 3-15-88 *BM*
B. Stewart / S. Cole 3-24-88 *BM*

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue permits to Container Corporation of America (CCA), to construct/install a new 630 TPD lime kiln (No. 4), which will replace the existing Nos. 2 and 3 Lime Kilns. CCA also proposes to make several changes at its existing facility in order to achieve compliance with the total reduced sulfur (TRS) regulations contained in Florida Administrative Code Rule 17-2 and to modernize the existing causticizing system, which includes replacement of some existing equipment, addition of some new equipment, and the collection, transportation, and incineration of TRS noncondensable gases (NCG) from various sources. The TRS NCG gases will be incinerated in the proposed new No. 4 Lime Kiln. Control systems will be installed on TRS sources that will not be associated with the TRS NCG system, such as the Tall Oil Plant operations and the No. 4 Smelt Dissolving Tank. The location of the proposed modification and project will be at CCA's existing facility in Fernandina Beach, Nassau County, Florida. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The applications 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:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
Northeast District Office
3426 Bills Road
Jacksonville, Florida 32207

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

State of Florida
Department of Environmental Regulation
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Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
Northeast District Office
3426 Bills Road
Jacksonville, Florida 32207

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

P 274 010 108

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

* U.S.G.P.O. 1985-480-794
PS Form 3800, June 1985

Paul J. Magnell, Gen. Mgr. Container Corp. of America	
Street and No. North 8th Street	
P.O., State and ZIP Code Fernandina Bch., FL 32034	
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 Mailed: 02/29/88	
Permits: AC 45-141871, -72, -73, -74, -75, -77, -78	

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

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

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery.

3. Article Addressed to:		4. Article Number	
Mr. Paul J. Magnell, Gen. Mgr. Container Corporation of America North 8th Street Fernandina Beach, FL 32034		P 274 010 108	
		Type of Service:	
		<input type="checkbox"/> Registered	<input type="checkbox"/> Insured
5. Signature - Addressee		<input checked="" type="checkbox"/> Certified	
X		<input type="checkbox"/> Express Mail	
6. Signature - Agent		<input type="checkbox"/> COD	
X <i>[Signature]</i>		Always obtain signature of addressee or agent and DATE DELIVERED.	
7. Date of Delivery		8. Addressee's Address (ONLY if requested - see page)	
		MAR 2 1988	
		DER-BAQM	

PS Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

File Copy

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

March 1, 1988

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Paul J. Magnell
General Manager
Container Corporation of America
North 8th Street
Fernandina Beach, Florida 32034

Dear Mr. Magnell:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permits for Container Corporation of America to make several changes at its existing mill in order to achieve compliance with the total reduced sulfur (TRS) regulations contained in Florida Administrative Code Rule 17-2 and to modernize the existing causticizing system. The changes include replacement of some existing equipment, addition of some new equipment, and the collection, transportation and incineration of the TRS gases. The TRS gases will be incinerated in a proposed new 630 TPD lime kiln (No. 4), which will replace the existing Nos. 2 and 3 Lime Kilns.

Please submit, in writing, any comments which you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

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

CHF/bm

Attachments

cc: B. Stewart, NE Dist.
B. Williams, JSC
R. Hagan, CCA
D. Buff, P.E., KBN
B. Pittman, Esq.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Applications for Permits by:

Container Corporation of America
North 8th Street
Fernandina Beach, Florida 32034

DER File No. AC 45-141871
AC 45-141872
AC 45-141873
AC 45-141874
AC 45-141875
AC 45-141877
AC 45-141878

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue permits (copies attached) for the proposed project as detailed in the applications specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Container Corporation of America (CCA), applied on November 12, 1987, to the Department of Environmental Regulation for permits to construct a new 630 TPD lime kiln (No. 4), which will replace the existing Nos. 2 and 3 Lime Kilns. CCA also proposes to make several changes at its existing facility in order to achieve compliance with the total reduced sulfur (TRS) regulations contained in Florida Administrative Code (FAC) Rule 17-2 and to modernize the existing causticizing system, which includes replacement of some existing equipment, addition of some new equipment, and the collection, transportation, and incineration of TRS noncondensable gases (NCG) from various sources. The TRS NCG gases will be incinerated in the proposed new No. 4 Lime Kiln. Control systems will be installed on TRS sources that will not be associated with the TRS NCG system, such as the Tall Oil Plant operations and the No. 4 Smelt Dissolving Tank. The location of the proposed modification and project will be at CCA's existing facility in Fernandina Beach, Nassau County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes (F.S.), and FAC Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permits were needed for the proposed work.

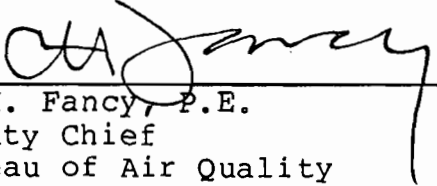
Pursuant to Section 403.815, F.S. and FAC Rule 17-103.150, you (the applicant) are required to publish at your own expense

the enclosed Notice of Proposed Agency Action on permit applications. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of the notice. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permits.

The Department will issue the permits with the attached conditions unless petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S. A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. Petitions must comply with the requirement of FAC Rules 17-103.155 and 28-5.201 (copy enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes, concerning the subject permit applications. Petitions which are not filed in accordance with the above provisions will be dismissed.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


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

Copies furnished to:

B. Stewart, NE Dist.
B. Williams, JSC
R. Hagan, CCA
D. Buff, P.E., KBN
B. Pittman, Esq.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

- (1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall 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;
 - (c) All disputed issues of material fact. If there are none, the petition must so indicate;
 - (d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;
 - (e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;
 - (f) A demand for the relief to which the petitioner deems himself entitled; and
 - (g) Such other information which the petitioner contends is material.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on Feb. 29, 1988.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statutes, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.

Matthew J. Wise Feb. 29, 1988
Clerk Date

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue permits to Container Corporation of America (CCA), to construct/install a new 630 TPD lime kiln (No. 4), which will replace the existing Nos. 2 and 3 Lime Kilns. CCA also proposes to make several changes at its existing facility in order to achieve compliance with the total reduced sulfur (TRS) regulations contained in Florida Administrative Code Rule 17-2 and to modernize the existing causticizing system, which includes replacement of some existing equipment, addition of some new equipment, and the collection, transportation, and incineration of TRS noncondensable gases (NCG) from various sources. The TRS NCG gases will be incinerated in the proposed new No. 4 Lime Kiln. Control systems will be installed on TRS sources that will not be associated with the TRS NCG system, such as the Tall Oil Plant operations and the No. 4 Smelt Dissolving Tank. The location of the proposed modification and project will be at CCA's existing facility in Fernandina Beach, Nassau County, Florida. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The applications 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:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
Northeast District Office
3426 Bills Road
Jacksonville, Florida 32207

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

Technical Evaluation
and
Preliminary Determination

Container Corporation of America
Nassau County
Fernandina Beach, Florida

State Construction Permits:

AC 45-141871
45-141872
45-141873
45-141874
45-141875
45-141877
45-141878

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

March 1, 1988

I. Application

A. Applicant

Container Corporation of America
North 8th Street
Fernandina Beach, Florida 32034

B. Project Description and Location

Container Corporation of America (CCA) proposes several changes at its existing mill in order to achieve compliance with the total reduced sulfur (TRS) regulations contained in Florida Administrative Code (FAC) Rule 17-2. The changes include replacement of existing equipment, addition of new equipment, and the collection, transportation and incineration of noncondensable gases in a proposed new 630 TPD lime kiln (No. 4). Specifically, the following changes are proposed:

- o For the Kamyr Digester System, the liquor flash tank system and the turpentine recovery system will be replaced with new systems. Two new flash tanks will be installed adjacent to the digester to replace two existing flash tanks currently located across the mill. Noncondensable gases will be collected from the surge tank (blow tank), steaming vessel, flash tanks and turpentine system. A gas transportation system will be installed to deliver the collected gases to the No. 4 Lime Kiln for incineration.
- o The existing batch digesting system consists of seven batch digesters, two blow tanks and a turpentine recovery system. The existing turpentine condensing system will be replaced, and a new blow heat recovery system will be installed on the existing blow tanks. The noncondensable gases from both the turpentine and blow heat recovery systems will be collected and transported to the No. 4 Lime Kiln for incineration.
- o Noncondensable gases from the No. 5 Multiple Effect Evaporator (MEE) System will be collected and delivered to the No. 4 Lime Kiln for incineration. Vapors from the existing evaporators and concentrators will be routed to the existing surface condenser, to a new hot well, then to the noncondensable gas (NCG) handling system and the No. 4 Lime Kiln.
- o The No. 4 MEE System will be shutdown.

- o For the No. 4 Smelt Dissolving Tank (SDT), a new flooded elbow type venturi scrubber will be installed to provide control of particulate matter (PM) and TRS emissions and visible emissions (VE).

- o For the Tall Oil Plant, TRS emissions from the lignin tank, the saltcake tank and the acidulator will be collected and scrubbed in a new wet scrubber. The scrubber will be of the packed tower type and will utilize caustic soda as the scrubbing medium.

- o A new modern energy efficient lime kiln (No. 4) will be installed to replace the existing Nos. 2 and 3 Lime Kilns. The control system will be an electrostatic precipitator (ESP) to control PM emissions and VE.

- o For the causticizing and lime handling system, two new lime slakers, which will operate in parallel, will be constructed to replace the existing two lime slakers. Lime product from two new lime storage bins (Nos. 1 & 2) will be conveyed to the slakers in an enclosed system. Three new causticizers will be constructed to serve each new slaker. White liquor product from the new causticizers will be sent to the existing white liquor clarifiers. The exhaust vents on the new slaker and its associated causticizers (3) within each line will be ducted to a wet scrubber control system for control of PM emissions and VE.

- o Two new lime storage bins will be constructed to replace the existing lime storage bins and will support the No. 4 Lime Kiln. Lime Bin No. 1 will receive lime from the lime kiln via a bucket elevator and can also receive purchased lime by truck through pneumatic conveying. A baghouse filter control system will control PM emissions and VE from the lime storage bin as well as the bucket elevator and lime conveyor. Three air pickup points along the bucket elevator and lime conveyor will maintain a negative pressure on the lime conveying system. Lime Bin No. 2 will receive only purchased lime by rail or truck and will have a baghouse filter control system to control PM emissions and VE. Dust collected by each control system will be placed back into their respective lime bins.

The project will occur at the applicant's existing kraft pulp mill located in Nassau County, Florida. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are:

1. No. 2621 - Paper Mills
2. No. 3274 - Lime

The Standard Classification Codes are:

1. Pulp and Paper Industry

Major Group 26: Sulfate (Kraft) Pulping

- | | |
|-------------------------|-------------------------|
| o Kamyrdigester System | 3-07-001-01 (tons ADUP) |
| o Batch Digester System | 3-07-001-01 (tons ADUP) |
| o No. 5 MEE System | 3-07-001-03 (tons ADUP) |
| o No. 4 SDT | 3-07-001-05 (tons ADUP) |
| o Tall Oil Plant | 3-07-001-99 (tons ADUP) |
| o No.4 Lime Kiln | 3-07-001-06 (tons ADUP) |
| o Lime Slakers (2) | 3-07-001-99 (tons ADUP) |

2. Mineral Products

Major Group 32: Lime Manufacture

- | | |
|------------------------------------|------------------------------|
| o Calcining-Rotary Lime Kiln | 3-05-016-04 (tons lime prod) |
| o Raw Material Transfer & Handling | 3-05-016-07 (tons lime prod) |
| o Raw Material Unloading | 3-05-016-08 (tons lime prod) |
| o Lime Bins (2) | 3-05-016-13 (tons lime prod) |

C. Process and Controls

In the kraft process, the white liquor (sodium hydroxide and sodium sulfide), or cooking liquor, is added to the wood chips in the digesters and cooked. At the end of the cooking cycle, the contents of the vessel(s) are blown to a tank at atmospheric pressure, flashing off steam and noncondensable gases (NCG). The NCG will be collected and transported to the proposed new No. 4 Lime Kiln for incineration.

The spent liquor (black liquor) is then concentrated in the multiple effect evaporator system(s). Turpentine is a product of this cycle and is collected in a turpentine recovery system. NCG emitted will be collected and transported to the No. 4 Lime Kiln for incineration.

Sodium sulfate is added to the concentrated black liquor to make up for chemical losses. The liquor is burned in the recovery boiler, producing a smelt of sodium carbonate and sodium sulfide.

The smelt (green liquor solids) is dissolved in water to form green liquor. The emissions of total reduced sulfur (TRS) and particulate matter (PM) and visible emissions (VE) will be controlled with a flooded type elbow venturi scrubber system.

The green liquor is then slaked in the slaker system, in which quicklime (calcium oxide) is added to the green liquor to convert the sodium carbonate back to sodium hydroxide, thus reconstituting the cooking liquor. The PM emissions from the slaker system (slaker and associated causticizers) will be controlled with a scrubber system.

The spent lime cake (calcium carbonate) from the slaking cycle is recalcined in a rotary lime kiln (No. 4) to produce quicklime for recausticizing the green liquor. The PM emissions and VE will be controlled with an electrostatic precipitator (ESP).

Purchased lime is delivered by both rail and truck to make up for process losses. The lime from the lime kiln (No. 4) and deliveries will be stored in lime storage bins. The PM emissions and VE will be controlled with a baghouse filter system.

In the Tall Oil Plant, soap from the soap tanks (East and West) is sent to an acidulator, where acid and steam are added to produce lignin and tall oil. The lignin is sent to a lignin tank and mixed with caustic to form dissolved lignin. The dissolved lignin is then sent to the East soap tank and eventually back to the pulp mill in the liquor from the soap tank. Tall oil produced in the acidulator is sent to a settling tank where caustic is added, and then to tall oil storage tanks. Acid water produced in the acidulator is sent to the saltcake tank. TRS emissions from the acidulator, lignin tank and saltcake tank will be controlled with a packed tower type scrubber and will use caustic soda as the absorbing medium.

II. Rule Applicability

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (FAC) Rules, 17-2 and 17-4.

The applications packages were deemed complete on December 24, 1987.

Nassau County is an area designated attainment for all pollutants.

The existing mill is a major emitting facility in accordance with FAC Rule 17-2.100(111) for the pollutants particulate matter (PM), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), total reduced sulfur (TRS), and volatile organic compounds (VOC). The facility is a kraft pulp mill, which is one of the major facility categories listed in Table 500-1, FAC Rule 17-2.

Based on the applicant's response, the batch digester system, the Kamyrdigester system, the No. 5 MEE System, and the No. 4 SDT are considered existing non-NSPS (new source performance standards) sources. For these sources and the Tall Oil Plant, construction permit applications were required pursuant to FAC Rule 17-2.960(1)(d).

Since the applicant proposes to install a noncondensable gas (NCG) handling system to service the batch digester system, the Kamyrdigester system and the No. 5 MEE System, and these gases will be incinerated in the proposed new No. 4 Lime Kiln, it will be assumed that these sources will have zero potential emissions to ambient when connected to the NCG system and no allowable pollutant emissions and, therefore, exempt from review pursuant to FAC Rule 17-2.500, Prevention of Significant Deterioration (PSD). The applicant projects that the SO₂ emissions, from the oxidation of the incinerated TRS gases, will not increase in the No. 4 Lime Kiln because of the natural scrubbing environment of the lime kiln system. These assumptions will be verified through pre and post tests for both TRS and SO₂ (see January 22, 1988 letter from C. H. Fancy). The results of the tests and their evaluations and comparisons will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee pursuant to FAC Rule 17-4, of which \$100.00/source (less than 25 TPY potential pollutant emissions) has already been received.

Pursuant to FAC Rule 17-2.960(1)(d)1.b., the batch digester system, the Kamyrdigester system, and the No. 5 MEE System are to be in final compliance by May 12, 1989. However, if the applicant's Petition for Variance, OGC Case No. VE-45-313, is approved, then the final compliance date will be June 1, 1990.

There have not been any contemporaneous pollutant emission changes in the last five years.

The following table exhibits the projected maximum annual potential pollutant emissions associated with construction of new sources:

Table 1

Source	Maximum Potential Pollutant Emissions (TPY)					
	PM	SO ₂	TRS	CO	NOx	VOC
No. 4 Lime Kiln	190.0	117.1	11.5	29.8	819.9	44.7
Lime Slakers (2)	8.8					
Lime Bin #1	5.3					
Lime Bin #2	3.2					
Total:	207.3	117.1	11.5	29.8	819.9	44.7

Note: o Annual hours of operation: No. 4 Lime Kiln - 8736
Others - 8760

o Based on a 630 TPD lime product kiln (No. 4)

The following table exhibits the reduction in annual contemporaneous (actual) pollutant emissions projected from the retirement of existing sources:

Table 2

Source	Contemporaneous Pollutant Emissions (TPY)					
	PM	SO ₂	TRS	CO	NOx	VOC
Nos. 2 & 3 Lime Kilns	156.5	111.4	280.7	25.7	835.9	27.0
Slakers (2)	9.4					
Lime Conveying, Transfer and Storage	16.5					
Total:	182.4	111.4	280.7	25.7	835.9	27.0

Note: Based on 108,264 TPY (No. 2) and 133,632 TPY (No. 3) lime product kiln activities

The following table reflects the net annual potential pollutant emissions from the proposed project (Table 1) and the contemporaneous pollutant emissions (Table 2):

Table 3

	Net Potential Pollutant Emissions (TPY)					
	PM	SO ₂	TRS	CO	NOx	VOC
Table 1	207.3	117.1	11.5	29.8	819.9	44.7
Table 2	182.4	111.4	280.7	25.7	835.9	27.0
Net:	+24.9	+5.7	-269.2	+4.1	-16.0	+17.7

Since there are no significant net emissions increase of a pollutant pursuant to Table 500-2, FAC Rule 17-2, the proposed project is a minor modification and the pollutant emissions are not subject to review pursuant to FAC Rule 17-2.500, PSD. Therefore, the pollutant emissions are subject to review pursuant to FAC Rule 17-2.520, Sources Not Subject to PSD or Nonattainment Requirements. For the No. 4 Lime Kiln, the applicant requested a restriction on the annual hours of operation, which is 8736, in order to avoid PSD new source review pursuant to FAC Rule 17-2.500(5). Since the No. 4 Lime Kiln is the control device for the batch digester system, the Kamyr digester system and the No. 5 MEE System, the restriction in the annual hours of operation to 8736 is assumed and will be applied to these sources as well.

The NSPS, 40 CFR 60, Subpart BB, Kraft Pulp Mills, was adopted by reference in accordance with FAC Rule 17-2.660(1)(a). The proposed new No. 4 Lime Kiln is subject to the provisions of this NSPS.

In accordance with 40 CFR 60.282(a)(3), no owner or operator shall cause to be discharged into the atmosphere from any lime kiln any gases which contain PM in excess of 0.30 g/dscfm (0.13 gr/dscf) corrected to 10% oxygen when liquid fossil fuel is burned. However, the applicant has requested this emission rate with a mass emission limit of 45.3 lbs/hr, which is more stringent than what would be allowed. The DER's Bureau of Air Quality Management (BAQM) accepts the request and shall make the request a part of the permit. Compliance tests for PM emissions shall be measured using EPA Methods 1, 2, 3, and 5, pursuant to 40 CFR 60, Appendix A, FAC Rule 17-2.700, 40 CFR 60.285(a)(1) through (4), and 40 CFR 60.285(b).

In accordance with 40 CFR 60.283(a)(5), no owner shall cause to be discharged into the atmosphere from any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10% oxygen. Compliance tests for TRS emissions shall be measured using EPA Methods 3 and 16 or 16A pursuant to 40 CFR 60, Appendix A, FAC Rule 17-2.700, and 40 CFR 60.285(d).

For the No. 4 Lime Kiln, the applicant applied for the use of No. 6 fuel oil, having a maximum of 3.0 % sulfur content, by weight. A storage tank specifically for this type of fuel oil must be available, since there are other sources at the facility that are permitted the use of No. 6 fuel oil, but at a lower sulfur content, by weight. ASTM D 396-76, Standard Specification for Fuel Oils, shall be used to verify the constituents of the No. 6 fuel oil designated to be used exclusively in the No. 4 Lime Kiln.

A pre and post test for TRS and SO₂ shall be performed to verify total destruction of the TRS gases from the NCG handling system and to establish the overall SO₂ removal efficiency of the No. 4 Lime Kiln (see the January 22, 1988 letter from C. H. Fancy). Test methods that shall be used are EPA Methods 3, 6, 16 or 16A, in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

The proposed No. 4 Lime Kiln is subject to the provisions of 40 CFR 60.284, Monitoring of Emissions and Operations, and FAC Rule 17-2.710, Continuous Monitoring Requirements.

The No. 4 Lime Kiln shall be in final compliance by November 12, 1990, pursuant to FAC Rule 17-2.960(1)(d)3.b.(ii).

Since there is not a VE standard for a lime kiln pursuant to 40 CFR 60.282, the No. 4 Lime Kiln, whose VE are controlled with an ESP system, shall be subject to the provisions of FAC Rule 17-2.610(2), General Visible Emissions Standard. The VE standard is less than 20% opacity. The lime slakers (2), whose VE are controlled with a scrubber system, are also subject to the provisions of this regulation. Compliance tests shall be performed using EPA Method 9 pursuant the FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

Because there is not a specific source PM emission limiting standard for a lime slaker, the applicant proposed a limit of 1.0 lb/hr/slaker (4.4 tons/yr/slaker; total of 8.8 tons/yr for two slakers), which is acceptable to the Department. The Department will require PM mass emissions compliance tests using EPA Methods 1, 2, 3, and 5, in accordance with 40 CFR 60, Appendix A, and FAC Rule 17-2.700.

The lime storage bins (2) will each have a baghouse system to control both PM emissions and VE. The projected potential PM emissions of the lime storage bins are 1.2 lbs/hr (5.3 TPY) for the No. 1 Lime Bin and 0.74 lb/hr (3.2 TPY) for the No. 2 Lime Bin. Operational activity is such that these sources are subject to FAC Rule 17-2.610(3), Unconfined Emissions of PM. The use of a baghouse system is considered to be reasonable control for this type of operational activity. Therefore, pursuant to FAC Rule 17-2.700(3)(d), a VE standard of no visible emissions (5% opacity) will be imposed. Compliance testing shall be performed using EPA Method 9 in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A. Failure to comply with the VE standard will necessitate the requirement to perform a PM mass emissions test(s) using EPA Methods 1, 2, 3, and 5, in accordance with 40 CFR 60, Appendix A, and FAC Rule 17-2.700.

The applicant requested and based the PM potential emissions of the lime storage bins (2) on a PM mass emission rate of 0.03 gr/dscf, which will be the specifications of the baghouse filter control systems. The Department finds the PM emission rate to be acceptable. However, if a PM mass emissions test is required due to a failure to comply with the VE standard and the applicant cannot achieve the PM emission rate of 0.03 gr/dscf, the potential PM emissions from these sources will have to be recalculated and reviewed pursuant to FAC Rule 17-2.500, PSD.

The No. 4 SDT is subject to the provisions of FAC Rules 17-2.600(4)(c)4.a. and 17-2.600(4)(c)4.b. According to FAC Rule 17-2.600(4)(c)4.a., the TRS emission limiting standard is 0.048 pound per each 3000 pounds black liquor solids as hydrogen sulfide (2.20 lbs/hr, 9.64 TPY; based on No. 4 Recovery Boiler at 137,500 lbs BLS/hr). According to FAC Rule 17-2.600(4)(c)4.b., the No. 4 SDT shall be in compliance with FAC Rule 17-2.710, Continuous Monitoring Requirements, and FAC Rule 17-2.960(1), Compliance Schedules. Compliance shall be demonstrated using EPA Methods 16 or 16A pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

Pursuant to FAC Rule 17-2.710, Continuous Monitoring Requirements, the No. 4 SDT shall be in compliance with FAC Rules 17-2.710(3), Establishing Specific Surrogate Parameters.

The PM mass emission limit of 28.5 lbs/hr (122.0 TPY) for the No. 4 SDT is based on FAC Rule 17-2.610(1), Process Weight Table, and a maximum total process input rate of 56,513 lbs/hr (28.26 TPH) smelt (green liquor solids). Compliance shall be demonstrated using EPA Method 5 or 17 pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

The VE limiting standard for the No. 4 SDT is less than 20% opacity pursuant to FAC Rule 17-2.620(2). Compliance shall be demonstrated using EPA Method 9 pursuant to FAC Rules 17-2.700 and 40 CFR 60, Appendix A.

The No. 4 SDT shall be in final compliance by May 12, 1989, pursuant to FAC Rule 17-2.960(1)(d)1.b.

In accordance with FAC Rule 17-2.400(4)(c)2., TRS emissions from the Tall Oil Plant operation shall not exceed 0.05 lb/ton crude tall oil produced as a 12-hour average. Compliance shall be demonstrated using EPA Method 16 or 16A pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

Pursuant to FAC Rule 17-2.400(4)(c)2.b., the Tall Oil Plant is subject to the requirements of FAC Rule 17-2.710, which includes FAC Rule 17-2.710(3), General Requirements and Establishing Specific Surrogate Parameters.

The Tall Oil Plant shall be in final compliance by May 12, 1989, pursuant to FAC Rule 17-2.960(1)(d)1.b.

The No. 4 SDT and the Tall Oil Plant are subject to the provisions of FAC Rule 17-2.971(2)(c), Compliance Schedules for Continuous Monitoring Requirements, which requires compliance by August 12, 1989.

All of the sources are subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operations-Problems. Any notification required should be made or sent to the DER's Northeast District office.

All of the sources are subject to the provisions of FAC Rule 17-2.700(4), Quarterly Reporting Requirements, and 17-4.140, Reports.

In accordance with FAC Rule 17-2.610(3), Unconfined Emissions of PM, reasonable precautions to control emissions of unconfined PM shall include, but not be limited to the following:

- A) Reduced speeds for vehicular traffic.
- B) Use of liquid resinous adhesives or other liquid dust suppressants or wetting agents.
- C) Use of paving or other asphaltic materials.
- D) Removal of particulate matter from paved roads and/or other paved areas by vacuum cleaning or otherwise by wetting prior to sweeping.
- E) Covering of trucks, trailers, front end loaders, and other vehicles or containers to prevent spillage of particulate matter during transport.
- F) Use of mulch, hydroseeding, grassing and/or other vegetative ground cover on barren areas to prevent or reduce windblown particulate matter.
- G) Use of hoods, fans, filters, and similar equipment to contain, capture, and vent particulate matter.
- H) Enclosure or covering of conveyor systems.

In accordance with FAC Rule 17-2.620(2), objectionable odors shall not be allowed off plant property.

A meter shall be installed to measure the scrubbing liquid supply pressure on the lime slaker scrubber system, the Tall Oil Plant operations scrubber, and the No. 4 SDT scrubber, and the pressure sensor or tap is to be located close to the scrubber liquid discharge point. The monitoring device is to be certified by the manufacturer to be accurate within ± 15 percent of design scrubbing liquid supply pressure.

A fuel flow meter shall be installed on the fuel line (i.e., No. 6 fuel oil) to the No. 4 Lime Kiln.

III. Summary of Emissions and Air Quality Analysis

A. Emission Limitations

Since all of the pollutant emissions from the batch digester system, the Kamyr digester system, and the No. 5 MEE system will be vented to the proposed new No. 4 Lime Kiln for incineration, there will not be any potential or allowable emissions permitted.

The regulated pollutant emissions from the proposed project and modification are PM and TRS. Various sources contained in the proposed project and modification are subject to visible emission (VE) standards. The following table will reflect the maximum allowable emissions standards and limits applicable to the proposed project and modification:

Table 4

Source	Pollutant	Max. Allowable Emissions Standard/Limit
No. 4 Lime Kiln	PM	Not to exceed 0.30 g/dscm (0.13 gr/dscf) corrected to 10% oxygen, when liquid fossil fuel is burned (45.3 lbs/hr, 190.0 TPY)
	VE	Not to exhibit 20% opacity or greater
	TRS	Not to exceed 8 ppm by volume on a dry basis, corrected to 10% oxygen; while on liquid fossil fuel (2.63 lbs/hr, 11.5 TPY)
Lime Bins (Nos. 1 & 2)	VE	Not exhibit any VE (5% opacity)
	PM	Not to exceed 1.0 lb/hr/slaker 4.4 tons/yr/slaker
Lime Slakers (2)	VE	Not to exhibit 20% opacity or greater
No. 4 SDT	PM	Not to exceed 28.5 lbs/hr, 122.0 TPY
	TRS	Not to exceed 0.048 lb/3000 lbs BLS as H ₂ S (2.20 lbs/hr, 9.64 TPY)
	VE	Not to exceed 20% opacity or greater
Tall Oil Plant	TRS	Not to exceed 0.05 lb/ton crude tall oil produced as a 12-hour average (0.43 lb/hr, 1.9 TPY)

Note: see Table 1's Note for rationale

The emission limiting standards and limits are consistent with the applicable requirements pursuant to FAC Rules 17-2 and 17-4 and the NSPS, 40 CFR 60, Subpart BB, which is adopted by reference pursuant to FAC Rule 17-2.660.

B. Air Quality Analysis

From a technical review of the application packages and their amendments, the Department has determined that the proposed project and modification does not require an air quality analysis.

IV. Conclusion

The allowable pollutant emissions limiting standards and limits from the proposed project and modification should not cause any violation to Florida's ambient air quality standards.

The General and Specific Conditions listed in the proposed permits (attached) will assure compliance with all applicable requirements of FAC Rules 17-2 and 17-4 and the NSPS, 40 CFR 60, Subpart BB, Appendix A, and Appendix B.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141871
Expiration Date: September 24, 1989
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W

Project: Kamyrdigester System

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

For the permitting of the Kamyrdigester system and the construction/installation of a noncondensable gas (NCG) handling system to capture and deliver pollutant emissions to the new No. 4 Lime Kiln for incineration. The existing Kamyrdigester consists of a chip steaming tank, continuous digester, blow tank, two flash tanks, and a turpentine recovery system. Two new flash tanks and turpentine recovery system will be constructed to replace the existing ones. The maximum daily pulp production will be 1819 TPD ADP (tons per day of air dried pulp). The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o. Kamyrdigester System 3-07-001-01

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Mr. C. H. Fancy's letter dated January 22, 1988.
6. Mr. Paul J. Magnell's letter dated February 23, 1988, and received February 24, 1988.
7. Technical Evaluation and Preliminary Determination dated March 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: September 24, 1989

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Kamyrr digester system's operating hours shall not exceed 8736 hours per year.
2. The production rate of the Kamyrr digester system shall not exceed 1819 TPD ADP (tons per day of air dried pulp and based on a nominal utilization rate of 264,798 lbs/hr wood chips (dry) and 1,388,110 lbs/hr black/white liquor).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

3. The Kamyrdigester system is subject to the total reduced sulfur (TRS) emission limiting standard pursuant to Florida Administrative Code (FAC) Rule 17-2.600(4)(c)1.b., which is 5 ppmvd at standard conditions corrected to the actual oxygen content of the untreated flue gas stream as a 12-hour average, unless the TRS gases are combusted in the No. 4 Lime Kiln, from which the exhaust gases shall not contain TRS in excess of 8 ppmvd corrected to 10% O₂, in accordance with 40 CFR 60.283(a)(1).

4. The Kamyrdigester system is subject to the provisions of FAC Rule 17-2.600(4)(c)1.c., which includes the requirement of establishing a contingency plan.

5. Objectionable odors shall not be allowed off of plant property in accordance with FAC Rule 17-2.620(2).

6. The Kamyrdigester system is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.

7. The Kamyrdigester system is subject to the provisions of FAC Rules 17-2.710(4), Quarterly Reporting Requirements, and 17-4.140, Reports.

8. Compliance tests using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be conducted if the permittee does not incinerate the TRS gases from the Kamyrdigester system in the No. 4 Lime Kiln.

9. All process equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.

10. Pursuant to FAC Rule 17-2.600(4)(c)1.d., the Kamyrdigester system is subject to the provisions of FAC Rule 17-2.960(1), Compliance Schedules, which requires that final compliance be demonstrated by May 12, 1989, unless the Variance, OGC Case No. VE-45-313, is approved to allow final compliance by June 1, 1990.

11. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141871
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

12. The DER's Northeast District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.

13. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results, the Certificate of Completion, and the contingency plan, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

14. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to DER's Bureau of Air Quality Management office and Northeast District office.

15. The No. 4 Lime Kiln construction/operating permit(s) shall have a Specific Condition that the No. 4 Lime Kiln is the pollution control device for the Kamyrdigester system.

16. The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions after the Kamyrdigester system's TRS noncondensable gas handling system has been connected to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee pursuant to FAC Rule 17-4, of which \$100.00 (less than 25 TPY potential emissions) has already been received.

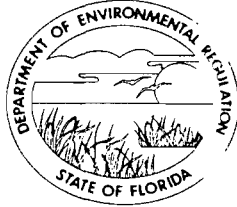
Issued this _____ day of _____,
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141872
Expiration Date: September 24, 1989
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: Batch Digester System

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

For the permitting of the batch digester system and the construction/installation of a noncondensable gas (NCG) handling system to capture and deliver pollutant emissions to the new No. 4 Lime Kiln for incineration. The existing batch digester system consists of 7 batch digesters, 2 blow tanks, and a turpentine recovery system. A new hot water accumulator will be constructed to condense steam from the blow tanks. Also, a new turpentine recovery system will be constructed to replace the existing one. The maximum daily pulp production will be 1391 TPD ADP (tons per day of air dried pulp). The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Batch Digester System 3-07-001-01

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

ATTACHMENTS

AC 45-141872

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Mr. C. H. Fancy's letter dated January 22, 1988.
6. Mr. Paul J. Magnell's letter dated February 23, 1988, and received February 24, 1988.
7. Technical Evaluation and Preliminary Determination dated March 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: September 24, 1989

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The batch digester system's operating hours shall not exceed 8736 hours per year.

2. The maximum production rate of the batch digester system shall not exceed 1391 TPD ADP (tons per day of air dried pulp and based on a nominal utilization rate of 212,418 lbs/hr wood chips (dry) and 443,954 lbs/hr of black/white liquor).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

3. The batch digester system is subject to the total reduced sulfur (TRS) emission limiting standard pursuant to Florida Administrative Code (FAC) Rule 17-2.600(4)(c)1.b., which is 5 ppmvd at standard conditions corrected to the actual oxygen content of the untreated flue gas stream as a 12-hour average, unless the TRS gases are combusted in the No. 4 Lime Kiln, from which the exhaust gases shall not contain TRS in excess of 8 ppmvd corrected to 10% O₂, in accordance with 40 CFR 60.283(a)(1).

4. The batch digester system is subject to the provisions of FAC Rule 17-2.600(4)(c)1.c., which includes the requirement of establishing a contingency plan.

5. Objectionable odors shall not be allowed off of plant property in accordance with FAC Rule 17-2.620(2).

6. The batch digester system is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.

7. The batch digester system is subject to the provisions of FAC Rules 17-2.710(4), Quarterly Reporting Requirements, and 17-4.140, Reports.

8. Compliance tests using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be conducted if the permittee does not incinerate the TRS gases from the batch digester system in the No. 4 Lime Kiln.

9. All process equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.

10. Pursuant to FAC Rule 17-2.600(4)(c)1.d., the batch digester system is subject to the provisions of FAC Rule 17-2.960(1), Compliance Schedules, which requires that final compliance be demonstrated by May 12, 1989, unless the Variance, OGC Case No. VE-45-313, is approved to allow final compliance by June 1, 1990.

11. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141872
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

12. The DER's Northeast District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.

13. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results, the Certificate of Completion, and the contingency plan, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

14. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to DER's Bureau of Air Quality Management office and Northeast District office.

15. The No. 4 Lime Kiln construction/operating permit(s) shall have a Specific Condition that the No. 4 Lime Kiln is the pollution control device for the batch digester system.

16. The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions after the batch digester system's TRS noncondensable gas handling system has been connected to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee pursuant to FAC Rule 17-4, of which \$100.00 (less than 25 TPY potential emissions) has already been received.

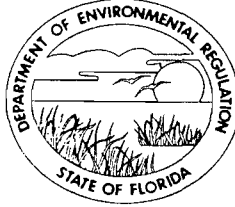
Issued this _____ day of _____,
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141873
Expiration Date: September 24, 1989
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: No. 5 Multiple Effect
Evaporator System

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

For the permitting of the No. 5 Multiple Effect Evaporator (MEE) System, which includes the multiple effect evaporators and the associated condenser(s), hot well(s) and concentrator(s). A new hot well will replace the existing hot well. A noncondensable gas handling system will be constructed to collect and transport all of the pollutant emissions from the No. 5 MEE System to the No. 4 Lime Kiln for incineration. The project will occur at the permittee's existing kraft pulp mill. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o No. 5 MEE System 3-07-001-03

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Mr. C. H. Fancy's letter dated January 22, 1988.
6. Mr. Paul J. Magnell's letter dated February 23, 1988, and received February 24, 1988.
7. Technical Evaluation and Preliminary Determination dated March 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: September 24, 1989

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum hours of operation of the No. 5 MEE System shall not exceed 8736 annually.
2. The maximum total process input rate of Black Liquor to the No. 5 MEE System shall not exceed 1,340,690 lbs/hr at 23% solids (equivalent to 308,359 lbs/hr of Black Liquor Solids (BLS)).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

3. The No. 5 MEE System is subject to the total reduced sulfur (TRS) emission limiting standard pursuant to Florida Administrative Code (FAC) Rule 17-2.400(4)(c)1.b., which is 5 ppmvd at standard conditions corrected to the actual oxygen content of the untreated flue gas stream as a 12-hour average, unless the TRS gases are combusted in the No. 4 Lime Kiln, from which the exhaust gases shall not contain TRS in excess of 8 ppmvd corrected to 10% O₂, in accordance with 40 CFR 60.283(a)(1).
4. The No. 5 MEE System is subject to the provisions of FAC Rule 17-2.600(4)(c)1.c., which includes the requirement of establishing a contingency plan.
5. All process equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.
6. Objectionable odors shall not be allowed off of plant property in accordance with FAC Rule 17-2.620(2).
7. In the event that a compliance test has to be performed on the No. 5 MEE System for TRS emissions, EPA Method 16 or 16A pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used.
8. Pursuant to FAC Rule 17-2.600(4)(c)1.d., the No. 5 MEE System is subject to the provisions of FAC Rule 17-2.960(1), Compliance Schedules, which requires that final compliance be demonstrated by May 12, 1989, unless the Variance, OGC Case No. VE-45-313, is approved to allow final compliance by June 1, 1990.
9. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.
10. The No. 5 MEE System is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.
11. The No. 5 MEE System is subject to the provisions of FAC Rules 17-2.710(4), Quarterly Reporting Requirements, and 17-4.140, Reports.
12. The DER's Northeast District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to the district office within 45 days of test completion.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141873
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

13. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the compliance test results, the Certificate of Completion, and the contingency plan, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit. (FAC Rules 17-2 & 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

14. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to DER's BAQM office and the Northeast District office.

15. The No. 4 Lime Kiln construction/operating permit(s) shall have a Specific Condition that it is the pollution control device for the No. 5 MEE System.

16. The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions after the No. 5 MEE System's TRS noncondensable gas handling system has been connected to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee pursuant to FAC Rule 17-4, of which \$100.00 (less than 25 TPY potential emissions) has already been received.

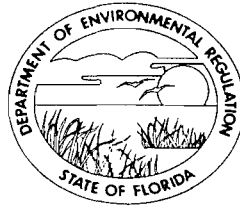
Issued this _____ day of _____,
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtman, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141874
Expiration Date: September 24, 1989
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: Tall Oil Plant and
Control System

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

For the permitting of the Tall Oil Plant and the construction of a new wet scrubber control system to control pollutant emissions from the acidulator, the lignin tank and the saltcake tank. The scrubber system will be a packed tower type and will use a solution of caustic soda as the absorbing medium. The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Tall Oil Plant 3-07-001-99

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Technical Evaluation and Preliminary Determination dated March 1, 1988.

PERMITTEE: Permit Number: AC 45-141874
Container Corporation of America Expiration Date: September 24, 1989

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Tall Oil Plant may operate continuously (i.e., 8760 hrs/yr).
2. The maximum production rate shall not exceed 17,000 lbs/hr of tall oil (based on a process input of 24,573 lbs/hr soap, 3,866 lbs/hr Sulfuric Acid, and 5,872 lbs/hr caustic).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

3. In accordance with Florida Administrative Code (FAC) Rule 17-2.600(4)(c)2., total reduced sulfur (TRS) emissions from the Tall Oil Plant shall not exceed 0.05 lb/ton crude tall oil produced as a 12-hour average (0.43 lb/hr or 1.9 TPY). A caustic scrubber shall be used to control TRS emissions continuously.

4. Initial and annual compliance tests shall be conducted using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.

5. Objectionable odors shall not be allowed off of plant property in accordance with FAC Rule 17-2.620(2).

6. The permittee shall provide proof of final compliance to the DER's Northeast District office by May 12, 1989, pursuant to FAC Rule 17-2.960(1)(d)1.b.

7. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.

8. Pursuant to FAC Rule 17-2.400(4)(c)2.b., the Tall Oil Plant is subject to the provisions of FAC Rule 17-2.710, Continuous Monitoring Requirements, which includes FAC Rules 17-2.710(3), General Requirements and Establishing Specific Surrogate Parameters, and 17-2.710(4), Quarterly Reporting Requirements. The source is subject to the provisions of FAC Rule 17-4.140, Reports.

9. The project is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.

10. The DER's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to FAC Rule 17-2.700(2)(a)5. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.

11. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the compliance test results, the

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141874
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

specific surrogate parameters to be monitored, and the Certificate of Completion, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

12. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to the DER's Bureau of Air Quality Management office and Northeast District office.

13. The Tall Oil Plant is subject to the provisions of FAC Rule 17-2.971(2)(c), Compliance Schedules for Continuous Monitoring Requirements, which requires compliance by August 12, 1989.

Issued this _____ day of _____,
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141875
Expiration Date: September 24, 1989
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: No. 4 Smelt Dissolving
Tank

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

For the permitting of the No. 4 Smelt Dissolving Tank (SDT) and the construction/installation of a new flooded elbow type venturi scrubber control system, which will replace the existing demister pad. The maximum total process input rate is 56,513 lbs/hr smelt (green liquor solids).

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Smelt Dissolving Tank 3-07-001-05

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Technical Evaluation and Preliminary Determination dated March 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The No. 4 Smelt Dissolving Tank (SDT) may operate continuously (i.e., 8760 hrs/yr).

2. Total reduced sulfur (TRS) emissions as hydrogen sulfide (H₂S) shall not exceed 0.048 lb/3000 pounds black liquor solids (2.2 lbs/hr or 9.6 TPY and based on a permitted maximum processing capacity of 137,500 lbs/hr black liquor solids (BLS) in the No. 4 Recovery Boiler (RB) - equivalent to 56,513 lbs/hr green liquor solids (GLS)).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

3. The maximum PM mass allowable emissions shall not exceed 28.5 lbs/hr or 122 TPY. These limits are based on the process capacity of 56,513 lbs/hr of GLS, and in accordance with Florida Administrative Code (FAC) Rule 17-2.610(1).
4. Visible emissions shall be less than 20% opacity in accordance with Rule 17-2.610(2), FAC.
5. Objectionable odors shall not be allowed off of plant property in accordance with Rule 17-2.620(2), FAC.
6. Initial and annual compliance tests shall be conducted using the following test methods in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A:
 - a) EPA Method 5, Determination of Particulate Emissions from Stationary Sources
 - b) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources
 - c) EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources
7. The permittee shall provide proof of compliance with FAC Rule 17-2.960(1), by May 12, 1989, to the DER's Northeast District office.
8. The project shall comply with all applicable provisions of FAC Rules 17-2 and 17-4.
9. Pursuant to FAC Rule 17-2.710, Continuous Monitoring Requirements, the No. 4 SDT is subject to the provisions of FAC Rules 17-2.710(3)(d), Establishing Specific Surrogate Parameters, and 17-2.710(4), Quarterly Reporting Requirements. The No. 4 SDT is subject to the provisions of FAC Rule 17-4.140, Reports.
10. The No. 4 SDT is subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141875
Expiration Date: September 24, 1989

SPECIFIC CONDITIONS:

11. The DER's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to FAC Rule 17-2.700(2)(a)5. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.

12. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the compliance test results, the specific surrogate parameters to be monitored, and the Certificate of Completion, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

13. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to the DER's Bureau of Air Quality Management office and Northeast District office.

14. The No. 4 SDT is subject to the provisions of FAC Rule 17-2.971(2)(c), Compliance Schedules for Continuous Monitoring Requirements, which requires compliance by August 12, 1989.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141877
Expiration Date: March 27, 1991
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: No. 4 Lime Kiln with an
Electrostatic Precipitator

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

For the construction of a new 630 TPD lime kiln (No. 4), with an associated electrostatic precipitator (ESP) control system, to replace the existing Nos. 2 and 3 Lime Kilns. The lime kiln will be heated using No. 6 fuel oil with a maximum sulfur content of 3.0%, by weight. The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are: Pulp & Paper Industry

- A. Pulp and Paper Industry
 - Major Group 26: Sulfate (Kraft) Pulping
 - o Lime Kiln 3-07-001-06
- B. Mineral Products
 - Major Group 32: Lime Manufacture
 - o Calcining-Rotary Lime Kiln 3-05-016-04

Construction will be in accordance with the permit application, plans, documents, and reference materials submitted unless otherwise stated in the General and Specific Conditions.

ATTACHMENTS

AC 45-141877

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Mr. C. H. Fancy's letter dated January 22, 1988.
6. Mr. Paul J. Magnell's letter dated February 23, 1988, and received February 24, 1988.
7. Technical Evaluation and Preliminary Determination dated March 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The No. 4 Lime Kiln operating hours shall not exceed 8736 hours annually.
2. The maximum lime production rate shall not exceed 630 TPD (tons/day), corresponding to a process input rate of 93,749 lbs/hr of lime mud.
3. The No. 6 fuel oil firing rate shall not exceed 1176.8 gals/hr (170.63 MMBtu/hr heat input). The sulfur content of the fuel oil shall not exceed 3.0%, by weight.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

4. In accordance with 40 CFR 60.282(a)(3), the particulate matter (PM) emissions from the No. 4 Lime Kiln and its associated ESP control system shall not exceed 0.30 g/dscfm (0.13 gr/dscf; 45.3 lbs/hr, 190.0 TPY) corrected to 10% oxygen when liquid fossil fuel is burned.

5. In accordance with 40 CFR 60.283(a)(5), the total reduced sulfur (TRS) from the No. 4 Lime Kiln and its associated ESP control system shall not exceed 8 ppm by volume on a dry basis, corrected to 10% oxygen (2.63 lbs/hr, 11.5 TPY).

6. For inventory and future PSD review purposes:

Pollutant	Emissions	Basis
SO ₂	26.8 lbs/hr, 117.1 TPY	0.2 lb/ton ADP
NO _x	819.9 TPY	1.1 lb/10 ⁶ Btu
VOC	44.7 TPY	0.06 lb/10 ⁶ Btu
CO	29.8 TPY	0.04 lb/10 ⁶ Btu
PM ₁₀	168.2 TPY	88.5% of PM (TSP)

Note: Pollutant emissions are based on 8736 hrs/yr (PSD permit restriction)

7. Visible emissions shall be limited to less than 20% opacity, in accordance with Florida Administrative Code (FAC) Rule 17-2.610(2).

8. The noncondensable gas (NCG) handling system associated with the batch digester system, the Kamyr digester system, and the No. 5 Multiple Effect Evaporator System, shall be connected to the No. 4 Lime Kiln to incinerate the gases.

9. Monitoring of emissions and operations shall be in accordance with 40 CFR 60.284(a), (c), (d) and (e).

10. The No. 4 Lime Kiln is subject to the provisions of FAC Rules 17-2.710(4), Quarterly Reporting Requirements, and 17-4.140, Reports.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

11. Initial and annual compliance tests shall be conducted in accordance with FAC Rule 17-2.700, 40 CFR 60.285, and 40 CFR 60, Appendix A:

- a) EPA Method 5, Determination of Particulate Emissions from Stationary Sources
- b) EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources
- c) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources

12. All process equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.

13. For the affected sources, the permittee shall provide proof to the DER's Northeast District office of compliance with FAC Rule 17-2.960(1)(d)1.b., by May 12, 1989, unless the Variance, OGC Case No. VE-45-313, is approved to allow final compliance by June 1, 1990.

14. This project shall comply with all the applicable requirements of FAC Rules 17-2 and 17-4, and 40 CFR 60, Subpart BB, Standards of Performance for Kraft Pulp Mills.

15. The DER's Northeast District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to the NE District office within 45 days of the test completion.

16. The construction shall reasonably conform to the plans and schedule submitted in the application. If the permittee is unable to complete construction and achieve final compliance on schedule, the DER's Bureau of Air Quality Management (BAQM) office and Northeast District office must be notified in writing 60 days prior to the final compliance date of the construction permit and the permittee shall submit appropriate information pursuant to FAC Rule 17-2.960(1)(e).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

17. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results and Certificate of Completion, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee requesting an extension or obtaining a permit to operate, then all activities at the project must cease and the permittee must apply for a new permit to construct, which can take up to 90 days to process a complete application. (FAC Rule 17-4)

18. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to the DER's BAQM office and Northeast District office.

19. The No. 4 Lime Kiln shall be tested for TRS and SO₂ emissions before and after connecting the TRS NCG handling system to it (see C. H. Fancy's letter dated January 22, 1988) and the system is operating properly (40 CFR 60.8). The TRS emissions tests, using EPA Methods 3 and 16 or 16A pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used to verify complete destruction of the pollutant. The SO₂ emissions tests, using EPA Method 6 pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A, shall be used to establish the overall removal efficiency of the No. 4 Lime Kiln. The results will be used to rule out or require further emissions review pursuant to FAC Rule 17-2.500, PSD, and to assess the appropriate processing fee(s) pursuant to FAC Rule 17-4 for the NCG handling system's associated sources (see Specific Condition # 8).

20. Objectionable odors shall not be allowed off of the plant property pursuant to FAC Rule 17-2.620(2).

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141877
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

21. The No. 2 and No. 3 lime kilns shall be shutdown and their operating permits surrendered to the DER's Northeast District office no later than the expiration date of this permit.

22. A separate No. 6 fuel oil storage tank shall be provided to store the fuel oil with the maximum 3.0% sulfur content, by weight, which will be permitted for use exclusively in the No. 4 Lime Kiln.

23. Reasonable precautions shall be taken to control emissions of unconfined PM pursuant to FAC Rule 17-2.610(3).

24. The No. 4 Lime Kiln is subject to the provisions of 40 CFR 60, Subpart A, General Provisions.

Issued this _____ day of _____,
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

PERMITTEE:
Container Corporation of
America
North 8th Street
Fernandina Beach, FL 32034

Permit Number: AC 45-141878
Expiration Date: March 27, 1991
County: Nassau
Latitude/Longitude: 30° 40' 53"N
81° 27' 26"W
Project: Lime Slakers/Lime Bins
& Associated Control Sys.

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

For the construction of two new lime slakers, to replace the existing lime slakers, and three new causticizers to serve each lime slaker (the two slaker systems will operate in parallel). Two new lime storage bins will be constructed to replace the existing bins, which will support the new No. 4 Lime Kiln and the slaker systems. The No. 1 Lime Bin will receive lime from the No. 4 Lime Kiln by bucket elevator and by truck using a pneumatic conveyor. The No. 2 Lime Bin will receive purchased lime only by rail or truck. The lime slaker systems will have scrubber control systems to control pollutant emissions. The lime storage bins will have baghouse filter control systems to control pollutant emissions. The location of the project will be at the permittee's existing facility. The UTM coordinates are Zone 17, 456.2 km East and 3394.2 km North.

The Standard Industrial Codes are: Industry No. 2621-Paper Mills
The Standard Classification Codes are:

- A. Pulp & Paper Industry
 - Major Group 26: Sulfate (Kraft) Pulping
 - o Lime Slakers (2) 3-07-001-99
 - o Lime Bins (2) 3-07-001-99
- B. Mineral Products
 - Major Group 32: Lime Manufacture
 - o Raw Material Transfer & Handling 3-05-016-07
 - o Raw Material Unloading 3-05-016-08
 - o Lime Silos 3-05-016-13

The source shall be in accordance with the permit application, plans, documents, supplementary material and drawings, except as otherwise noted in the Specific Conditions.

ATTACHMENTS

AC 45-141878

Attachments to be Incorporated:

1. Application to construct air pollution sources received November 12, 1987.
2. Mr. C. H. Fancy's letter dated December 10, 1987.
3. Mr. Paul J. Magnell's letter dated December 17, 1987, and received December 24, 1987.
4. Mr. Paul J. Magnell's letter dated January 15, 1988, and received January 19, 1988.
5. Technical Evaluation and Preliminary Determination dated March 1, 1988.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, 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, unless specifically authorized by an order from the Department.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Lime Slaker systems may operate continuously (i.e. 8760 hours per year).
2. The maximum lime feed rate to each slaker shall not exceed 380 tons per day, which reflects 45.8 tons per hour green liquor solids (dry) feed rate.
3. The maximum process input rate to Nos. 1 and 2 Lime Bins shall not exceed 52,500 lbs/hr and 88,000 lbs/hr, respectively.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

4. Particulate matter (PM) emissions from each slaker system, which includes the lime slaker and the associated causticizers, shall not exceed 1.0 lb/hr or 4.4 TPY. Visible emissions (VE) shall be limited to less than 20% opacity in accordance with Florida Administrative Code (FAC) Rule 17-2.610(2).
5. Each baghouse control system associated with the lime storage bins (Nos. 1 & 2) shall not exhibit any VE (5% opacity) pursuant to FAC Rule 17-2.700(3)(d). Compliance shall be demonstrated using EPA Method 9 pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A.
6. Failure to comply with Specific Condition No. 5 will necessitate the requirement to perform a mass emissions test for PM using EPA Methods 1, 2, 3, and 5, pursuant to FAC Rule 17-2.700 and 40 CFR 60, Appendix A. PM emissions shall not exceed 0.03 gr/dscf (Lime Bin #1: 1.2 lbs/hr, 5.3 TPY; Lime Bin #2: 0.74 lb/hr, 3.2 TPY).
7. Initial and annual compliance test for the slaker systems shall be conducted using EPA Method 5 or 17, Determination of Particulate Emissions from Stationary Sources, in accordance with FAC Rule 17-2.700 and 40 CFR 60, Appendix A.
8. The lime handling system (i.e., conveyors, shutes, elevators, storage bins, etc.) shall be enclosed to minimize PM emissions pursuant to FAC Rule 17-2.610(3).
9. The project shall comply with all applicable provisions of FAC Rule 17-2 and 17-4.
10. The slaker systems and lime storage bins are subject to the provisions of FAC Rules 17-2.240, Circumvention, 17-2.250, Excess Emissions, and 17-4.130, Plant Operation-Problems.
11. The DER's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to FAC Rule 17-2.700(2)(a)5. Written reports of the tests shall be submitted to the NE District office within 45 days of test completion.

PERMITTEE:
Container Corporation of
America

Permit Number: AC 45-141878
Expiration Date: March 27, 1991

SPECIFIC CONDITIONS:

12. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the compliance test results and the Certificate of Completion, to the DER's Northeast District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. (FAC Rules 17-2 and 17-4)

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease. (FAC Rule 17-4)

13. Any change in the method of operation, raw materials and chemicals processed, equipment, or operating hours pursuant to FAC Rule 17-2.100(118), Modification, shall be submitted for approval to the DER's Bureau of Air Quality Management office and Northeast District office.

Issued this _____ day of _____,
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary



JSC/CCA

PM
2-23-88
Fernandina Beach, FL

RECEIVED

FEB 26 1988

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

DER - BAQM

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

February 23, 1988

CERTIFIED MAIL

Mr. Steve Smallwood
Chief, Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Smallwood:

This is in reference to Container Corporation of America's submittal of a construction permit application for our new No. 4 lime kiln. This application has been assigned permit number AC 45-141877.

Pursuant to our conversation with Mr. Bruce Mitchell of FDER, we have been advised that the Department has questioned a portion of that permit application submittal. Specifically, the Department has called into question data submitted in Table A-1 of the application which summarizes the net emissions resulting from this project for the purpose of determining whether PSD review is required. That table includes an allowance for Particular Matter emissions due to kiln leaks from both the existing kilns and from the proposed new kiln.

We understand from Mr. Mitchell that the Department intends to disallow the allowances for kiln leakage from that analysis. We believe that the net emissions reductions shown in Table A-1 are proper and could be shown to be very conservative in practice. However, since the emissions from leakage is small in either case, and in the interest of expediency in resolving the permit applications and proceeding with this project, CCA will agree to drop kiln leakage from consideration for the existing as well as the proposed new source in this case.


We also are requesting at this time that the application be modified such that the hours of operation for the new kiln be reduced from 8760 hours/year to 8736 hours/year, or from 365 days/year to 364 days/year. In so doing, the adjusted date in Table A-1 shows that the PSD increment is not consumed for PM and PSD is not required.

As was also discussed with Mr. Mitchell, it is our understanding that the Department does not intend to consider PM-10 under PSD criteria at this time and, as such, a PSD review is not required for this project.

Mr. Steve Smallwood
Page 2
February 23, 1988

As we have stated previously, Container Corporation of America is vitally interested in expediting this most important project. To that end we have and will continue to work with the Department whenever necessary. We hope that, with this change, the Department is now prepared to move the permitting process ahead and issue draft permits for our TRS control project. If there are any further questions, please contact Roger Hagan at (904) 261-5551.

Sincerely,


Paul J. Magneil
General Manager

PJM/js

cc: Mr. E. E. Frey - FDER, Jacksonville
Mr. Clair Fancy - FDER, Tallahassee
Mr. Bruce Mitchell - FDER, Tallahassee

2/24/88

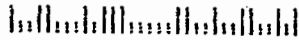
~~BT~~
~~BT~~ } FYI
☺



North Eighth Street
Fernandina Beach, Florida 32034



Mr. Steve Smallwood
Chief, Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400





JSC/CCA

PM
2/23/88
RECEIVED

FEB 24 1988

Fernandina Bch, FL

File Copy

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

DER - BAQM

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

February 23, 1988

CERTIFIED MAIL

Mr. Steve Smallwood
Chief, Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Smallwood:

This is in reference to Container Corporation of America's submittal of a construction permit application for our new No. 4 lime kiln. This application has been assigned permit number AC 45-141877.

Pursuant to our conversation with Mr. Bruce Mitchell of FDER, we have been advised that the Department has questioned a portion of that permit application submittal. Specifically, the Department has called into question data submitted in Table A-1 of the application which summarizes the net emissions resulting from this project for the purpose of determining whether PSD review is required. That table includes an allowance for Particular Matter emissions due to kiln leaks from both the existing kilns and from the proposed new kiln.

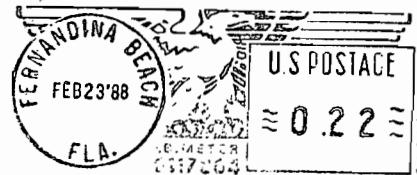
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We also are requesting at this time that the application be modified such that the hours of operation for the new kiln be reduced from 8760 hours/year to 8736 hours/year, or from 365 days/year to 364 days/year. In so doing, the adjusted date in Table A-1 shows that the PSD increment is not consumed for PM and PSD is not required.

As was also discussed with Mr. Mitchell, it is our understanding that the Department does not intend to consider PM-10 under PSD criteria at this time and, as such, a PSD review is not required for this project.

CCA

Container
Corporation
of America



North Eighth Street
Fernandina Beach, Florida 32034

RECEIVED
FEB 24 1988
DER-BAQM

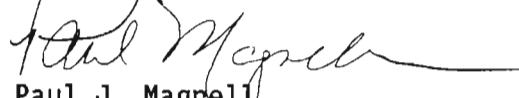
Mr. Clair Fancy
Florida Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400



Mr. Steve Smallwood
Page 2
February 23, 1988

As we have stated previously, Container Corporation of America is vitally interested in expediting this most important project. To that end we have and will continue to work with the Department whenever necessary. We hope that, with this change, the Department is now prepared to move the permitting process ahead and issue draft permits for our TRS control project. If there are any further questions, please contact Roger Hagan at (904) 261-5551.

Sincerely,


Paul J. Magrell
General Manager

PJM/js

cc: Mr. E. E. Frey - FDER, Jacksonville
Mr. Clair Fancy - FDER, Tallahassee
Mr. Bruce Mitchell - FDER, Tallahassee

28 Jan 1988 DER

Juroraha Beach, FL

FEB 2

JSC/CCA

BAQM

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Mill Division
NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

January 27, 1988

Mr. Clair Fancy
Florida Department of Environmental
Regulation
2600 Blainstone Road
Tallahassee, FL 32301-8241

Dear Mr. Fancy:

This letter is in regard to the TRS Compliance Plan which was submitted to the Department by Container Corporation of America under a cover letter dated January 30, 1987. In the compliance Schedule portion of that plan, it was stated that information relating to the parameters to be monitored to ensure compliance would be submitted to the Department by 2/1/88. This was based upon an estimate of the information which would be available from the design engineers regarding the specific systems and their control schemes. Unfortunately, the detailed design engineering has not proceeded along the path originally forecast, and that specific information is not available at this time.

It is our intention to provide that information to the department as soon as the specific configuration of the TRS systems and control schemes are finalized. All other dates listed in the Compliance Plan Schedule are still valid at this time.

The same Schedule also showed that the contingency plans for the affected sources would be submitted by 2/1/88. However, we have been unable to finalize the contingency plan for the reasons mentioned above, and also because of the pending request for variance regarding the compliance schedule for several of the sources in the mill. We cannot complete this plan until the Department has taken final action on that request as that action may significantly impact the contingency plan requirements for all the sources in the mill.

Again, it is our intent to provide the contingency plan as soon as it is finalized. As mentioned, that cannot occur until sometime following final Department action on our request for variance.

If there are any questions or comments on this, please contact Roger Hagan at (904) 261-5551.

Copied: Bruce Mitchell
Pradeep Raval } 2.2.88
CHF/BT
Khurshid Natta

Sincerely,

Paul J. Magner
General Manager

PJM/js

cc: E. E. Frey - FDER Jax

P 274 010 459

RECEIPT FOR CERTIFIED MAIL

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

* U.S.G.P.O. 1985-480-794
PS Form 3800, June 1985

Sent to Mr. Paul Magnell, G.M.	
Street and No. Container Corp. of America North 8th Street	
P.O., State and ZIP Code Fernandina Beach, FL 32304	
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 Mailed: 01/29/88 RE: Pre & Post Test to est. SO2 Control Efficiencies	

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery.

3. Article Addressed to: Mr. Paul Magnell, General Manager Container Corp. of America North 8th Street Fernandina Beach, FL 32304	4. Article Number P 274 010 459
	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>L. Parcellis</i>	
7. Date of Delivery 2/1/88	

PS Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

File 017

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

January 22, 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Paul Magnell, General Mgr.
Container Corporation of America
North 8th Street
Fernandina Beach Florida 32034

Dear Mr. Magnell:

Re: Pre and Post Test to Establish SO₂ Control Efficiencies

It has become apparent in the review of the various permit applications received regarding the TRS NCG systems that the selected combustion devices and their associated control efficiencies for sulfur dioxide (SO₂) are not established. Therefore, a pre and post test will be required to establish the SO₂ removal efficiency of each combustion device (e.g. lime kiln), which is currently operating and in which TRS emissions are proposed to be incinerated.

It is advised that you perform the pre-test at your next earliest convenience (e.g. annual compliance test). Please submit the test data to the Department's Bureau of Air Quality Management to review and to document the results for the file.

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

Sincerely,

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

CHF/PR/s

- cc: S. Smallwood
- J. Brown
- B. Thomas
- B. Pittman
- M. Zilberberg
- B. Stewart

PM
1-15-88
Fernandina Beach, FL

File Copy



JSC/CCA

DER

JAN 19 1988 *per*

BAQM

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

CERTIFIED MAIL

January 15, 1988

Mr. Dale Twachtman, Secretary
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Twachtman:

This letter is pursuant to our conversations with Mr. Bruce Mitchell of your Department on January 13 and 15. Those conversations were in reference to our recently submitted motion for additional time in which to file a petition for formal proceedings pertaining to a letter of incompleteness received on December 12, 1987 regarding our applications for construction permits for various parts of our TRS control program.

Mr. Mitchell has indicated that the response which we have submitted to that letter of incompleteness is adequate and that the Department is now ready to deem the applications complete and issue draft permits for our review. However, Mr. Mitchell has indicated that the Department has determined that they cannot do so unless and until the motion for additional time in which to file a petition for formal proceedings has expired or been withdrawn.

Container Corporation of America has no intention of delaying the timely completion of the permitting process. In fact we are most anxious for that process to proceed as quickly as possible so that work may commence on this important project. In that light, and under the presumption that the Department's position and intentions are as Mr. Mitchell has represented to us, Container Corporation of America would hereby request that the aforementioned motion for additional time in which to file a petition for formal proceedings be withdrawn from Department consideration.

If there are any questions regarding this request, please contact Mr. Roger Hagan, Technical Director, at (904) 261-5551.

Sincerely,

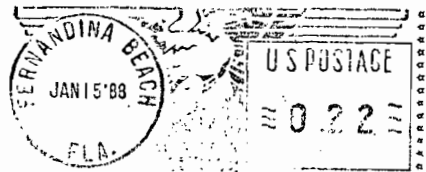
Paul J. Magne
Paul J. Magne
General Manager

PJM/js

cc: Mr. Steve Smallwood - FDER, Tallahassee
Mr. Ernest Frey - FDER, Jacksonville
Mr. Clair Fancy - FDER, Tallahassee
Mr. Bruce Mitchell - FDER, Tallahassee



North Eighth Street
Fernandina Beach, Florida 32034



DER
JAN 19
BAQM

Mr. Bruce Mitchell
Florida Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400



claim,
1-19-88
F.Y.I. Return
to me for S.I.I. J.
Bruce Mitchell
Bruce



JSC/CCA

PM
23 Dec. 1987
Fernandina Beach, FL
CM: P 093 976 925

file copy

JEFFERSON SMURFIT CORPORATION & CONTAINER CORPORATION OF AMERICA

CERTIFIED MAIL

December 17, 1987

Mill Division

NORTH 8TH STREET
P.O. BOX 2000
FERNANDINA BEACH, FL 32034
TELEPHONE: 904/261-5551

DER

DEC 24 1987

BAQM

Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Completeness Review for Applications to Construct
AC 45-141871, -141872, -141873, -141874, -141875, -141877, -141878

Dear Mr. Fancy:

We received the above-referenced completeness review in reference to the construction permit applications listed. The following will represent our response to the questions raised in that review. The responses are referenced to the question number as listed in your December 10 letter.

1. We have noted the assigned permit numbers and sources.
2. We understand that the final compliance dates of the affected sources are not approvable until the Petition for Variance has been acted upon. We would, however, like to restate that our present planning and scheduling of this project is based upon the Department taking favorable action on this Petition in the very near future. Further delays in granting the variance will only serve to make the task of completing the necessary design, construction, and start-up functions in a timely manner much more difficult and may cause a delay in the actual start-up dates which we have proposed.
3. Since the new No. 4 lime kiln will be an NSPS source, we have included in its application package an analysis which shows that there will be no PSD significant net emissions increase in any pollutant as a result of its construction and start-up. This includes three TRS sources which will be collected and incinerated in that kiln. Since the only other affected TRS sources in the mill will be controlled via scrubbing, it is clear that facility-wide, there will be no PSD significant net emissions increase as a result of the TRS control projects.
4. We intend to submit a permit amendment request for the No. 6 MEE system to reflect changing its incineration device to the new No. 4 kiln. However, since that particular change will not be done until 1990, and since it will not require a construction permit, we have not intended to file that request until sometime in 1989. Please advise if there is some reason that this would be required earlier than we had planned.

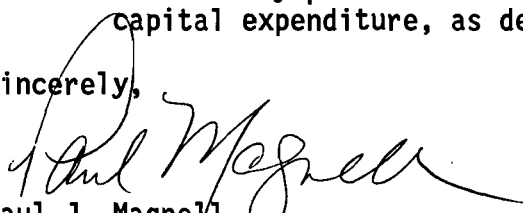
5. The mill's commitment to proceed with the permitting and construction of the new kiln and causticizing system is independent of the Petition for Variance. The replacement of the existing kilns and causticizing equipment is necessary in order to bring that area into compliance with the TRS Rule.
6. In a letter dated October 26, 1987, CCA requested that the tall oil plant interim operating permit maximum operating rate be amended to show the peak maximum operating rate, as advised by Steve Smallwood. This rate was determined to be 8.5 tons/hr of crude tall oil. That amendment was accepted by the Department in a letter dated November 12, 1987. Since the TRS potential and allowable emissions are calculated solely on the basis of CTO produced, and since only the crude tall oil production rate is listed as a specific condition on the interim operating permit, the process input rates were not adjusted at that time.
7. The permit processing fees submitted were determined in accordance with FAC 17-4.05(4)(a), which sets construction permit fees based upon "potential emissions" from the source. Potential emissions as defined in 17-2.100(124) include the maximum capacity of a source to emit a pollutant under its physical and operational design. That design includes "Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment...". Since the emissions from the digester systems and evaporator will be collected and incinerated in the new No. 4 lime kiln, the potential emissions from those sources is less than 25 tpy and the appropriate fee is \$100 each. In the case of the No. 4 smelt dissolving tank, we do not feel that a \$1000 processing fee is appropriate since the potential emissions of TRS amount to less than 25 tpy. While that source does emit more than 100 tpy of particulate, it is already permitted for that emission. As shown in the application, we intend to install a scrubber in place of the existing demister as the control for both PM and TRS. As such, we are not required to submit a construction permit to replace the control device for PM, and are only required by the TRS rule to make that submission. Therefore, we feel that only the potential TRS emissions are applicable and the appropriate fee is again \$100.
- 8, 9. Based upon Mr. David Buff's (KBN Engineering) conversation with Mr. Bruce Mitchell of your staff, the information regarding the contemporaneous emission reductions from the existing lime kiln, lime slakers and lime bins presented in Attachment C of the No. 4 Lime Kiln permit application appears to provide the requested information. This information presents the basis for the estimated actual annual emissions from the existing sources which will be

shutdown. Annual emissions were quantified because the significant emission rates for PSD new source review are expressed in terms of tons per year. Therefore, we saw no reason to present maximum hourly or daily rates. However, Mr. Mitchell also expressed a concern that our requested contemporaneous reductions for the lime slakers and lime bins not exceed the allowable emissions for which the existing system is permitted. All of the emission reductions from these sources were based upon the actual amount of lime processed in 1986 (149,968 TPY). The total amount of lime processed in 1986 includes 14,641 TPY of purchased lime. Thus, the two kilns produced 135,327 TPY of lime. In comparison, the existing No. 1 and No. 2 Kilns are permitted for a process input rate of 26,000 lb/hr and 32,000 lb/hr, respectively, or a total of 58,000 lb/hr. This equates to a total lime production rate of approximately 34,800 lb/yr, or 17.4 TPH. There are no restrictions upon operating hours, so that the total permitted capacity of the two kilns is 152,424 TPY. In addition, there are no restrictions upon the amount of purchased lime which can be handled by the lime slakers and lime bins.

This comparison shows that in no event do the documented contemporaneous reductions exceed the maximum rate and emissions for which the system is designed or permitted.

10. In regard to the existing sources for which applications have been submitted, there have been no physical changes or changes in the method of operation since September 24, 1976, except those excluded under the definition of "modification" under federal New Source Performance Standards, 40 CFR Part 60.14. Routine maintenance, repair, and replacement of component parts has occurred, as well as year-to-year variations in hours of operation and in production rates. Any production rate increases were accomplished without a capital expenditure, as defined in 40 CFR Part 60.

Sincerely,


Paul J. Magner
General Manager

PJM/ma

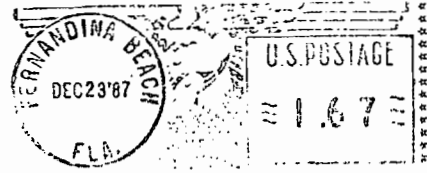
Copied: Bruce Mitchell
Pradeep Raval
OFF/ST
B. Stewart - NE Dist
B. Pittman - Eq. } 12.29.87 (M)

12-29-87

~~CA~~
~~CA~~ > FBI
④



North Eighth Street
Fernandina Beach, Florida 32034



Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400



P 274 007 588

RECEIPT FOR CERTIFIED MAIL

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

* U.S.G.P.O. 1985-480-794

Sept. 10	Paul J. Magnell, G.M.
Street and No.	Container Corp. of America North 8th Street
P.O., State and ZIP Code	Fernandina Beach, FL 32034
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	Mailed: 12/11/87
Permits:	AC 45-141871, -872, -873, -874, -875, -877, and -878

PS Form 3800, June 1985

PS Form 3811, July 1983 447-845

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

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

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

3. Article Addressed to: Paul J. Magnell
General Manager
Container Corporation of America
North 8th Street
Fernandina Beach, FL 32034

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	P 274 007 588

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

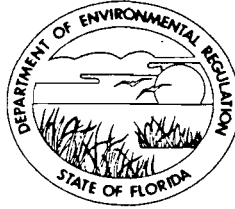
- Signature - Addressee
X
- Signature - Agent
X *J. Magnell*
- Date of Delivery
12-14-87
- Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

file

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

December 10, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Paul J. Magnell
General Manager
Container Corporation of America
North 8th Street
Fernandina Beach, Florida 32034

Dear Mr. Magnell:

Re: Completeness Review for Applications to Construct
AC 45-141871, -141872, -141873, -141874, -141875,
-141877 and -141878

The Department received the above referenced application packages on November 12, 1987. Based on a review of the material submitted, the applications are deemed incomplete. Therefore, submit to the DER's Bureau of Air Quality Management (BAQM) office, including all assumptions, calculations and reference material, the following information and the status can, again, be ascertained:

1. For reference purposes, the assigned permit numbers and sources are:
 - AC 45-141871: Kamyir Digester System
 - 141872: Batch Digester System
 - 141873: No. 5 Multiple Effect Evaporator (MEE) System
 - 141874: Tall Oil Plant
 - 141875: No. 4 Smelt Dissolving Tank (SDT)
 - 141877: No. 4 Lime Kiln
 - 141878: Lime Slakers/Lime Bins
2. Until the Petition for Variance has been acted upon regarding the No. 5 MEE system, batch digester system and Kamyir digester system, the final compliance date is not approvable.
3. Please provide an ambient air quality standards (AAQS) analysis and a prevention of significant deterioration (PSD) maximum concentration increase (increment) analysis for all pollutants which have a facility-wide PSD significant net emissions increase. These analyses should be sufficient to

Mr Paul J. Magnell
Page Two
December 10, 1987

give the Department reasonable assurance that the net emissions increase will not cause or contribute to any AAQS or increments violation.

4. A permit amendment request will have to be submitted to the DER's BAQM office for the No. 6 MEE System to reflect the changes associated with the mill's TRS control strategy in the collection and transporting of the TRS emissions to the proposed No. 4 lime kiln.
5. If the Petition for Variance is denied, is it the mill's intention to proceed with the permitting of the proposed new No. 4 lime kiln and causticizing system? If not, please explain and what source(s) would then be designated as the combustion source(s) for the gases collected and transported in the TRS noncondensable gas handling (NCG) system and would require an application and fee submittal?
6. For the tall oil plant, the requested total process input rate has increased above the rate contained in the interim operating permit and its application. Has this source been compliance tested at this input rate requested? If so, please submit a copy of the test(s) results. Is the present source capable of operating at the proposed increased total process input rate and complying with Florida Administrative Code (FAC) Rule 17-2?
7. The appropriate fee for the Kamyrd digester system, batch digester system, No. 5 MEE system and No. 4 SDT, is \$1000.00 each. Therefore, remit to the Department of Environmental Regulation the deficient amount of \$900.00 per source, for a total amount of \$3600.00.
8. As provided on the page designated CCA.L.S.2, please calculate in the same way the maximum process rate for the existing lime slaker system and the lime bin system.
9. For the lime slaker and lime bin systems, please calculate the net change in the potential pollutant emissions between the existing and the proposed systems. Also, please provide the maximum hourly and daily and the annual raw materials and chemicals processed through each system in the last two years. Each existing system's emissions should be based on the methodology used to calculate contemporaneous emissions pursuant to FAC Rules 17-2.500(2)(e) and 17-2.510(2)(e).

Mr. Paul J. Magnell
Page Three
December 10, 1987

10. Since September 24, 1976, has there been any physical change or change in the method of operation for any of the existing sources for which applications have been submitted? If so, please document and describe the nature of the change(s) and their associated cost(s).

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

Sincerely,



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

CHF/BM/s

cc: B. Stewart, NE District
B. Pittman, Esq.
R. Hagan, CCA
B. Williams, JSC
D. Buff, P.E., KBN

CCA

AN AFFILIATE OF
JEFFERSON SMURFIT CORPORATIONContainer
Corporation
of America

Paper Mill Division

P. O. Box 2000
North Eighth Street
Fernandina Beach, Florida 32034

Phone: 904 261-5551

November 11, 1987

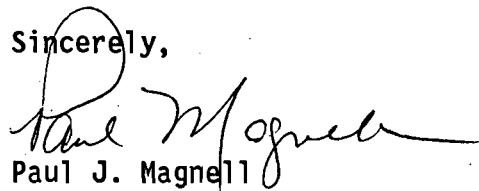
Mr. Steve Smallwood, P.E.
Chief, Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Smallwood:

Enclosed please find four copies of the TRS Compliance Plan for Container Corporation of America, Fernandina Beach, Florida. This plan includes completed and signed construction applications for all sources at this facility which require significant construction activity in order to comply with the TRS emission limits listed in FAC 17-2.600, along with the applicable permit processing fee for each source.

This transmission fulfills the application schedule requirements of FAC 17-2.960. Please let us know as soon as possible the status of these construction applications so that we may commence work on this important project. If there are any questions regarding this submission, please contact Roger Hagan at (904) 261-5551.

Sincerely,



Paul J. Magne
General Manager

PJM/js
Enclosures

cc: R. D. Quina - Mill Central Jax
H. E. Elder
R. C. Cobb - Clayton Corporate Law
R. P. Hagan

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1987 NOV 12 AM 11:29

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7
Checks



QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL NUMBER
4527659986

714684

DATE
11-11-87

AIRBILL NUMBER
4527659986

From (Your Name) ROGER P. HAGAN		Your Phone Number (Very Important) (904) 261-5555		To (Recipient's Name) M. Steve Smallwood		Recipient's Phone Number (Very Important) (904) 488-1341	
Company CONTAINER CORP OF AMERICA		Department/Floor No. 108		Company Florida Dept. of Env. Regulation		Department/Floor No. 108	
Street Address N 8TH ST				Exact Street Address (Use of P.O. Boxes or P.O. Zip Codes Will Delay Delivery And Result In Extra Charge.) 2600 Blair Stone Road			
City FERNANDINA BEACH FL		State FL		City Tallahassee FL		State FL	
ZIP Required For Correct Invoicing 320		ZIP Required For Correct Invoicing 320		ZIP Street Address Zip Required 32301		ZIP Street Address Zip Required 32301	

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.)
TRB Permit Applications

HOLD FOR PICK-UP AT THIS FEDERAL EXPRESS LOCATION:
Street Address (See Service Guide or Call 800-238-5355)
City _____ State _____

PAYMENT Bill Sender Bill Recipient's FedEx Acct. No. Bill 3rd Party FedEx Acct. No. Bill Credit Card
 Cash

SERVICES CHECK ONLY ONE BOX		DELIVERY AND SPECIAL HANDLING CHECK SERVICES REQUIRED		PACKAGES	WEIGHT	YOUR DECLARED VALUE	OVER SIZE
1 <input type="checkbox"/> PRIORITY 1 Overnight Delivery Using Your Packaging	6 <input type="checkbox"/> OVERNIGHT LETTER* (Our Packaging) 9W x 12H	1 <input checked="" type="checkbox"/> HOLD FOR PICK-UP (Using Section H as guide)		1	12	100	
2 <input checked="" type="checkbox"/> OVERNIGHT DELIVERY USING OUR PACKAGING Counter-Pak Overnight Envelope* 18 1/2 x 15 1/2		2 <input checked="" type="checkbox"/> DRIVER WEEKDAY					
3 <input checked="" type="checkbox"/> Overnight Box A <input type="checkbox"/> 12 1/2 x 17 1/2 x 3"		3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge)					
4 <input type="checkbox"/> Overnight Tube B <input type="checkbox"/> 38 x 6 x 6 x 6"		4 <input type="checkbox"/> DANGEROUS GOODS (P-1 and Standard Air Packages only. Extra charge.)					
5 <input type="checkbox"/> STANDARD AIR Delivery not later than second business day		5 <input type="checkbox"/> CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge) (Do Not Complete Section 5)		Total	Total	Total	
		6 <input type="checkbox"/> DRY ICE _____ Lbs.		1	12	100	
		7 <input type="checkbox"/> OTHER SPECIAL SERVICE		Received At 1 <input type="checkbox"/> Regular Stop 2 <input type="checkbox"/> On-Call Stop 3 <input type="checkbox"/> Drop Box- 4 <input type="checkbox"/> B.S.C. 5 <input checked="" type="checkbox"/> Station			
		8 <input type="checkbox"/>		Federal Express Corp. Employee No. 24652			
		9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge)		Date/Time For Federal Express Use 11-11-1645			
		10 <input type="checkbox"/>					

ZIP * Zip Code of Street Address Required

Emp. No. _____ Date _____

Cash Received
 Return Shipment
 Third Party Chg. To Del. Chg. To Hold

Street Address _____

City _____ State _____ Zip _____

Received By: **X**

Date/Time Received _____ FedEx Employee Number _____

5 Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.
Release Signature _____

PART #106001
FEC-S-751-1000
REVISION DATE 10 86
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RECIPIENT'S COPY

CCA

AN AFFILIATE OF
JEFFERSON SMURFIT CORPORATIONContainer
Corporation
of America

Paper Mill Division

P. O. Box 2000
North Eighth Street
Fernandina Beach, Florida 32034

Phone: 904 261-5551

November 11, 1987

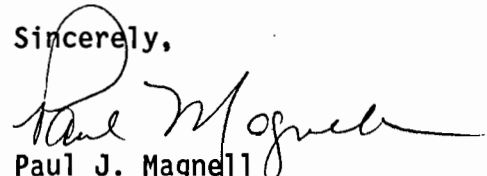
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Chief, Bureau of Air Quality Management
Florida Department of Environmental Regulation
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Tallahassee, FL 32399-2400

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Sincerely,


Paul J. Magnell
General Manager

PJM/js
Enclosures

cc: R. D. Quina - Mill Central Jax
H. E. Elder
R. C. Cobb - Clayton Corporate Law
R. P. Hagan

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CCA

Container
Corporation
of America

Mill Division
Fernandina Beach, Fla. 32034

Mr. Steve Smallwood, P.E.
Chief, Bureau of Air Quality Management
Florida Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

DATE	DESCRIPTION	AMOUNT
	PERMIT PROCESSING FEE FOR NEW NO. 4 LIME KILM ACCT 2236470	

DETACH AND RETAIN THIS STATEMENT
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED ABOVE.
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED.



CONTAINER CORPORATION OF AMERICA
401 Alton Street, P.O. Box 276, Alton, Illinois, 62002-2276
JEFFERSON SMURFIT CORPORATION



Imprest
Check

66-35
531

1214408

Date: NOVEMBER 11, 1987

Pay

CC AND 1000000000

Amount

\$1000.00

Imprest Account
2nd Signature Required
if Over \$5,000.

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PAYMENT WITHIN 180 DAYS FROM DATE OF ISSUE.

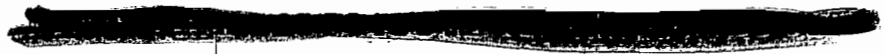
To the order of

DEPARTMENT OF ENVIRONMENTAL REGULATION

Shovia Bank &
Company, N.A.
Asheville, NC

Gregory L. Anderson
1ST SIGNATURE

RB
2ND SIGNATURE



DATE	DESCRIPTION	AMOUNT
	PERMIT PROCESSING FEE FOR THE TALL OIL PLANT ACCT 2056470	

DETACH AND RETAIN THIS STATEMENT
 THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED ABOVE.
 IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED.



CONTAINER CORPORATION OF AMERICA
 401 Alton Street, P.O. Box 276, Alton, Illinois, 62002-2276
 JEFFERSON SMURFIT CORPORATION



Imprest
 Check

66-35
 531

1214411

Date: NOVEMBER 11, 1987

Pay Amount
90491000000 \$100.00

To the order of
 DEPARTMENT OF ENVIRONMENTAL REGULATION

Imprest Account
 2nd Signature Required
 if Over \$5,000.

THIS CHECK NOT VALID UNLESS PRESENTED FOR
 PAYMENT WITHIN 180 DAYS FROM DATE OF ISSUE.

Gregory A. Amstutz
 1ST SIGNATURE

RB Sell
 2ND SIGNATURE

hovia Bank &
 Company, N.A.
 Asheville, NC

FORM 1104 J (12/86)

DATE	DESCRIPTION	AMOUNT
	PERMIT PROCESSING FEE FOR NO. 5 MULTIPLE EFFECT EVAPORATOR SYSTEM ACCT 2036470	

DETACH AND RETAIN THIS STATEMENT
 THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED ABOVE.
 IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED.



CONTAINER CORPORATION OF AMERICA
 401 Alton Street, P.O. Box 276, Alton, Illinois, 62002-2276
 JEFFERSON SMURFIT CORPORATION



Imprest
 Check

66-35
 531

1214412

Date: NOVEMBER 11, 1987

Pay Amount
90491000000 \$100.00

To the order of
 DEPARTMENT OF ENVIRONMENTAL REGULATION

Imprest Account
 2nd Signature Required
 if Over \$5,000.

THIS CHECK NOT VALID UNLESS PRESENTED FOR
 PAYMENT WITHIN 180 DAYS FROM DATE OF ISSUE.

Gregory A. Amstutz
 1ST SIGNATURE

RB Sell
 2ND SIGNATURE

hovia Bank &
 Company, N.A.
 Asheville, NC

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BAQM

TRS COMPLIANCE PLAN

CONTAINER CORPORATION OF AMERICA

FERNANDINA BEACH, FLORIDA

NOVEMBER 1987

TRS COMPLIANCE PLAN
CONTAINER CORPORATION OF AMERICA
FERNANDINA BEACH, FLORIDA
NOVEMBER 1987

OVERVIEW

Container Corporation of America (CCA) of Fernandina Beach, Florida is proposing several changes at its existing pulp mill in order to achieve compliance with the State of Florida's total reduced sulfur (TRS) regulations. Florida's TRS regulations are found in Florida Administrative Code (FAC), Rule 17-2.600(4)(c). The changes include replacement of existing equipment, addition of new equipment, and incineration of non-condensable TRS gases in a new energy-efficient lime kiln. Specifically, the following changes are proposed:

- o Kamyrdigester system - The liquor flash tank system and the turpentine recovery system will be replaced with new systems. Two new flash tanks will be installed adjacent to the digester to replace two existing flash tanks currently located across the mill. Non-condensable gases will be collected from the surge tank (blow tank), steaming vessel, flash tanks and turpentine system. A gas transportation system will be installed to deliver the collected gases to the No. 4 Lime Kiln for incineration.
- o Batch Digesters - The existing batch digesting system consists of seven batch digesters, two blow tanks and a turpentine recovery system. The existing turpentine condensing system will be replaced, and a new blow heat recovery system will be installed on the existing blow tanks. The non-condensable gases from both the turpentine and blow heat recovery systems will be collected and transported to the No. 4 Lime Kiln for incineration.
- o No. 5 Multiple Effect Evaporator (MEE) System - Non-condensable gases from the No. 5 MEE system will be collected and delivered to the No. 4 Lime Kiln for incineration. Vapors from the existing evaporators and concentrators will be routed to the existing surface condenser, to a new hot well, then to the collection system and No. 4 Lime Kiln.

- o No. 4 MEE System will be shutdown
- o No. 4 Recovery Boiler is in compliance with the TRS regulations, and a new Continuous Emissions Monitoring System (CEMS) for TRS has been installed.
- o No. 4 Smelt Dissolving Tank (SDT) - a new flooded elbow type venturi scrubber will be installed to provide control of particulate and TRS emissions.
- o Tall Oil Plant - TRS emissions from the lignin tank, the saltcake tank and the acidulator will be collected and scrubbed in a new wet scrubber. The scrubber will be of the packed tower type and will utilize caustic soda as the scrubbing medium.
- o No. 4 Lime Kiln - a new modern energy efficient kiln will be installed to replace No. 2 and No. 3 Lime Kilns.

Air construction permit applications have been prepared for the Kamyrdigester System, the Batch Digester system, the No. 5 MEE system, the No. 4 SDT, the Tall Oil Plant, and the new No. 4 Lime Kiln. The applications are contained in this permit package.

CCA has previously submitted a Conceptual TRS Compliance Plan to FDER, including a request for a variance to allow final compliance dates for the No. 5 MEE system, both digesting systems, and No. 2 and 3 Lime Kilns to coincide with the compliance date for the new No. 4 Lime Kiln. This is necessary because the non-condensable gases from these sources will be incinerated in the new No. 4 Lime Kiln. The conceptual plan set forth a schedule of events which must be met in order to ensure compliance by the final compliance dates specified in FAC Rule 17-2.600(4)(c). This schedule includes dates by which CCA must provide FDER with certification of purchase orders for major pieces of equipment. However, before purchase orders can be executed, air construction permits must be obtained from FDER. This

requires FDER to complete review of the permit applications and issue construction permits by certain dates. The latest dates by which construction permits can be received and still meet the schedule set forth in the conceptual compliance plan are presented in Table 1.

Other pertinent dates set forth in the Conceptual TRS Compliance Plan are also shown in Table 1. To allow sufficient time after proof of final compliance is required and in order to prepare and have approved air operating permits for the sources, it is requested that construction permit expiration dates be set no earlier than 6 months after proof of final compliance is required.

Table 1. Schedule for Achieving Compliance with TRS Regulations, CCA Fernandina Beach Mill

Source	Construction Permit Issued By	Certification of Equipment Order	Certification of Initial Construction	Completion of Construction	Final Compliance	Submit Operating Permit Application	Construction Permit Expiration Date
Kamyr Digesting System	3/12/88	2/01/89	4/01/89	2/01/90	6/01/90	8/30/90	11/30/90
Batch Digesting System	3/12/88	2/01/89	4/01/89	2/01/90	6/01/90	8/30/90	11/30/90
No. 5 MEE System	3/12/88	2/01/89	4/01/89	2/01/90	6/01/90	8/30/90	11/30/90
No. 4 Smelt Dissolving Tank	3/12/88	7/01/88	10/01/88	4/01/89	5/12/89	8/12/89	11/12/89
Tall Oil Plant	3/12/88	7/01/88	10/01/88	4/01/89	5/12/89	8/12/89	11/12/89
No. 2 Lime Kiln*	3/12/88	11/01/88	3/01/89	2/01/90	5/01/90	8/30/90	11/30/90
No. 3 Lime Kiln*	3/12/88	11/01/88	3/01/89	2/01/90	5/01/90	8/30/90	11/30/90
No. 4 Lime Kiln	3/12/88	11/01/88	3/01/89	2/01/90	5/01/90	8/30/90	11/30/90

* Refers to dates concerning construction of new No. 4 Lime Kiln.

DER

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see should have been \$1000.00

BAQM

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Continuous Digester [] New¹ [X] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: Container Corporation of America COUNTY: Nassau

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

SOURCE LOCATION: Street North 8th Street City Fernandina Beach

UTM: East (17) 456.2 North 3394.2

Latitude 30° 40' 53" N Longitude 81° 27' 26" W

APPLICANT NAME AND TITLE: Paul J. Magnell, General Manager

APPLICANT ADDRESS: North 8th Street, Fernandina Beach, Florida 32034

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Container Corporation of America

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Paul J. Magnell
Paul J. Magnell, General Manager
Name and Title (Please Type)

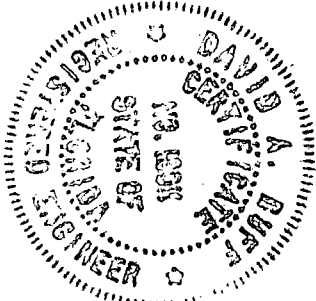
Date: 11-87 Telephone No. (904) 261-5551

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

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 David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

P.O. Box 14288, Gainesville, Florida 32604
Mailing Address (Please Type)

Florida Registration No. 19011 Date: 11/9/87 Telephone No. (904)375-8000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1988 Completion of Construction November 1990

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.)

\$2,970,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit: A045-115840

Issued: 9/10/86

Expires: 5/12/89

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52
if power plant, hrs/yr _____ ; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No) Not Applicable

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)
requirement 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? _____

H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? _____

- a. If yes, for what pollutants? _____
- b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

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		
Wood Chips			264,798 (dry)	Fig. A-2: (1)
White/Black Liquor			1,388,110	Fig. A-2: (2)

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

1. Total Process Input Rate (lbs/hr): 1,652,908

2. Product Weight (lbs/hr): 141,667 (dry)

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
TRS*	796	3,486	2,600(4)(c)1.	Incineration	796	3,486	Fig.A-2: (3)&(4)

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* TRS will be incinerated in new No. 4 Lime Kiln

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Incineration (Refer to	No. 4 Lime Kiln	application)		

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum _____

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

Liquid wastes are recycled back into process.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):
 Refer to No. 4 Lime Kiln application

Stack Height: _____ ft. Stack Diameter: _____ ft.
 Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.
 Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp: _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Best Available Copy

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
SEE ATTACHMENT B
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.
SEE ATTACHMENT C
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
SEE ATTACHMENT C
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
SEE ATTACHMENT A
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).
SEE ATTACHMENT A
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
SEE ATTACHMENT A
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
ATTACHED
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
ATTACHED

- 9. The appropriate application fee in accordance with Rule 17-4.05. 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 ^{Not Applicable} 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: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Devices: b. Operating Principles:

c. Efficiency:¹ d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy:² h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device: b. Operating Principles:

c. Efficiency:¹ d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy:² h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

- b. (1) Company:
- (2) Mailing Address:
- (3) City: (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data Not Applicable

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? Yes No
- b. Was instrumentation calibrated in accordance with Department procedures?
 Yes No Unknown

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 of 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.

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.

ATTACHMENT A
PROJECT DESCRIPTION

CCA currently operates a continuous pulp digesting process (Kamyr Digester System) at its Fernandina Beach mill. The Kamyr system consists of a chip steaming tank, continuous digester, blow tank, two flash tanks, and a turpentine recovery system. Wood chips are pre-conditioned in the steaming vessel prior to entering the digester. In the digester, the wood chips are mixed with white liquor and black liquor and are cooked to produce pulp. Black liquor produced from the digesting process flows to two flash tanks in series. From the flash tanks, most of the black liquor is sent to the multiple effect evaporators, while a portion of the black liquor is reused in the digesting process.

Flash steam from the flash tanks is sent to the turpentine system for recovery of turpentine. The recovered turpentine is sent to storage.

A flow diagram of the existing Kamyr digesting system is presented in Figure A-1. Currently, non-condensable TRS gases from the chip steaming vessel, blow tank, black liquor flash tanks and turpentine system are vented directly to the atmosphere. In order to collect and control these TRS emissions, CCA is proposing the following changes to the Kamyr system:

- o Non-condensable gases from the chip steaming vessel will be collected and incinerated in the new No. 4 Lime Kiln.
- o The two existing flash tanks will be replaced with two new flash tanks in series. Non-condensable gases from the new flash tanks and the existing blow tank will be collected and incinerated in the new No. 4 Lime Kiln.
- o The existing turpentine system will be replaced with a new turpentine recovery system. Non-condensable gases from the new system will be collected and sent to the new No. 4 Lime Kiln for incineration.

A flow diagram of the modified Kamyr system is shown in Figure A-2. Process input and product rates for the modified system are presented in Attachment B. TRS emission estimates are shown in Attachment C.

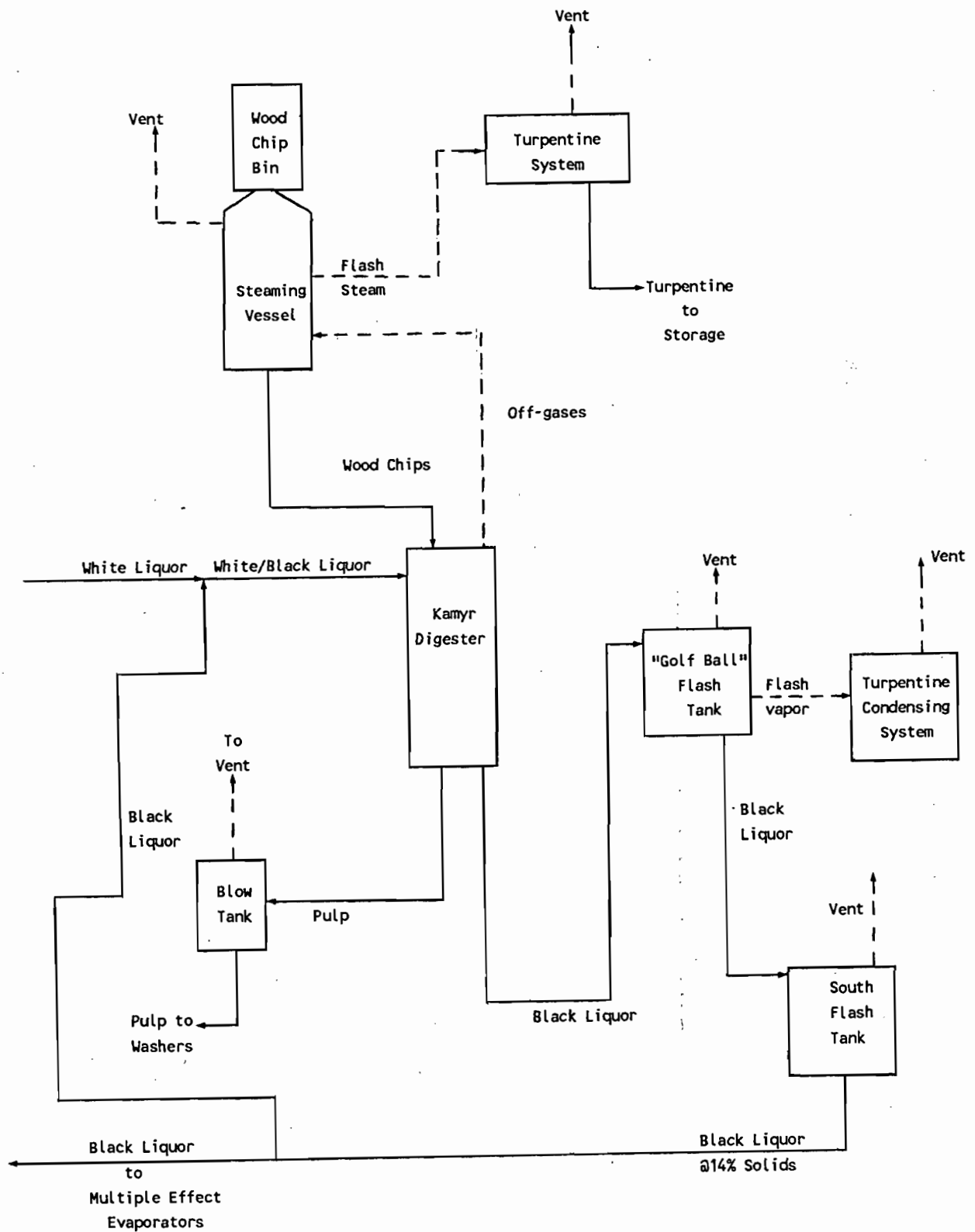


Figure A-1. Flow Diagram of CCA Existing Kamyr Digester System

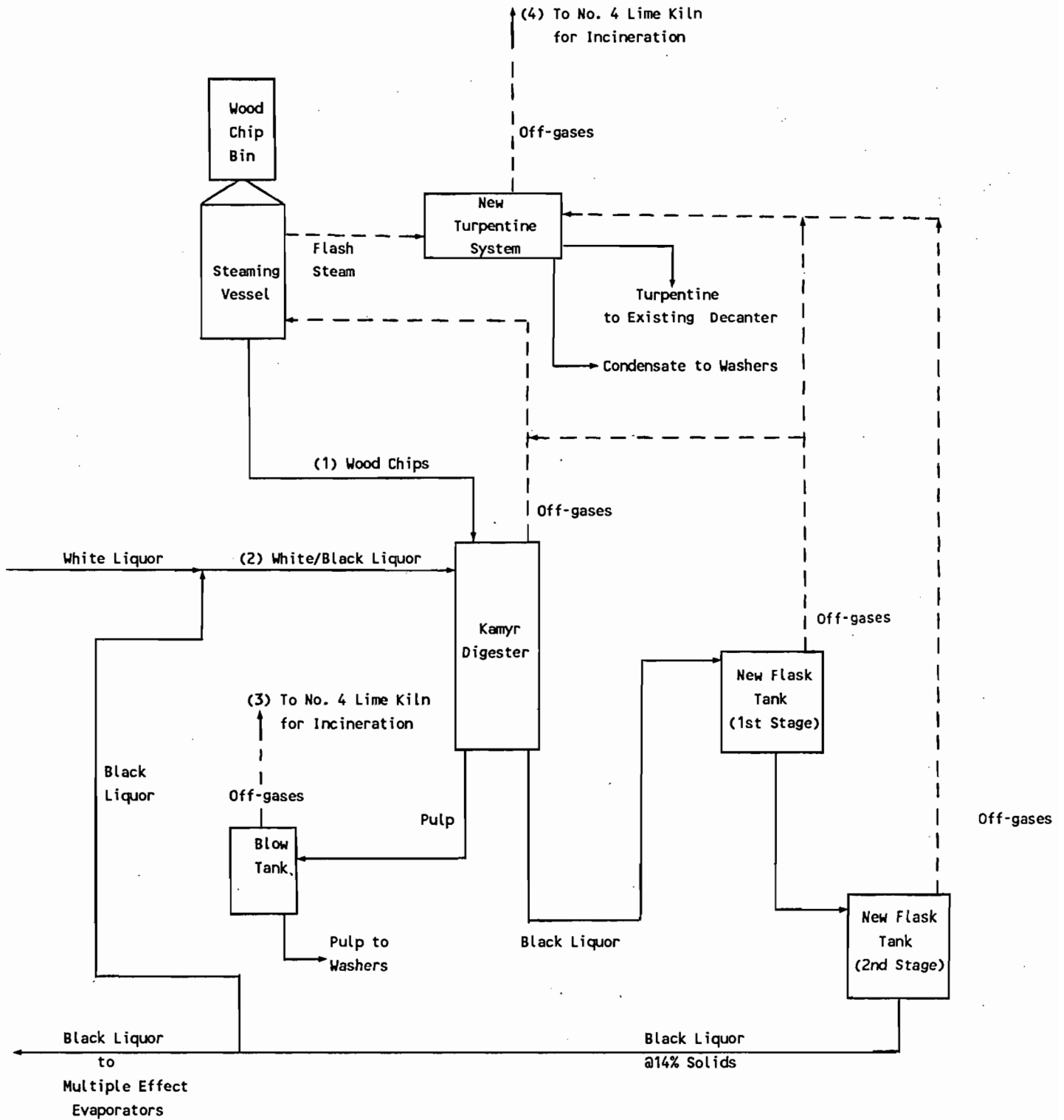


Figure A-2. Flow Diagram of CCA Modified Kamyr Digester System

ATTACHMENT B
DERIVATION OF PROCESS RATES

I. KAMYR CONTINUOUS DIGESTER INPUT RATES

Basis:

Maximum pulp production = 1,700 TPD dry pulp
= 1,819 TPD ADP

1 ton wood chips (dry) yields 0.535 tons pulp (dry)

A. Wood Chips

1700 TPD dry pulp x 1 ton chips (dry)/0.535 tons pulp (dry)
x 2,000 lb/ton / 24 hr/day
= 264,798 lb/hr (dry)

B. Black /White Liquor

Total liquor flow = 2,774 gpm
Liquor @ 8.34 lb/gal
2,774 gpm x 8.34 lb/gal x 60 min/hr = 1,388,110 lb/hr

C. Total Input Rate

Wood Chips + Liquor = 264,798 + 1,388,110 = 1,652,908 lb/hr

II. KAMYR CONTINUOUS DIGESTER PRODUCT RATES

1,700 TPD dry pulp x 2,000 lb/ton / 24 hr/day = 141,667 lb/hr (dry)

1,819 TPD ADP x 2,000 lb/ton / 24 hr/day = 151,583 lb/hr ADP

ATTACHMENT C
EMISSION ESTIMATES

The best available estimate of TRS from the system is based upon the USEPA publication entitled "Kraft Pulping: Control of TRS Emissions from Existing Mills" (EPA-450/2-78-003b, March 1979). The highest emission factor for digester systems is 10.5 lb/ton ADP. TRS emissions from the digester system are calculated as follows:

$$1,819 \text{ TPD ADP} \times 10.5 \text{ lb/ton ADP} / 24 \text{ hr/day} = 796 \text{ lb/hr}$$

$$796 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 3,486 \text{ TPY}$$

DEPARTMENT OF ENVIRONMENTAL REGULATION

DER

NOV 12 1987

BAQM



Receipt # 70195
✓ # 1214414
\$100.00
AC 45-141872
owes \$900.00
fee should have been \$1000.00

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Batch Digesters [] New¹ [X] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: Container Corporation of America COUNTY: Nassau

Identify the specific emission point source(s) addressed in this application (i.e. Lime

Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Batch Digester System

SOURCE LOCATION: Street North 8th Street City Fernandina Beach

UTM: East (17) 456.2 North 3394.2

Latitude 30 ° 40 ' 53 "N Longitude 81 ° 27 ' 26 "W

APPLICANT NAME AND TITLE: Paul J. Magnell, General Manager

APPLICANT ADDRESS: North 8th Street, Fernandina Beach, Florida 32034

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Container Corporation of America

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Paul J. Magnell
Paul J. Magnell, General Manager
Name and Title (Please Type)

Date: 11-1-87 Telephone No. (904) 261-5551

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

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.

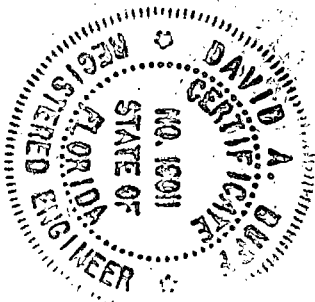
Signed David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

P.O. Box 14288, Gainesville, Florida 32604
Mailing Address (Please Type)

Florida Registration No. 19011 Date: 11/9/87 Telephone No. (904)375-8000



SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1988 Completion of Construction November 1990

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.)

\$3,660,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit: A045-115842

Issued: 9/10/86

Expires: 5/12/89

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
if power plant, hrs/yr _____ ; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No) Not Applicable

- 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)
requirement 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? _____

- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? _____
 - a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

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		
Wood Chips			212,418 (dry)	Fig.A-2: (1)
Black/White Liquor			443,954	Fig.A-2: (2)

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

1. Total Process Input Rate (lbs/hr): 656,372

2. Product Weight (lbs/hr): 108,333 (dry)

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
TRS*	609	2,667	2.600(4)(c)1.	Incineration	609	2,667	Fig.A-2: (3)&(4)

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* TRS will be incinerated in the new No. 4 Lime Kiln

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Incineration (refer to	No. 4 Lime Kiln	application)		

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum _____

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

Not Applicable

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):
 Refer to No. 4 Lime Kiln application

Stack Height: _____ ft. Stack Diameter: _____ ft.
 Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.
 Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION
 Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____
 Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____
 Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____
 Manufacturer _____
 Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____
 Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
SEE ATTACHMENT B
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.
SEE ATTACHMENT C
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
SEE ATTACHMENT C
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
SEE ATTACHMENT A
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).
SEE ATTACHMENT A
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
SEE ATTACHMENT A
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
ATTACHED
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
ATTACHED

- 9. The appropriate application fee in accordance with Rule 17-4.05. 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

Not Applicable

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: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

- 5. Useful Life:
- 7. Energy:
- 9. Emissions:

- 6. Operating Costs:
- 8. Maintenance Cost:

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft. b. Diameter: ft.
- c. Flow Rate: ACFM d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data Not Applicable

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No
- b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

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 of 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.

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.

ATTACHMENT A
PROCESS DESCRIPTION

CCA currently operates a batch pulp digesting process at its Fernandina Beach mill. The Batch Digesting System consists of seven (7) batch digesters, two (2) blow tanks, and a turpentine recovery system (see Figure A-1). Wood chips and white and black liquor are fed to the batch digesters. The digesting process is performed over a defined time period, and the cooked pulp is then discharged to the blow tanks. Digesters 1, 2 and 3 blow to Blow Tank A, while Digesters 5, 6 and 7 blow to Blow Tank B. Digester 4 can blow to either blow tank. From the blow tanks, the pulp and black liquor is sent to process.

Currently, TRS gases from the Batch Digesting System at CCA vent directly to the atmosphere from the two blow tanks and from the turpentine recovery system. Florida's TRS regulations [FAC Rule 17-2.600(4)(c)1.] require that these gases be incinerated or otherwise controlled. In order to comply with the TRS regulations, CCA proposes to modify the existing system to collect and transport the non-condensable TRS gases to the proposed No. 4 Lime Kiln for incineration.

A new hot water accumulator system will be added to condense the steam from both blow tanks. Non-condensable TRS gases from the new secondary condenser will be routed to the No. 4 Lime Kiln for incineration (see Figure A-2). Condensate from the new secondary condenser will be sent to the existing turpentine decanter for turpentine recovery. The existing batch digesters and blow tanks will continue to be utilized in the modified system.

A new Turpentine Recovery System will replace the existing turpentine recovery system to provide more efficient recovery of turpentine from the digester relief gases. Non-condensable gases from the new turpentine condensers will be collected and sent to the proposed No. 4 Lime Kiln for incineration. Condensate streams will be sent to the existing condensate washers and to the existing turpentine decanter.

85 digester steam condenser
NSRS?
condensate stripper system?

Process input and product rates for the modified system are presented in Attachment B. TRS emission estimates are presented in Attachment C.

The Florida TRS rules require that a contingency plan be developed for times when emergency venting of TRS emissions occurs, or when a TRS control device is shutdown for essential maintenance [FAC Rule 17-2.600(4)(c)1.c.]. CCA will submit the required contingency plan in conjunction with the application for an operating permit for this source.

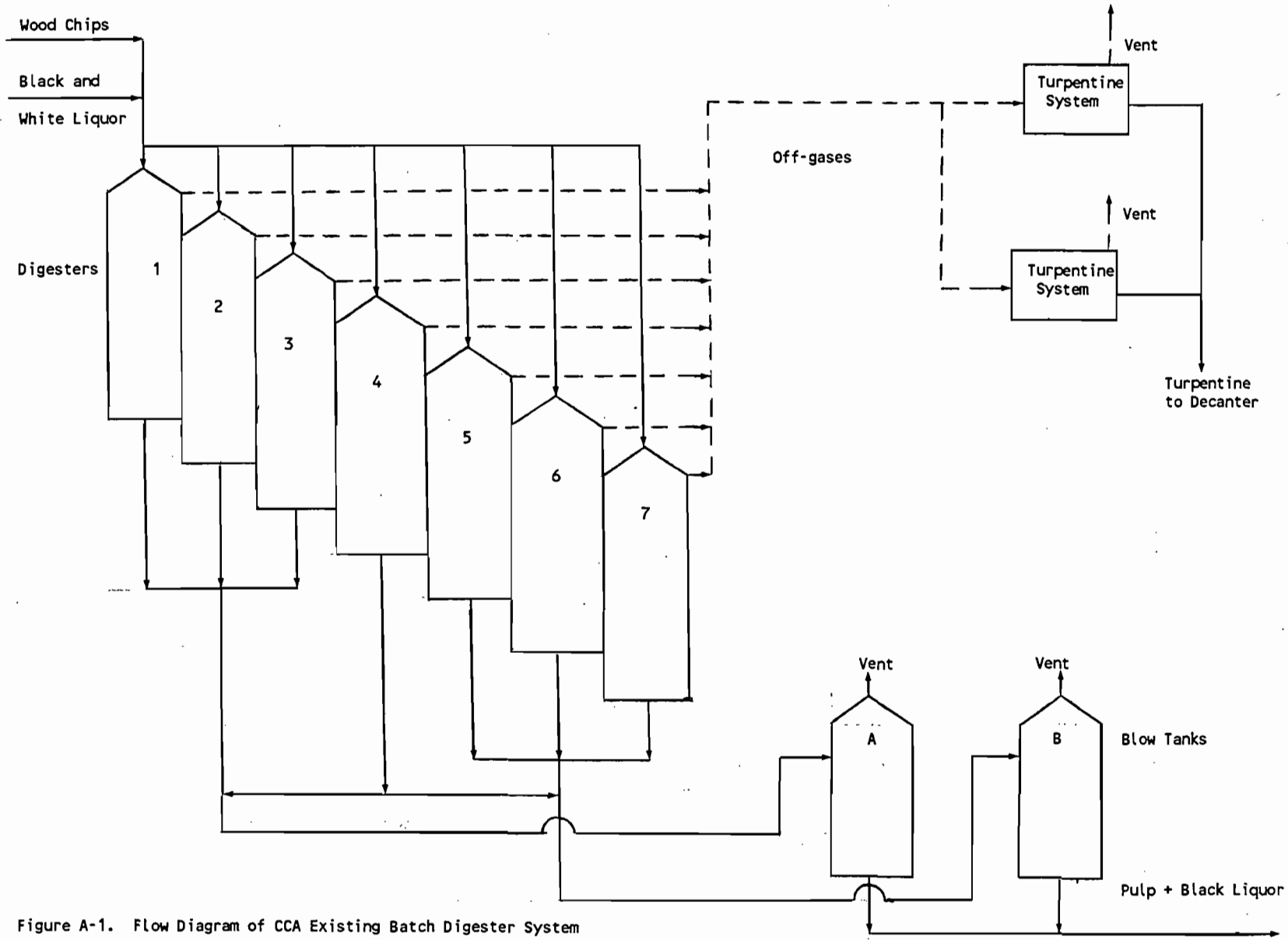


Figure A-1. Flow Diagram of CCA Existing Batch Digester System

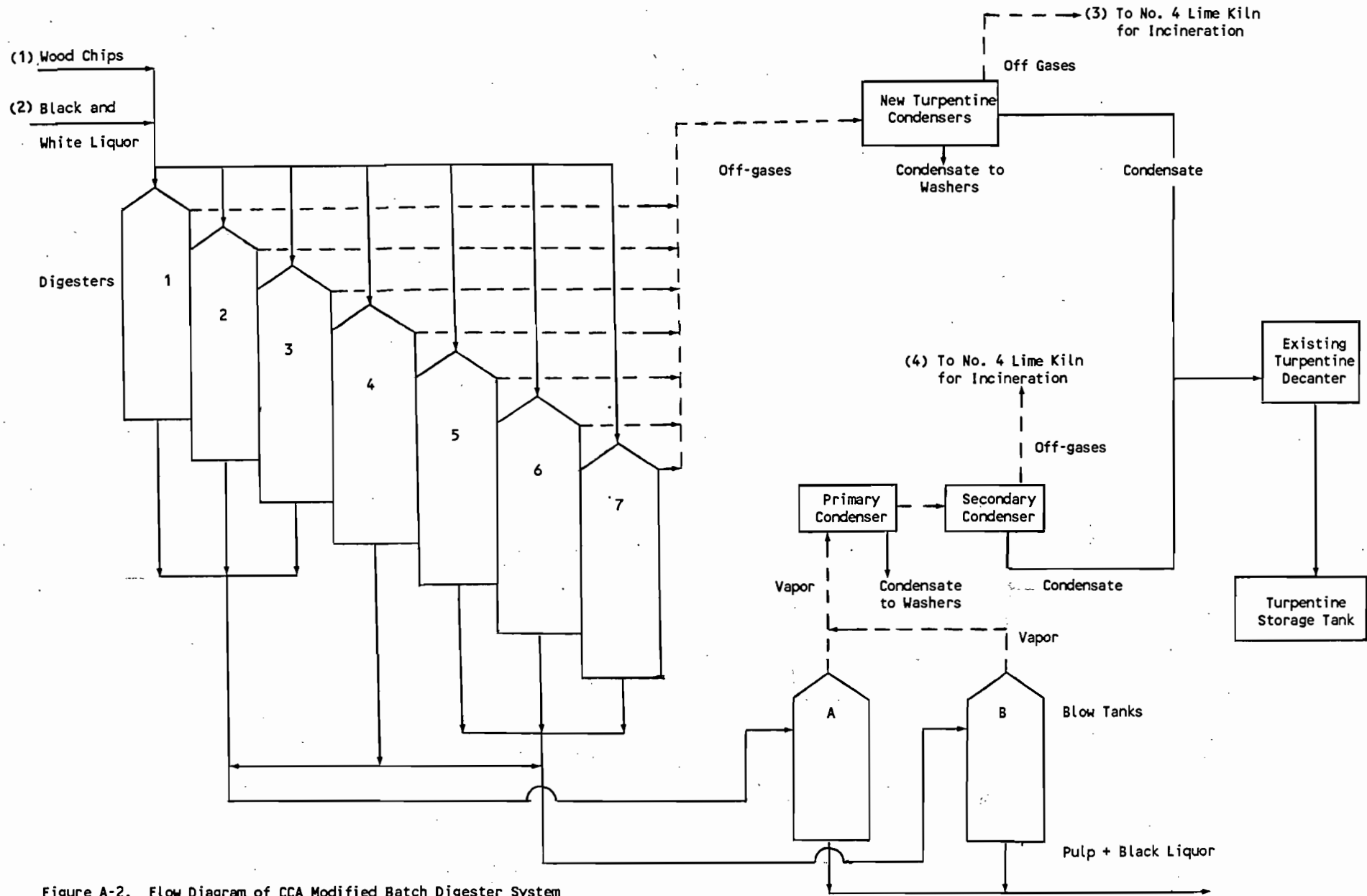


Figure A-2. Flow Diagram of CCA Modified Batch Digester System

ATTACHMENT B
DERIVATION OF PROCESS RATES

I. BATCH DIGESTER INPUT RATES

Basis:

Maximum pulp production = 1,300 tons per day (TPD) dry pulp
= 108,333 lb/hr (dry)
= 1,391 TPD air dried pulp (ADP)

Liquid/dry wood ratio = 2.09

A. Wood Chips

Yield factor = 51%

Dry wood input = 108,333 lb/hr / 0.51 = 212,418 lb/hr (dry)

B. Black/White Liquor

Total liquor = 212,418 lb/hr chips (dry) x 2.09 lb liq/lb chips
= 443,954 lb/hr

C. Total Input Rate

Wood Chips & Liquor = 212,418 lb/hr + 443,954 lb/hr = 656,372 lb/hr

II. BATCH DIGESTER PRODUCTION RATES

1300 TPD dry pulp x 2000 lb/ton / 24 hr/day = 108,333 lb/hr dry pulp

1391 TPD ADP x 2000 lb/ton / 24 hr/day = 115,917 lb/hr ADP

ATTACHMENT C
EMISSION ESTIMATES

The best available estimate of TRS from the system is based on emission factors contained in the USEPA publication entitled "Kraft Pulping: Control of TRS Emissions from Existing Mills" (EPA-450/2-78-003b, March 1979). The highest emission factor for digesters systems is 10.5 lb/ton ADP.

$$1391 \text{ TPD ADP} \times 10.5 \text{ lb/ton} / 24 \text{ hr/day} = 609 \text{ lb/hr}$$
$$609 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2000 \text{ lb/ton} = 2,667 \text{ TPY}$$

DEPARTMENT OF ENVIRONMENTAL REGULATION

Receipt # 76195
✓ # 1214412
\$100.00
AC45-141873

DER

NOV 12 1987



BAQM

owes 900.00
fee should have been \$1000.00

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Black Liquor Evaporators [] New¹ [X] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: Container Corporation of America COUNTY: Nassau

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) No. 5 Multiple Effect Evaporator

SOURCE LOCATION: Street North 8th Street City Fernandina Beach

UTM: East (17) 456.2 North 3394.2

Latitude 30 ° 40 ' 53 "N Longitude 81 ° 27 ' 26 "W

APPLICANT NAME AND TITLE: Paul J. Magnell, General Manager

APPLICANT ADDRESS: North 8th Street, Fernandina Beach, Florida 32034

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Container Corporation of America

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale of legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Paul Magnell
Paul J. Magnell, General Manager
Name and Title (Please Type)

Date: 11-11-87 Telephone No. (904) 261-5551

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

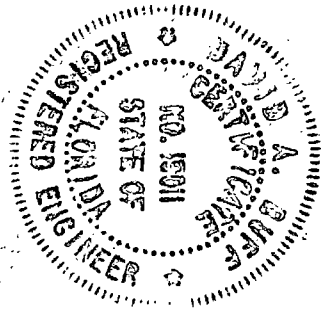
the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

P.O. Box 14288, Gainesville, Florida 32604
Mailing Address (Please Type)



Florida Registration No. 19011 Date: 11/9/87 Telephone No. (904)375-8000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1988 Completion of Construction November 1990

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.)

\$650,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit: A045-115844

Issued: 9/10/86

Expires: 5/12/89

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52
if power plant, hrs/yr _____; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No) Not Applicable

- 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)
requirement 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? _____

- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? _____
 - a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

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		
Black Liquor			1,340,690	Fig.A-2: (1)

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

1. Total Process Input Rate (lbs/hr): 1,340,690 @ 23% solids

2. Product Weight (lbs/hr): 474,398 @ 65% solids

Handwritten notes:
 304,351.7
 304,359 BLS
 304,359.7
 OK

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
TRS*	394	1,726	2,600(4)(c)1.	Incineration	394	1,726	Fig.A-2:(2)

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* TRS will be incinerated in the new No. 4 Lime Kiln

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Incineration (refer to	No. 4 Lime Kiln	application)		

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum _____

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

Not Applicable

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):
 Refer to No. 4 Lime Kiln application

Stack Height: _____ ft. Stack Diameter: _____ ft.

Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.

Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner

Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
SEE ATTACHMENT B
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.
SEE ATTACHMENT C
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
SEE ATTACHMENT C
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
SEE ATTACHMENT A
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).
SEE ATTACHMENT A
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
SEE ATTACHMENT A
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
ATTACHED
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
ATTACHED

BEST AVAILABLE COPY

- 9. The appropriate application fee in accordance with Rule 17-4.05. 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

Not Applicable

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:
- 2. Operating Principles:
- 3. Efficiency:*
- 4. Capital Costs:

*Explain method of determining

- 5. Useful Life:
- 7. Energy:
- 9. Emissions:

- 6. Operating Costs:
- 8. Maintenance Cost:

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft. b. Diameter: ft.
- c. Flow Rate: ACFM d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Devices: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

Not Applicable

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No

b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

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 of 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.

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.

ATTACHMENT A
PROJECT DESCRIPTION

CCA currently operates a black liquor multiple effect evaporator system (No. 5 MEE) at its Fernandina Beach mill. A flow diagram of the system is shown in Figure A-1. In the existing system, weak black liquor (23% solids content) is pumped from the weak black liquor storage tanks to the evaporators. From the evaporators, the black liquor enters the black liquor concentrators. The black liquor leaving the concentrators contains approximately 65% solids. Currently, non-condensable TRS gases from the evaporators are vented to the atmosphere through the hot well. The concentrators also vent directly to the atmosphere.

CCA is proposing changes in the No. 5 MEE system to collect non-condensable TRS gases and to transport these gases to the new No. 4 Lime Kiln for incineration. Vapors from the evaporators and the concentrators will be routed to the existing surface condenser and then to a new hot well. Non-condensable TRS gases from the new hot well will be collected and sent to the lime kiln for incineration. No changes will be made in the existing process capacities of the evaporators and concentrators. A flow diagram of the proposed system is presented in Figure A-2.

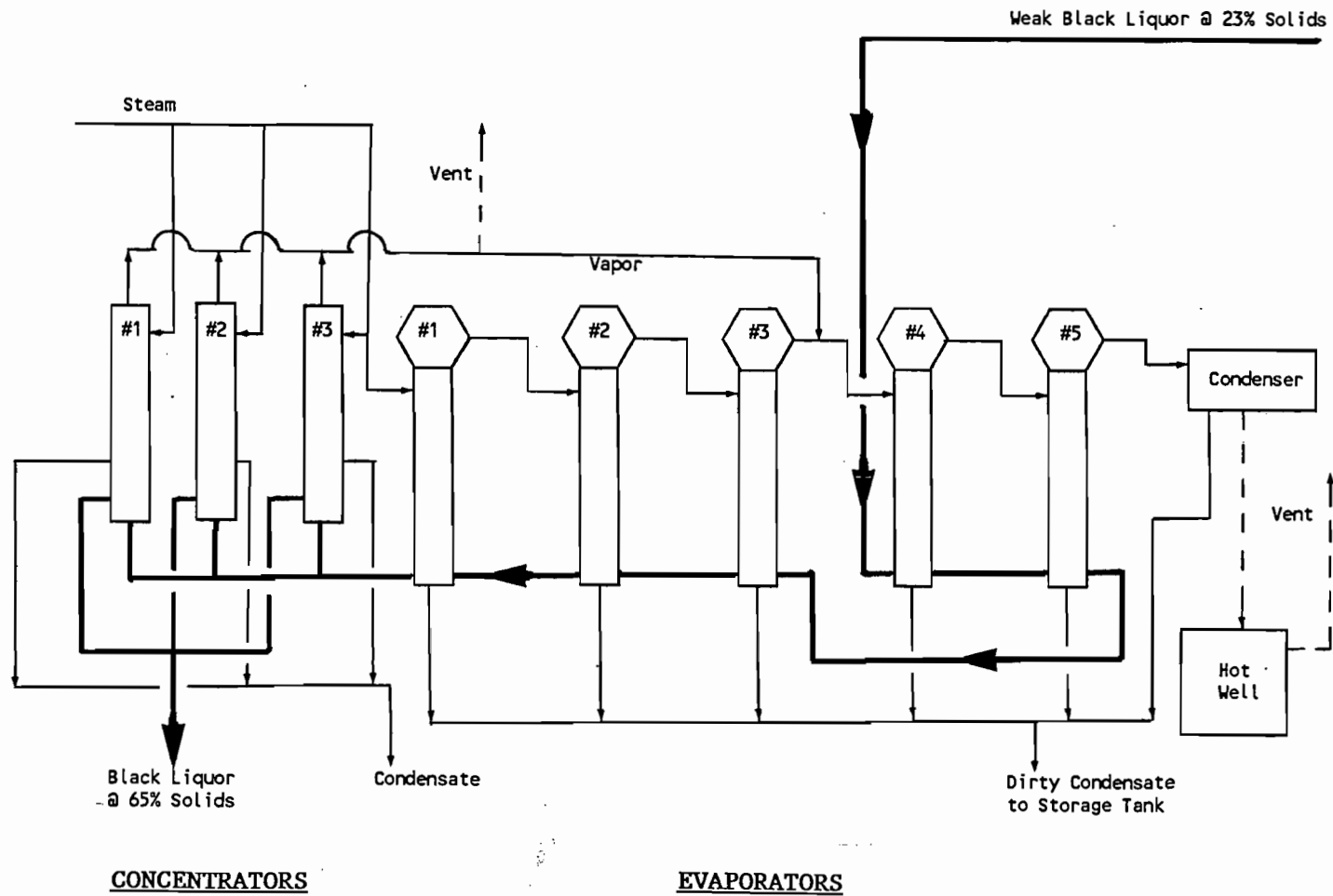


Figure A-1. Flow Diagram of CCA Existing No. 5 Multiple Effect Evaporator System

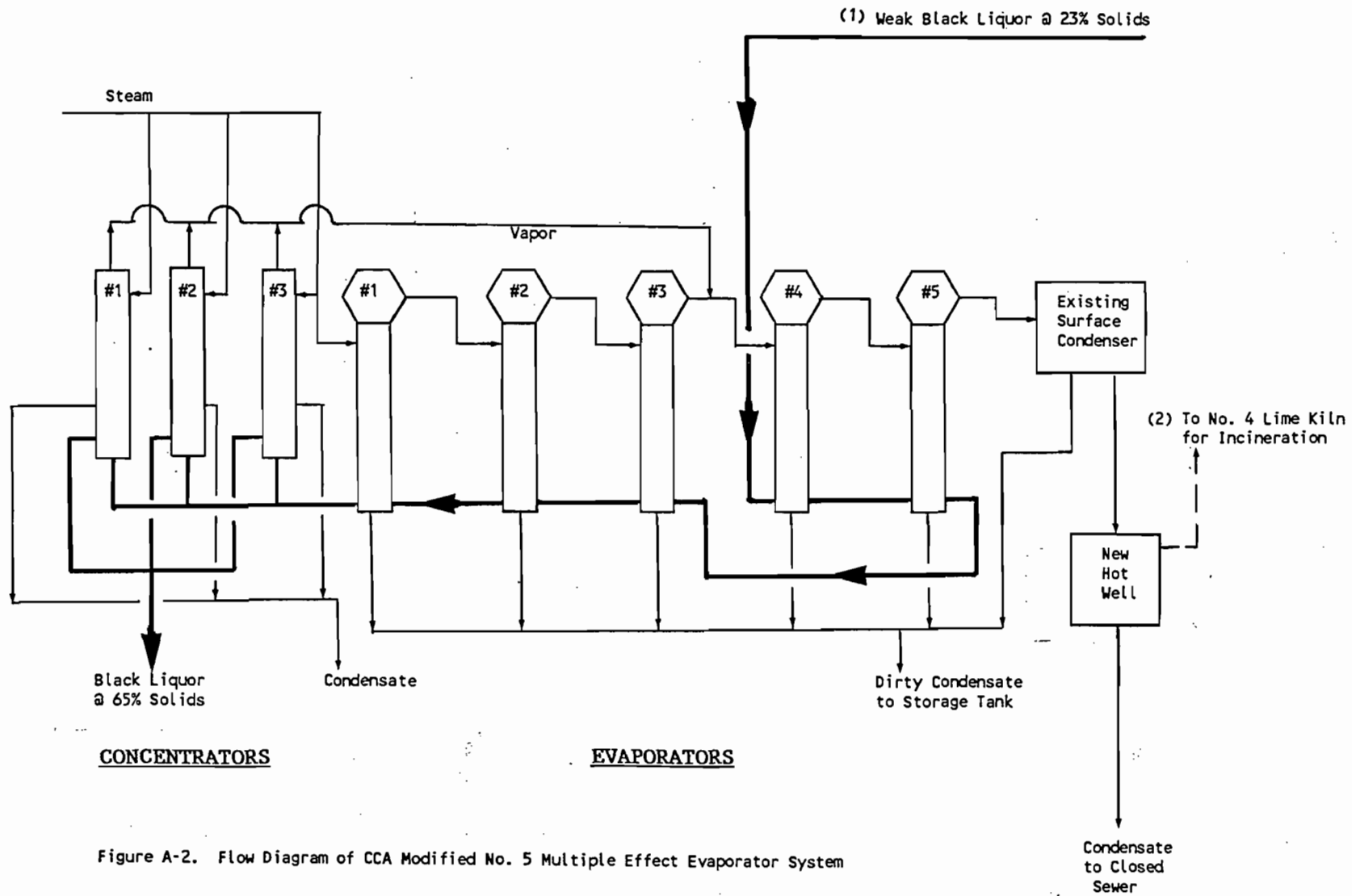


Figure A-2. Flow Diagram of CCA Modified No. 5 Multiple Effect Evaporator System

ATTACHMENT B
DERIVATION OF PROCESS RATE

I. UTILIZATION RATE

Based upon operating data, maximum input rate of black liquor
= 1,340,690 lb/hr @ 23% solids
= 308,359 lb/hr BLS

II. PRODUCT WEIGHT

Black liquor is at 65% solids leaving concentrators.
 $308,359 \text{ lb/hr BLS} / 0.65 = 474,398 \text{ lb/hr @ 65\% solids}$

ATTACHMENT C
EMISSION ESTIMATES

The best available estimate of TRS from the No. 5 MEE system is based upon the USEPA publication entitled "Kraft Pulping: Control of TRS Emissions from Existing Mills" (EPA-450/2-78-003b, March 1979). The highest factor for multiple effect evaporator systems is 6.3 lb/ton ADP. The maximum pulp producing capacity of the No. 5 MEE system is 1,500 TPD ADP.

Estimated TRS emissions are calculated as follows:

$$1,500 \text{ TPD ADP} \times 6.3 \text{ lb/ton ADP} / 24 \text{ hr/day} = 394 \text{ lb/hr}$$

$$394 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 1,726 \text{ TPY}$$

DEPARTMENT OF ENVIRONMENTAL REGULATION

Receipt # 76195
√ # -1214411
\$100.00 ✓
AC 45-141874

DER

NOV 12 1987



BAQM

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Tall Oil Plant [] New¹ [] Existing¹

APPLICATION TYPE: [] Construction [] Operation [] Modification

COMPANY NAME: Container Corporation of America COUNTY: Nassau

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

SOURCE LOCATION: Street North 8th Street City Fernandina Beach

UTM: East (17) 456.2 North 3394.2

Latitude 30 ° 40 ' 53 "N Longitude 81 ° 27 ' 26 "W

APPLICANT NAME AND TITLE: Paul J. Magnell, General Manager

APPLICANT ADDRESS: North 8th Street, Fernandina Beach, Florida 32034

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Container Corporation of America

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Paul J. Magnell

Paul J. Magnell, General Manager
Name and Title (Please Type)

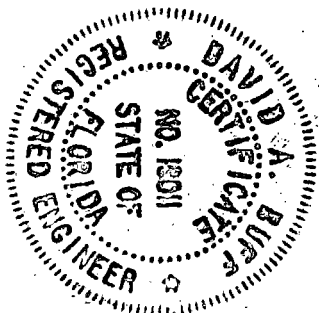
Date: 11-11-87 Telephone No. (904) 261-5551

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

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 David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

P.O. Box 14288, Gainesville, FL 32604
Mailing Address (Please Type)

Florida Registration No. 19011 Date: 11-9-87 Telephone No. (904)375-8000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1988 Completion of Construction November 1989

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.)

\$250,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit: A045-115841

Issued: 9/8/86

Expires: 5/12/89

E. Requested permitted equipment operating time: hrs/day 24; days/wk 7; wks/yr 52;
if power plant, hrs/yr _____; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No) Not Applicable

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)
requirement 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? _____

- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? _____
- a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

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		
Soap			24,573	Fig. A-2
Sulfuric acid			3,866	Fig. A-2
Caustic			5,972	Fig. A-2

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

1. Total Process Input Rate (lbs/hr): 34,411

2. Product Weight (lbs/hr): 17,000

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable Emission ³ lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
TRS	0.43	1.88	2,600(4)(c)2,*	0.43	0.43	1.88	Fig. A-2 scrubber

¹See Section V, Item 2. * 0.05 lb TRS/ton tall oil produced

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Caustic Scrubber (vendor not yet selected)	TRS	98.95%	N/A	See Att. C

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum _____

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

Scrubbing liquid is recycled back to scrubber or back into Tall Oil Plant process.

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

Stack Height: 32 ft. Stack Diameter: 1.5 ft.
 Gas Flow Rate: 4,000 ACFM 2,600 DSCFM Gas Exit Temperature: 130 °F.
 Water Vapor Content: Saturated % Velocity: 37.7 FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner

Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

- 1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
SEE ATTACHMENT B
- 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.
SEE ATTACHMENT B
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
SEE ATTACHMENT B
- 4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
SEE ATTACHMENT C
- 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).
SEE ATTACHMENT C
- 6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
SEE ATTACHMENT A
- 7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
ATTACHED
- 8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
ATTACHED

9. The appropriate application fee in accordance with Rule 17-4.05. 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

Not Applicable

- 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

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

Contaminant	Rate or Concentration

- C. What emission levels do you propose as best available control technology?

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

- D. Describe the existing control and treatment technology (if any).

1. Control Device/System:

2. Operating Principles:

3. Efficiency:*

4. Capital Costs:

*Explain method of determining

- 5. Useful Life:
- 7. Energy:
- 9. Emissions:

- 6. Operating Costs:
- 8. Maintenance Cost:

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft. b. Diameter: ft.
- c. Flow Rate: ACFM d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:

- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

Not Applicable

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? Yes No
- b. Was instrumentation calibrated in accordance with Department procedures?
 Yes No Unknown

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 of 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.

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.

ATTACHMENT A
PROCESS DESCRIPTION

CCA currently operates a Tall Oil Plant at its Fernandina Beach mill. A flow diagram of the existing process is presented in Figure A-1. Soap from the soap tanks is sent to the acidulator where acid and steam are added to produce lignin and tall oil. The lignin is sent to the lignin tank where caustic is added to produce dissolved lignin. From the lignin tank, the dissolved lignin is then sent to the east soap tank and eventually back to the pulp mill in the liquor from the soap tank. Tall oil produced in the acidulator is sent to a settling tank where caustic is added, and then to the tall oil storage tanks. Acid water produced in the acidulator is sent to the saltcake tank.

TRS emissions from the existing Tall Oil Plant come from the acidulator, lignin tank and saltcake tank. The acidulator has a vent to the atmosphere, while the lignin tank and saltcake tank are open-top tanks, exposed to the atmosphere.

In order to control TRS emissions from the three TRS sources, CCA is proposing to install tops on the lignin tank and saltcake tank, and route off-gases from these tanks and gases from the acidulator to a new wet scrubber. The scrubber will be of the packed tower type and will use a solution of caustic soda as the absorbing liquid. The scrubber will be designed to meet the TRS regulation of 0.05 lb TRS/ton tall oil produced, as a 12-hour average [FAC Rule 17.-2.600(4)(c)2.a.].

The TRS regulations also require that tall oil plants install and operate a continuous emission monitoring system (CEMS) for TRS emissions, or monitor the performance of the TRS control system. CCA proposes to continuously monitor the performance of the TRS scrubber by developing a surrogate parameter to be monitored, as provided by FAC Rule 17-2.710(3)(c). The surrogate parameter, rationale for selection of the parameter, and other required information will be submitted in conjunction with the application for an operating permit for the Tall Oil Plant.

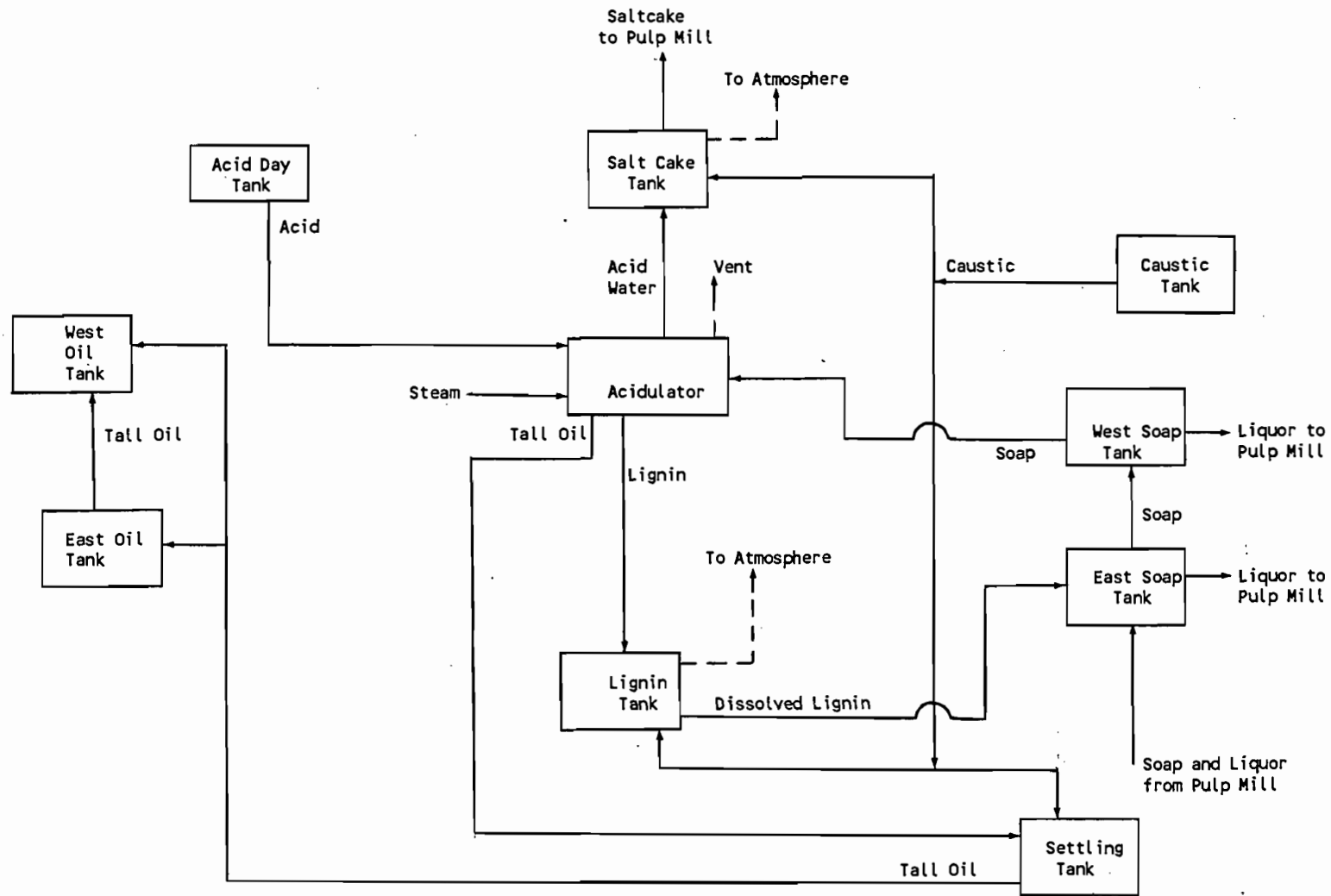


Figure A-1. Flow Diagram of CCA Existing Tall Oil System

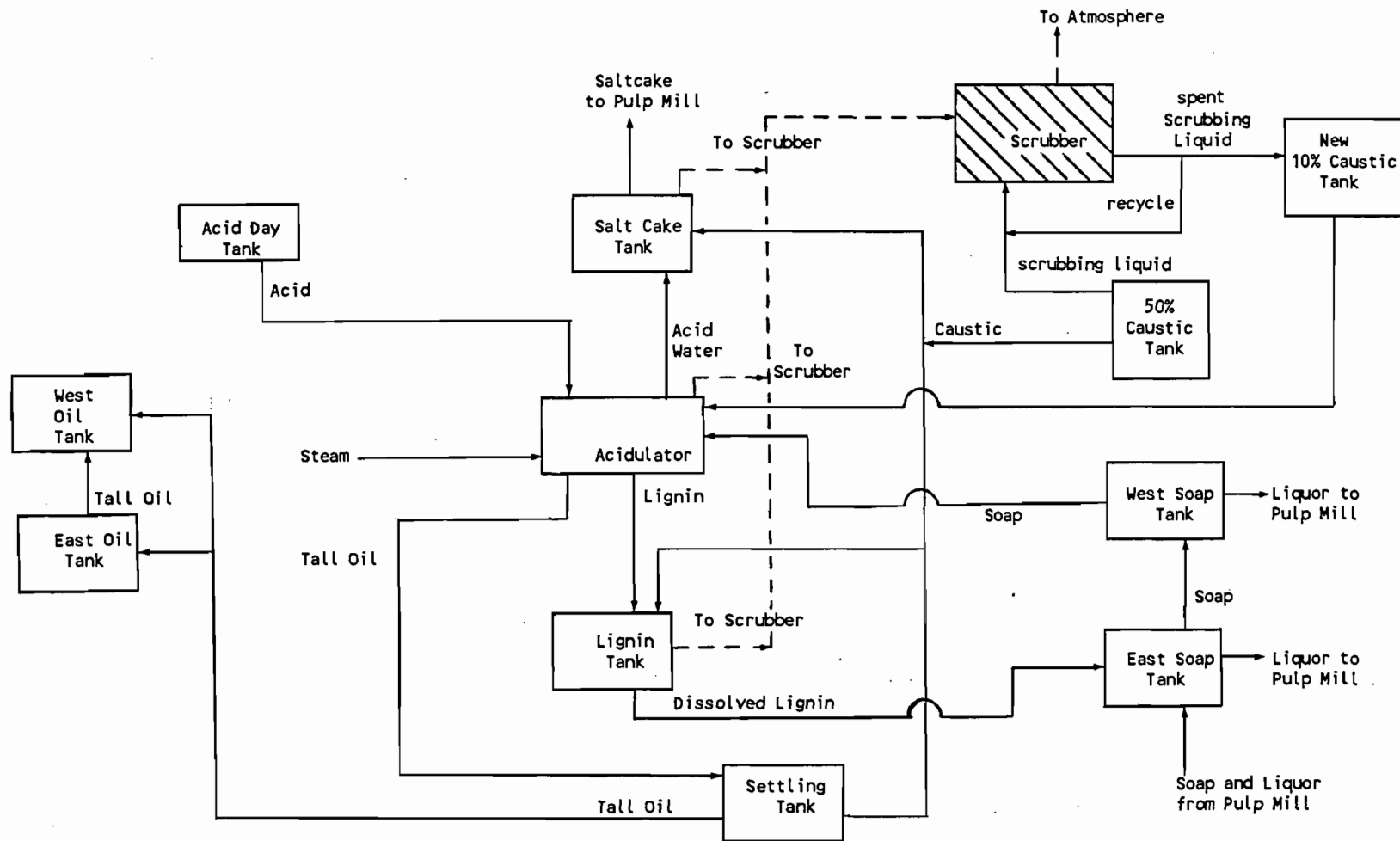


Figure A-2. Flow Diagram of CCA Modified Tall Oil System

ATTACHMENT B
PROCESS RATES AND EMISSION ESTIMATES

I. PROCESS RATE

The maximum production rate of tall oil is 8.5 tons/hr, based upon operating data for the system.

A. Derivations

$$\text{Batch Process } 2.59 \text{ hr/cook} = 0.39 \text{ cooks/hr}$$

$$\text{Soap} = 9,404 \text{ gal/cook measured}$$

$$\times 0.39 \text{ cook/hr} \times 6.7 \text{ lb/gal} = 24,573 \text{ lb/hr}$$

$$\text{Sulfuric Acid} = 650 \text{ gal/cook}$$

$$\times 0.39 \text{ cook/hr} \times 15.25 \text{ lb/gal} = 3,866 \text{ lb/hr}$$

$$\text{Caustic} = 1,200 \text{ gal/cook}$$

$$\times 0.39 \text{ cook/hr} \times 12.76 \text{ lb/gal} = 5,972 \text{ lb/hr}$$

$$\text{Tall Oil Production} = 22 \text{ tons/cook maximum}$$

$$22 \text{ tons/cook} / 2.59 \text{ hr/cook} = 8.5 \text{ TPH}$$

$$= 17,000 \text{ lb/hr}$$

II. TRS EMISSIONS

A. Uncontrolled emissions

Based upon TRS testing conducted on the acidulator exhaust at the CCA mill, and TRS testing conducted at the G-P mill on the Tall Oil System, maximum TRS loading to the scrubber is conservatively estimated at 2,200 ppm TRS @ 3,500 scfm and 140°F.

$$\begin{aligned} \text{TRS} &= 2116.8 \frac{\text{lb}_f}{\text{ft}^2} \times 3,500 \frac{\text{ft}^3}{\text{min}} \times \frac{34 \text{ lb}_m^{-\circ\text{R}}}{1545 \text{ ft-lb}_f} \times \frac{1}{528^{\circ\text{R}}} \times \frac{2200}{10^6} \times \frac{60 \text{ min}}{\text{hr}} \\ &= 40.8 \text{ lb/hr} \end{aligned}$$

B. Controlled emissions

Maximum TRS = 0.05 lb/ton tall oil produced

Tall oil produced (max) = 8.5 tons/hr

Maximum emissions = 8.5 tons/hr x 0.05 lb/ton
= 0.43 lb/hr

0.43 lb/hr x 8,760 hr/yr / 2,000 lb/ton = 1.88 TPY

ATTACHMENT C
CONTROL SYSTEM DESIGN PARAMETERSI. WET SCRUBBER DESIGN

The wet scrubber to be used on the Tall Oil Plant has not yet been selected. The following presents the general scrubber design to be selected. The selected scrubber will be equal to or better than the general scrubber design.

The wet scrubber will be a packed tower type absorber unit, approximately 3.5 feet in diameter and 17.5 feet high. Sodium hydroxide solution will be used as the absorbing liquid. Scrubber packing will be that recommended by the supplier. A mesh type demister pad follows the absorption section to remove entrained liquid.

II. WET SCRUBBER OPERATING CONDITIONS

Gas Inlet Volume (Design Capacity)	3500 SCFM, 4040 ACFM
Gas Inlet Temperature	140°F
Gas Outlet Volume	4,000 ACFM
Gas Outlet Temperature	130°F
Pressure Drop Across Packed Tower	4 - 5" w.c.
Scrubbing Liquid Rate (Recycle)	80 to 90 GPM @ 15 psig
Scrubbing Liquid	Sodium Hydroxide solution

III. TRS REMOVAL EFFICIENCY

From Attachment B: uncontrolled TRS = 40.8 lb/hr

controlled TRS = 0.43 lb/hr

Minimum removal efficiency = $[(40.8 - 0.43)/40.8] \times 100 = 98.95\%$

DEPARTMENT OF ENVIRONMENTAL REGULATION

Receipt # 76195
1214410
\$100.00
AC 45-141875

DER

NOV 12 1987

BAQM



owes \$900
See should be \$1000.00

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Smelt Dissolving Tank [] New¹ [X] Existing¹
 APPLICATION TYPE: [X] Construction [] Operation [] Modification
 COMPANY NAME: Container Corporation of America COUNTY: Nassau
 Identify the specific emission point source(s) addressed in this application (i.e. Lime
 Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) No. 4 Smelt Dissolving
 SOURCE LOCATION: Street North 8th Street City Fernandina Beach
 UTM: East (17) 456.2 North 3394.2
 Latitude 30 ° 40 ' 53 "N Longitude 81 ° 27 ' 26 "W
 APPLICANT NAME AND TITLE: Paul J. Magnell, General Manager
 APPLICANT ADDRESS: North 8th Street, Fernandina Beach, Florida 32034

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Container Corporation of America

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: *Paul J. Magnell*
Paul J. Magnell, General Manager
 Name and Title (Please Type)
 Date: 11-11-87 Telephone No. (904) 261-5551

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

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 David A. Buff

David A. Buff

Name (Please Type)

KBN Engineering and Applied Sciences, Inc.

Company Name (Please Type)

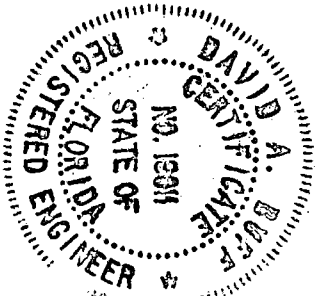
P.O. Box 14288, Gainesville, FL 32604

Mailing Address (Please Type)

Florida Registration No. 19011

Date: 11-9-87

Telephone No. (904)375-8000



SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1988 Completion of Construction Nov. 1989

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.)

\$350,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit: A045-107514

Issued: 10/9/85

Expires: 10/9/90

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52
if power plant, hrs/yr _____; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No) Not Applicable

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)
requirement 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? _____

- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? _____
- a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

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		
Smelt			56,513	Fig A-2: (1)

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

1. Total Process Input Rate (lbs/hr): 56,513

2. Product Weight (lbs/hr): Green liquor 56,513 (dry)

equivalent to 137,500 lbs/hr BLS.

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual I/yr			lbs/hr	I/yr	
TRS	2.20	9.64	2.600(4)(c)4*	2.20	2.20	9.64	Fig A-2(2)
PM	28.5	122.0	2.610(1)	28.5	28.5	122.0	Fig A-2(2)

¹See Section V, Item 2. * 0.0480 lb TRS/3000 lb BLS

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Venturi Scrubber	TRS	98.8%	Not Applicable	See Att. B
(vendor not yet selected)	Particulates	93.4%	1 um and above	See Att. B

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum _____

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

Scrubber water is recycled back into smelt dissolving tank

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

Stack Height: 244 ft. Stack Diameter: 6.0 ft
 Gas Flow Rate: 49,500 ACFM 32,500 DSCFM Gas Exit Temperature: 142 °F
 Water Vapor Content: saturated % Velocity: 29.2 FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

BEST AVAILABLE COPY

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
SEE ATTACHMENT A
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.
SEE ATTACHMENT C
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
SEE ATTACHMENT C
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
SEE ATTACHMENT B
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).
SEE ATTACHMENT B
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
SEE ATTACHMENT A
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
ATTACHED
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
ATTACHED

- 9. The appropriate application fee in accordance with Rule 17-4.05. 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
Not Applicable

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: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining.

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft. b. Diameter: ft.
- c. Flow Rate: ACFM d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
 - a. (1) Company:
 - (2) Mailing Address:
 - (3) City:
 - (4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data Not Applicable

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? Yes No
- b. Was instrumentation calibrated in accordance with Department procedures?
 Yes No Unknown

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 of 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.

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.

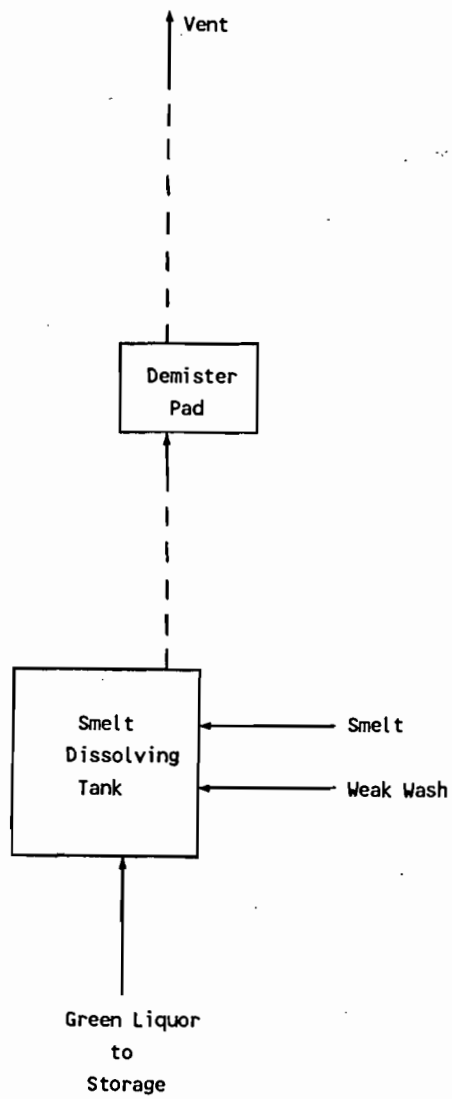


Figure A-1. Flow Diagram of CCA Existing No. 4 Recovery Boiler Smelt Dissolving Tank

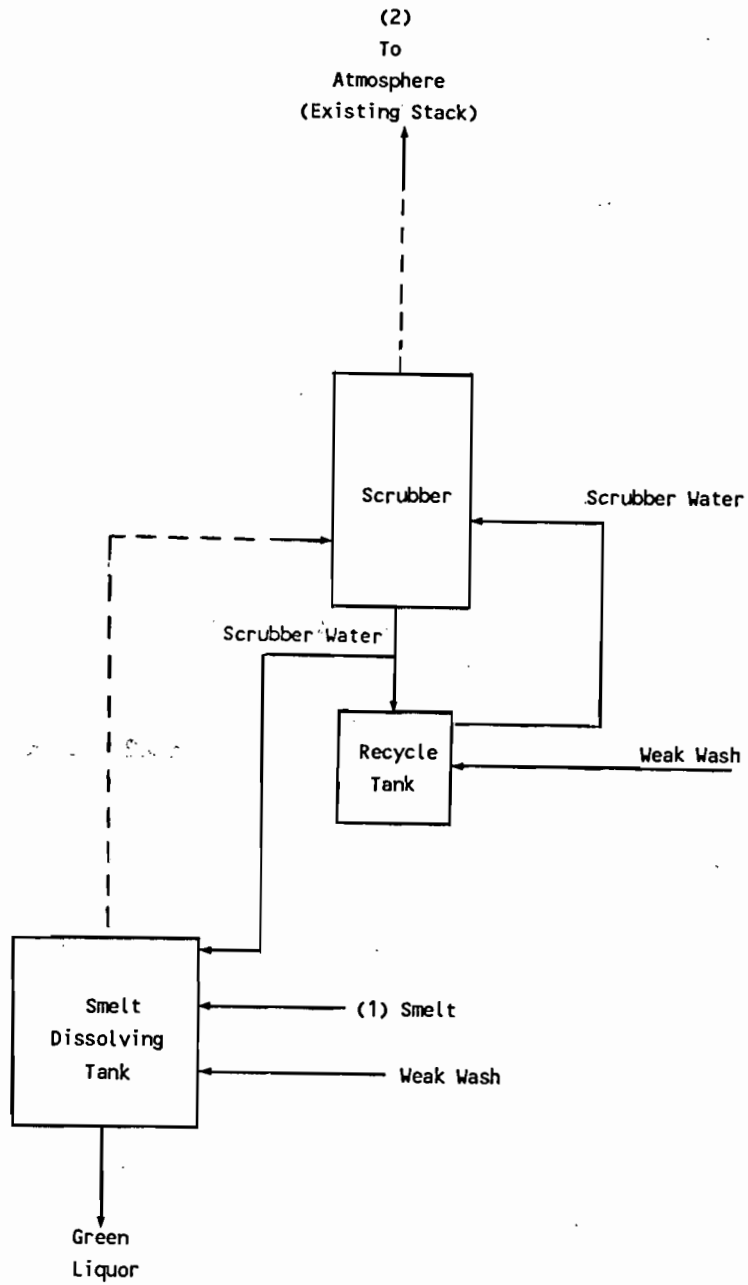


Figure A-2. Flow Diagram of CCA Modified No. 4 Recovery Boiler Smelt Dissolving Tank

ATTACHMENT A
PROCESS DESCRIPTION

CCA currently operates the No. 4 Recovery Boiler Smelt Dissolving Tank (No. 4 SDT) at its Fernandina Beach mill. The No. 4 SDT receives smelt from the No. 4 Recovery Boiler. Weak wash is added to the tank to produce green liquor for the causticizing system. A flow diagram of the existing process is presented in Figure A-1.

The existing No. 4 SDT has a demister pad to control particulate matter (PM) emissions. This demister pad will be replaced with a venturi scrubber for control of TRS emissions. No changes are being made to the smelt dissolving tank itself. The permitted capacity of the No. 4 SDT is 56,513 lb/hr smelt, as reflected in the current operating permit (AO45-107514). A flow diagram of the Smelt Dissolving Tank and proposed scrubber is presented in Figure A-2.

The scrubber manufacturer has not yet been selected, and therefore generic scrubber design information and requirements are presented in Attachment B. The selected scrubber will be equivalent to or better than the generic scrubber. The generic scrubber design is similar to the scrubber now being used on the No. 5 SDT at CCA. This scrubber has demonstrated the ability to meet the TRS and particulate emission requirements, and is therefore proposed for use on the No. 4 SDT.

The existing stack on the smelt dissolving tank will still be utilized with the new scrubber. As such, sampling ports are provided on the Smelt Dissolving Tank stack in accordance with FAC Rule 17-2.700(4)(c) to allow stack sampling to be properly conducted.

Rule 17-2.600(4)(c)4 requires that smelt dissolving tank vents comply with Rule 17-2.710, Continuous Monitoring Requirements. Rule 17-2.710(3), General Requirements-Kraft (Sulfate) Pulp Mills, does not require a continuous TRS emission monitoring system be installed on smelt dissolving tanks. Therefore, Rule 17-2.710(3)(c) requires that the source owner or

operator develop a surrogate test parameter to be used to demonstrate that the source is complying with the TRS emission standard. CCA will develop the surrogate test parameter and rationale for selection of the parameter and submit a surrogate test protocol as part of the air operating permit application for the smelt dissolving tank.

ATTACHMENT B
SCRUBBER DESIGN INFORMATION

A scrubber manufacturer has not yet been selected, therefore specific design information is not available, and generic design data are presented. The scrubber will utilize weak wash as the scrubbing medium. A recycle tank will be used to recycle the scrubber water. Spent scrubbing liquid will be sent to the smelt dissolving tank. The scrubber will contain a venturi impactor section of the flooded elbow type, followed by a cyclonic entrainment separator.

OPERATING CONDITIONS

Gas Inlet Volume (Design Capacity)	50,000 ACFM
Gas Inlet Temperature	165°F
Inlet Dust Loading (max)	1.0 gr/ACF
Inlet TRS Loading (max)	800 ppm
Gas Outlet Volume (max)	49,500 ACFM
Gas Outlet Temperature	142°F (saturated)
Pressure Drop across Scrubber	10-11" w.c.
Water Rate recycled	300-350 GPM @ 3 to 5 PSIG
Make Up Water Rate	10 to 12 GPM
Scrubber Inlet Particulate Loading (max)	428.6 lb/hr
Scrubber Outlet Particulate Loading (max)	28.5 lb/hr
Scrubber Inlet TRS Loading (max)	187 lb/hr
Scrubber Outlet TRS Loading (max)	2.2 lb/hr
Scrubbing Liquid	Weak Wash

The scrubber must achieve, as a minimum, the maximum emission rates as shown in Attachment C. These are 28.5 lb/hr for particulate matter and 2.20 lb/hr for TRS. The scrubber removal efficiency required to achieve these emission levels at maximum capacity are based upon the uncontrolled emissions shown above:

Particulate matter removal efficiency:

$$[(428.6 \text{ lb/hr} - 28.5 \text{ lb/hr}) / 428.6 \text{ lb/hr}] \times 100 = 93.4\%$$

TRS removal efficiency:

$$[(187 \text{ lb/hr} - 2.20 \text{ lb/hr}) / 187 \text{ lb/hr}] \times 100 = 98.8\%$$

ATTACHMENT C
EMISSION ESTIMATES

I. PARTICULATE MATTER

Maximum PM (TSP) emissions from the Smelt Dissolving Tank are based upon the permitted level of 28.5 lb/hr and 122.0 TPY contained in the current operating permit for the source (A045-107514). This limit is based upon the Process Weight Table regulation (FAC Rule 17-2.610(1) and a process input rate of 56,513 lb/hr (28.26 TPH) smelt.

II. TOTAL REDUCED SULFUR

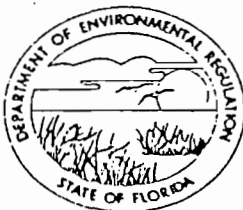
TRS emissions from the Smelt Dissolving Tank are limited by FAC Rule 17-2.600(4)(c)4 to 0.0480 lb/3000 lb BLS fed to the associated recovery boiler. The maximum BLS flow to the No. 4 Recovery Boiler is limited by permit A045-107514 to 137,500 lb BLS/hr.

$$137,500 \text{ lb/hr} \times 0.0480 \text{ lb/3,000 lb BLS} \\ = 2.20 \text{ lb/hr}$$

$$2.20 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 9.64 \text{ TPY}$$

DEPARTMENT OF ENVIRONMENTAL REGULATION

DER



AC 45-141877

NOV 12 1987

BAQM

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Lime Kiln [] New¹ [] Existing¹

APPLICATION TYPE: [] Construction [] Operation [] Modification

COMPANY NAME: Container Corporation of America COUNTY: Nassau

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

SOURCE LOCATION: Street North Eighth Street City Fernandina Beach

UTM: East (17) 456.2 North 3394.2

Latitude 30 ° 40 ' 53 "N Longitude 81 ° 27 ' 26 "W

APPLICANT NAME AND TITLE: Paul J. Magnell, General Manager

APPLICANT ADDRESS: North Eighth Street, Fernandina Beach, Florida 32034

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

Container Corporation of America

I am the undersigned owner or authorized representative* of _____

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: *Paul Magnell*

Paul J. Magnell, General Manager
Name and Title (Please Type)

Date: 11-11-87 Telephone No. (904) 261-5551

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

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 David A. Buff

David A. Buff

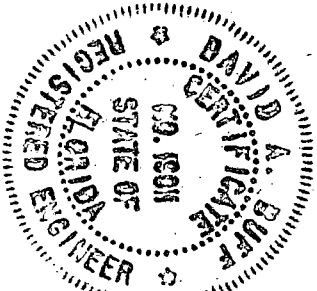
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.

Company Name (Please Type)

P.O. Box 14288, Gainesville, Florida 32604

Mailing Address (Please Type)



Florida Registration No. 19011 Date: 11/9/87 Telephone No. (904) 375-8000

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 existing lime kiln and causticizing system will be replaced by one large kiln and a new causticizing system. The project will result in significantly increased fuel efficiency and a significant reduction in most pollutants.

See Attachment A for details.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1988 Completion of Construction November 1990

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.)

\$16,000,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Not Applicable

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
if power plant, hrs/yr _____ ; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No)

- 1. Is this source in a non-attainment area for a particular pollutant? No
 - a. If yes, has "offset" been applied? _____
 - 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. No
- 3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement 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? Yes
- 5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No

- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? No
 - a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

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 mud	Particulate	100	93,749	(1)

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

1. Total Process Input Rate (lbs/hr): 93,749

2. Product Weight (lbs/hr): 52,500

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed ² Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual I/yr			lbs/hr	I/yr	
PM(TSP)	43.5	190.5	0.13 gr/dscf*	43.5**	43.5	190.5	(2)
PM10	38.5	168.6	NA	NA	38.5	168.6	(2)
TRS	2.63	11.52	NSPS-8ppm*	2.63	2.63	11.52	(2)
SO ₂	26.8	117.4	NA	NA	26.8	117.4	(2)
NO _x	187.7	822.1	NA	NA	187.7	822.1	(2)

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* Corrected to 10% O₂.

** This level of emissions is proposed by applicant and is lower than that required by FAC 17-2 or by federal NSPS.

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		

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

1. Total Process Input Rate (lbs/hr): _____
2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
CO	78.8	29.9	NA	NA	78.8	29.9	(2)
VOC	15.2	44.9	NA	NA	15.2	44.9	(2)
PM(TSP) - fugitive	0.89	3.9	NA	NA	0.89	3.9	Kiln leaks
PM10-fugitive	0.15	0.7	NA	NA	0.15	0.7	Kiln leaks

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Electrostatic Precipitator (vendor not yet selected)	Particulate	99.5%	Submicron and above	See Att. D

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No.6 Fuel Oil	1176.8 gal/hr	1176.8 gal/hr	170.63

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis: No.6 Fuel Oil

Percent Sulfur: 3.0% Max Percent Ash: 0.1% Typical

Density: 8.1 lbs/gal Typical Percent Nitrogen: 0.9% Typical

Heat Capacity: 17,901 BTU/lb 145,000 BTU/gal

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

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum _____

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

Dust collected in ESP will be injected back into kiln.

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

Stack Height: 75 ft. Stack Diameter: 5.5 ft.
 Gas Flow Rate: 79,500 ACFM 40,105 DSCFM Gas Exit Temperature: 325 °F.
 Water Vapor Content: 25 % Velocity: 55.8 FPS

SECTION IV: INCINERATOR INFORMATION
 NOT APPLICABLE

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____
 Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____
 Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____
 Manufacturer _____
 Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____
 Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
SEE ATTACHMENT A
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.
SEE ATTACHMENT B
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
SEE ATTACHMENT B
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
SEE ATTACHMENT D
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).
SEE ATTACHMENT D
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
SEE ATTACHMENT A
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
SEE ATTACHMENT A
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

ATTACHED

- 9. The appropriate application fee in accordance with Rule 17-4.05. 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
NOT APPLICABLE

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: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height:

ft.

b. Diameter:

ft.

c. Flow Rate:

ACFM

d. Temperature:

°F.

e. Velocity:

FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Devices:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

- b. (1) Company:
- (2) Mailing Address:
- (3) City: (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION
NOT APPLICABLE

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No

b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

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 of 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.

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.

ATTACHMENT A
PROJECT DESCRIPTION

I. PROJECT DESCRIPTION

Container Corporation of America (CCA), located in Fernandina Beach, Florida, produces kraft pulp. The proposed project consists of the replacement of major components of the existing causticizing system, including installation of a new lime kiln of 630-TPD lime product capacity. Non-condensable TRS gases from several sources at the CCA mill will be collected and burned in the lime kiln for destruction of the TRS. The project will result in full compliance with the State of Florida TRS regulations.

The project includes replacement of two existing lime burning units with one new large, energy-efficient oil-fired lime kiln. This new kiln will yield a significant fuel savings in terms of Btu per ton of lime product--roughly 70% of the old kilns fuel usage rate. This large fuel savings also will result in a benefit to the environment--much less pollutants from combustion of fuel are produced per ton of lime produced. TRS emissions (odor) from the existing kilns, will be reduced by about 96% as a result of the project.

The process flow diagram (Figure A-1) details the flow of materials and air emission points. The new causticizing system will consist of the following:

1. The existing green liquor clarifiers will feed two new green liquor heaters. A new dregs filter will support the existing green liquor clarifiers.
2. Two new slaking lines, each consisting of a slaker and three causticizers, will replace the existing slaking line. The new slaking lines will each be equipped with condensing scrubbers to control particulate emissions from the slakers and causticizers.
3. The existing white liquor clarifiers and lime mud washers (two stages) will be used in the new system. The lime mud washers

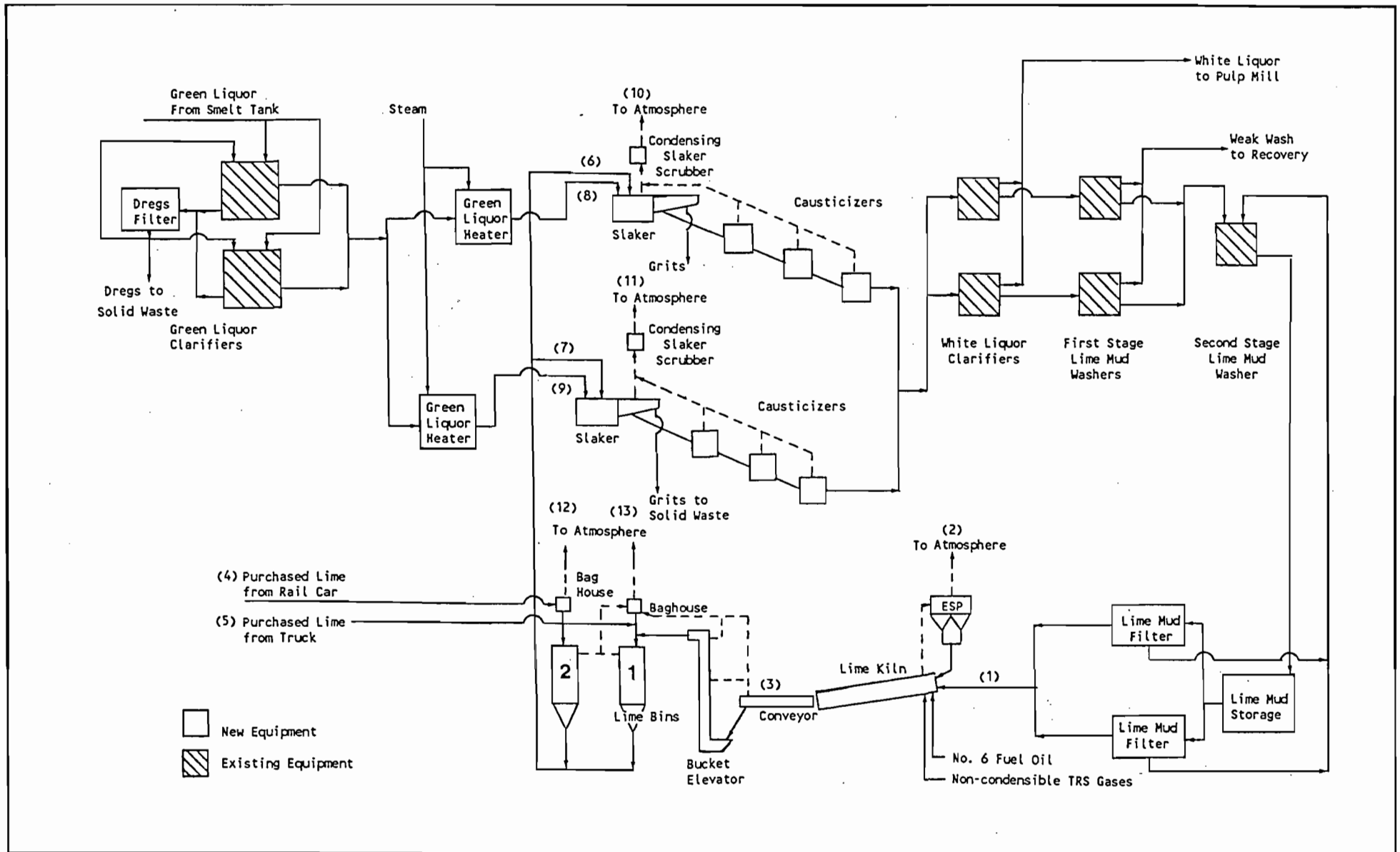


Figure A-1. Flow Diagram of Proposed CCA Causticizing System



will feed into a new lime mud storage tank, and then into two new lime mud filters. The lime mud filters will feed the new lime kiln.

4. The two existing lime kilns, each equipped with venturi scrubbers (total permitted lime product capacity of approximately 390 TPD), will be replaced by a single 630-TPD lime product kiln (No. 4 Lime Kiln) which will be equipped with an electrostatic precipitator for particulate control. The kiln will be fired with No. 6 fuel oil with a sulfur content not to exceed 3.0%.

5. Non-condensable TRS gases from several sources at the mill will be incinerated in the new kiln. These sources will consist of the following:

- * Batch digesters
- * Kamyr digesters
- * No. 5 Multiple Effect Evaporators
- * No. 6 Multiple Effect Evaporators

Non-condensable TRS gases from the No. 6 Multiple Effect Evaporator system are currently incinerated in the No. 3 Lime Kiln. The other TRS sources identified above currently vent directly to the atmosphere. The incineration of non-condensable TRS gases from these sources will result in full compliance with the State of Florida TRS rules.

6. The two existing causticizing lime bins, currently uncontrolled, will be replaced by two new causticizing lime bins, each controlled by a dust filter. One lime bin (Lime Bin #1) will receive lime from the kiln by bucket elevator, and will also receive purchased lime by truck through pneumatic conveyors. The filter on this lime bin will also be used to control particulate emissions from the lime conveyor and bucket elevator. Three pick-up points are provided to maintain a negative draft on the conveying system. The second

lime bin (Lime Bin #2) will receive lime from trucks and railcars. This lime bin is also controlled by a filter. Lime from the lime bins will be transferred to the lime slakers through an enclosed system.

A plot plan of the CCA mill, depicting the location of the new lime kiln and causticizing system, is presented in Figure A-2.

This air construction permit application addresses the new No. 4 Lime Kiln. In addition, a Prevention of Significant Deterioration (PSD) source applicability analysis is presented, which quantifies emissions of regulated pollutants from the new sources and from the existing sources which will be shut down. A companion air construction permit application addresses minor source emissions from the proposed project.

II. PSD SOURCE APPLICABILITY DETERMINATION

The CCA plant is an existing major stationary source under PSD regulations since it currently emits regulated pollutants in quantities greater than 100 tons per year (TPY). As described in Section I, the proposed project will involve construction of new facilities and shutdown of certain existing equipment. Estimated emissions from the proposed No. 4 Lime Kiln are presented in Attachment B. Attachment A of the companion air construction permit application provides estimated emissions for other equipment associated with the project (i.e., lime bins and slakers). The emission offsets provided by the existing sources to be shut down are detailed in Attachment C of this application. Emission estimates for those sources to be shutdown are based upon actual operation during years 1986 and 1987. Emission estimates for new sources are based upon maximum anticipated operating rates. Documentation supporting all calculations, emission factors, and assumptions in arriving at the emissions estimates are presented in the attachments.

Presented in Table A-1 is a summary of the contemporaneous emission increases and decreases at the CCA plant for the new sources and

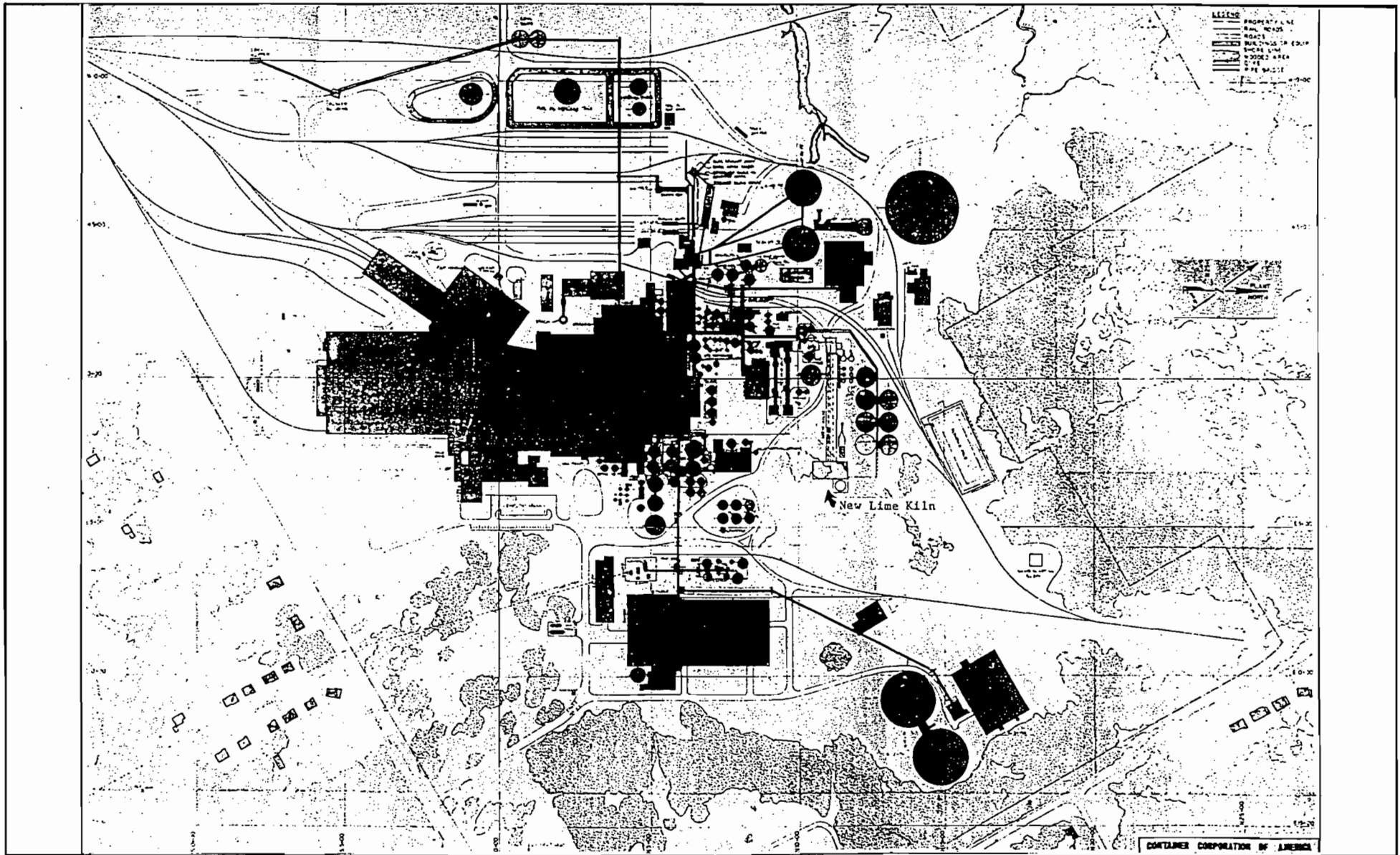


Figure A-2. Plot Plan of CCA Mill



sources to be shutdown. There have been no other contemporaneous increases occurring over the last five years at CCA. As shown in Table A-1, the net emissions change due to the proposed project does not trigger PSD new source review. Unused contemporaneous emissions reductions remain for several pollutants which are available for future use by CCA.

III. NSPS APPLICABILITY

The new lime kiln is subject to and will comply with NSPS under 40 CFR 60, Subpart BB. The kiln is subject to the following emission limitations under NSPS.

Particulate matter	0.13 gr/dscf, corrected to 10 percent oxygen, for liquid fossil fuel burning.
Total reduced sulfur	8 ppm by volume on a dry basis, corrected to 10 percent oxygen.

CCA will comply with the NSPS requirements to:

1. Install, calibrate, maintain, and operate a TRS continuous emissions monitor and an oxygen monitor for the lime kiln exhaust gases. The monitors will be located downstream of the control device for the lime kiln [40 CFR 60.284(a)(2)].
2. Perform daily TRS emission rate calculations and report any excess emissions based upon 40 CFR 60.284.
3. Utilize current particulate matter and TRS test methods as specified in FAC Chapter 17-2.
4. Install stack sampling access and ports for the No. 4 Lime Kiln in conformance with FAC Chapter 17-2.700(4).

Table A-1. Summary of Net Emissions, Container Corporation of America Causticizing Project

Source	Annual Emissions (TPY)						
	PM	PM10	SO ₂	TRS	CO	NO _x	VOC
<u>PSD SIGNIFICANCE LEVEL</u>	25	15	40	10	100	40	40
<u>EMISSIONS FROM EXISTING SOURCES TO BE SHUT DOWN</u>							
No. 2 and 3 Lime Kilns	156.5	153.9	111.4	280.7	25.7	835.9	27.0
Kiln Leaks	23.7	4.0	-	-	-	-	-
Slakers	9.4	8.8	-	-	-	-	-
Lime Conveying, Transfer & Storage	16.5	6.0	-	-	-	-	-
	182.4						
Subtotal	206.1	172.7	111.4	280.7	25.7	835.9	27.0
TOTAL EMISSIONS AVAILABLE FOR NEW SOURCES WITHOUT CAUSING PSD REVIEW	231.1	187.7	151.4	290.7	125.7	875.9	67.0
<u>PROPOSED NEW SOURCES</u>							
	190.0						
No. 4 Lime Kiln	190.5	168.6	117.4	11.5	29.9	822.1	44.9
Kiln Leaks	3.9	0.7	-	-	-	-	-
Lime Slakers	8.8	8.3	-	-	-	-	-
Lime Bin #1	5.3	5.3	-	-	-	-	-
Lime Bin #2	3.2	3.2	-	-	-	-	-
	207.3	207.8					
Subtotal	211.7	186.1	117.4	11.5	29.9	822.1	44.9
<u>UNUSED CONTEMPORANEOUS EMISSIONS REDUCTIONS AVAILABLE FOR FUTURE USE</u>	19.4	1.6	34.0	279.2	95.8	53.8	22.1

The sources included in the companion permit application will have controls as described in the application, which will meet applicable standards and will be tested with appropriate methods if required by FDER. Total particulate emissions from these sources are insignificant (17.3 TPY). It is therefore expected that routine testing will not be required for these sources.

IV. DERIVATION OF PROCESS RATE

Basis: Maximum Product rate = 630 TPD lime product (dry)
= 26.25 TPH = 52,500 lb/hr (dry)

To be conservative, assume the product is 100 percent CaO and all dust lost is recycled back into the kiln.

Calculate lime mud feed/ton product:

2,000 lb lime/ton product x (100 lb CaCO₃/56 lb CaO)
= 3,571.4 lb lime mud feed/ton product

Lime mud feed = 26.25 TPH product x 3,571.4 lb feed/ton product
= 93,749 lb/hr (dry)
= 46.87 TPH (dry)

ATTACHMENT B

EMISSION CALCULATIONS

PROPOSED NEW LIME KILN

I. PARTICULATE MATTER

A. PM(TSP)

PM(TSP) represents total particulate matter emissions from the lime kiln. The NSPS for lime kilns at kraft pulp mills (40 CFR 60, Subpart BB) is 0.130 gr/dscf, corrected to 10% O₂, when burning fuel oil. The NSPS level will not be exceeded by the new kiln. In addition, mass PM(TSP) emissions from the kiln will not exceed 43.5 lb/hr at any time.

Annual PM(TSP) emissions are calculated as follows:

$$43.5 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 190.5 \text{ TPY}$$

B. PM10

PM10 emissions represent that fraction of PM(TSP) which has an aerodynamic particle size diameter of 10 um and less. AP-42, Section 10.1, Chemical Wood Pulping (10/86), contains information related to PM10 emissions from lime kilns controlled by an electrostatic precipitator. The AP-42 data show that PM10 emissions represent 88.5% of PM(TSP) emissions.

$$\text{Maximum hourly emissions} = 43.5 \text{ lb/hr} \times 0.885 = 38.5 \text{ lb/hr}$$

$$\text{Maximum annual emissions} = 190.5 \text{ TPY} \times 0.885 = 168.6 \text{ TPY}$$

II. TOTAL REDUCED SULFUR

Maximum emissions are based upon the NSPS for lime kilns at kraft pulp mills (40 CFR 60, Subpart BB): 8 ppm by volume, dry basis, corrected to 10% O₂.

Maximum flue gas flow rate at maximum lime production rate of 630 TPD (26.25TPH)

$$= 79,500 \text{ acfm @ } 325^{\circ}\text{F (785}^{\circ}\text{R)}, 25\% \text{ H}_2\text{O}, 4\% - 6\% \text{ O}_2$$

$$\text{Correct to dscfm: } 79,500 (1-0.25)(528^{\circ}\text{R}/785^{\circ}\text{R}) = 40,105 \text{ dscfm}$$

Equate NSPS level at 10% O₂ to actual oxygen level in exhaust gases:

$$C_{\text{corr}} = C_{\text{act}} [(21 - X)/(21 - Y)]$$

$$X = \text{corrected O}_2 = 10\%$$

$$Y = \text{actual O}_2 = 4\% \text{ (minimum O}_2 \text{ results in maximum concentration)}$$

$$C_{\text{corr}} = C_{\text{act}} [(21-10)/(21-4)] = 0.647 C_{\text{act}}$$

$$C_{\text{act}} = C_{\text{corr}}/0.647$$

$$C_{\text{act}} = 8 \text{ ppm}/0.647 = 12.4 \text{ ppm}$$

Maximum flow rate = 40,105 dscfm

$$PVC = mRT \quad m = PVC/RT$$

$$R = 1,545 \text{ ft-lb}_f/\text{lb}_{\text{mole}}\text{-}^\circ\text{R}$$

$$\text{Molecular weight TRS (as H}_2\text{S)} = 34 \text{ lb}_m/\text{lb}_{\text{mole}}$$

$$R = 45.44 \text{ ft-lb}_f/\text{lb}_m\text{-}^\circ\text{R}$$

$$C = 12.4 \text{ ppm}$$

$$m = \frac{2116.8 \text{ lb}_f}{\text{ft}^2} \times \frac{40,105 \text{ ft}^3}{\text{min}} \times \frac{12.4}{10^6} \times \frac{1 \text{ lb}_m\text{-}^\circ\text{R}}{45.44 \text{ ft-lb}_f} \times \frac{1}{(528)^\circ\text{R}} \times \frac{60 \text{ min}}{\text{hr}}$$

$$= 2.63 \text{ lb/hr TRS as H}_2\text{S}$$

$$2.63 \text{ lb/hr} \times \frac{8736}{8,760 \text{ hr/yr}} / 2,000 \text{ lb/ton} = 11.52 \text{ TPY TRS as H}_2\text{S}$$

11.48 ⇒ 11.5

III. SULFUR DIOXIDE

The new lime kiln will incorporate several features that will result in greater absorption of SO₂ within the kiln, as compared to the existing lime kiln. These features include:

- * A much greater length to diameter ratio (27.1 for the new kiln versus 14.8 for the existing kilns), which provides increased surface area of lime mud exposed to the kiln gases.
- * Improved tumblers in the new kiln, also providing increased exposure of kiln gases to the material in the kiln.
- * Increased retention time of material in the kiln (4 hours on the new kiln versus 2 hours on the existing kilns), thereby increasing the time available for SO₂ absorption.

- * Increased energy efficiency of the new kiln (6.5×10^6 Btu/ton lime for the new kiln versus 9.5×10^6 Btu/ton lime on the existing kilns).

Based upon these design considerations, it is expected that the new kiln will achieve lower SO₂ emissions than the existing kilns on a per ton of lime produced basis. An SO₂ emission factor of 0.2 lb/ton ADP produced is considered a maximum for the new kiln, compared to 0.3 lb/ton ADP for the existing kilns.

The digesting systems at CCA are designed for a total pulp production of 3,210 TPD ADP (1,391 TPD from the batch digester and 1,819 TPD from the Kamyr digester).

$$\begin{aligned} \text{Maximum hourly SO}_2 &= 3,210 \text{ TPD} / 24 \text{ hr/day} \times 0.2 \text{ lb/ton} \\ &= 26.8 \text{ lb/hr} \end{aligned}$$

$$26.8 \text{ lb/hr} \times 8,736 \text{ hr/yr} / 2,000 \text{ lb/ton} = 117.4 \text{ TPY}$$

117.06 ⇒ 117.1

IV. NITROGEN OXIDES

Emissions of NO_x from the new kiln were based upon the same emission factor equation as used to calculate NO_x from the existing lime kilns. The equation was taken from a study performed by NCASI on lime kilns at pulp mills. The study found a linear relationship between NO_x emissions and combustion zone temperature over the range of 1,850°F to 2,250°F. The relationship is expressed according to the following equation:

$$1 \text{ lb NO}_x / 10^6 \text{ Btu} = [2.17 \times 10^{-3} \times T(^{\circ}\text{F})] - 3.58$$

For a more complete discussion of this study and the applicability of the emission factor equation, refer to Attachment C regarding NO_x emission estimates for the existing kilns at CCA.

The design combustion zone temperature for the new lime kiln is 2,150°F. Substituting this temperature into the above equation yields an emission factor of 1.1 lb/10⁶ Btu. Heat input to the new kiln will be a maximum of 170.63 x 10⁶ Btu/hr, based upon a maximum lime production rate of 630 TPD (26.25 TPH) and a maximum heat rate of 6.5 x 10⁶ Btu/ton of lime produced.

$$\begin{aligned} \text{Maximum hourly NO}_x \text{ emissions} &= 170.63 \times 10^6 \text{ Btu/hr} \times 1.1 \text{ lb}/10^6 \text{ Btu} \\ &= 187.7 \text{ lb/hr} \\ \text{Maximum annual NO}_x &= 187.7 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} \\ &= 822.1 \text{ TPY} \end{aligned}$$

819.87 = 819.9

V. CARBON MONOXIDE

Maximum annual emissions of CO from the new lime kiln were based upon the same emission factor used to estimate CO from the existing kilns (0.04 lb/10⁶ Btu). This factor was taken from an NCASI study on CO emissions from lime kilns at pulp mills (Technical Bulletin No. 416) and represents an average emission level. It is therefore considered appropriate for annual emission calculations.

$$\begin{aligned} \text{Maximum annual heat input to kiln} &= 170.63 \times 10^6 \text{ Btu/hr} \times 8,760 \text{ hr/yr} \\ &= 1.495 \times 10^{12} \text{ Btu/yr} \\ \text{Annual emissions} &= 1.495 \times 10^{12} \text{ Btu/yr} \times 0.04 \text{ lb}/10^6 \text{ Btu} / 2,000 \text{ lb/ton} \\ &= 29.9 \text{ TPY} \end{aligned}$$

29.82 = 29.8

The maximum 1-hour CO emission rate measured during the NCASI study on the two kilns where adequate data were obtained (Kilns A and B) was approximately 3.0 lb/ton lime produced. This emission factor and the maximum lime production rate of 26.25 TPH was used to estimate the maximum 1-hour CO emission rate from the new kiln.

$$26.25 \text{ TPH lime} \times 3.0 \text{ lb/ton} = 78.8 \text{ lb/hr}$$

VI. VOLATILE ORGANIC COMPOUNDS

Maximum emissions of VOC from the new kiln were based upon a NCASI study (Technical Bulletin No. 358, "A Study of Kraft Process Lime Kiln Total Gaseous Non-Methane Organic Emissions"). Of the three kilns tested in this study, Kilns A and C were considered most representative of the proposed new lime kiln. All three kilns were equipped with wet scrubbers for particulate control. Kilns A and C used fresh water, but Kiln B had high organic levels in the lime mud and scrubber water. Kiln B burned only natural gas, while Kiln A burned oil and gas and

Kiln C burned only oil. Thus, Kiln B emissions were considered unrepresentative of the proposed CCA kiln.

Kilns A and C exhibited average VOC emissions of 0.060 and 0.024 lb/10⁶ Btu, respectively. The higher level of 0.060 lb/10⁶ Btu was used to estimate annual emissions from the new kiln.

$$1.495 \times 10^{12} \text{ Btu/yr} \times 0.060 \text{ lb/10}^6 \text{ Btu} / 2,000 \text{ lb/ton} = 44.9 \text{ TPY}$$

44.73 ⇒ 44.7

The maximum 1-hour VOC emission rate was based upon the highest measured emission rate when burning oil in either Kiln A or C from the NCASI study. This emission rate was 0.089 lb/10⁶ Btu.

$$\begin{aligned} \text{Maximum heat input for new kiln} &= 170.63 \times 10^6 \text{ Btu/hr} \\ 170.63 \times 10^6 \text{ Btu/hr} \times 0.089 \text{ lb/10}^6 \text{ Btu} &= 15.2 \text{ lb/hr} \end{aligned}$$

VII. KILN LEAKS

A. PM(TSP)

The seals at the ends of the new kiln and at the I.D. fan will be much improved over those on the existing kilns. For the existing kilns, kiln leaks were estimated to be 1/1000 of the total air flow from the kiln. Air leakage from the new kiln is estimated to be at least a factor of 10 lower than the existing kilns, or 1/10,000 of the total air flow through the new kiln.

$$\text{Maximum air flow through new kiln} = 40,105 \text{ dscfm}$$

$$\text{Maximum kiln air leakage} = 40,105 / 10,000 = 4 \text{ dscfm}$$

$$\text{Kiln outlet dust loading} = 26 \text{ gr/dscf}$$

$$\begin{aligned} \text{PM(TSP) emissions} &= 4 \text{ dscfm} \times 26 \text{ gr/dscf} / 7,000 \text{ gr/lb} \times 60 \text{ min/hr} \\ &= 0.89 \text{ lb/hr} \end{aligned}$$

$$0.89 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 3.9 \text{ TPY}$$

B. PM10

PM10 emissions represent that fraction of PM(TSP) which has an aerodynamic particle size diameter of 10 um and less. AP-42, Section 10.1, Chemical Wood Pulping (10/86), contains information related to uncontrolled emissions from lime kilns. The AP-42 data

Based on engineering estimates

show that PM10 emissions represent 16.8% of uncontrolled PM(TSP) emissions.

$$0.89 \text{ lb/hr} \times 0.168 = 0.15 \text{ lb/hr}$$

$$3.9 \text{ TPY} \times 0.168 = 0.7 \text{ TPY}$$

ATTACHMENT C

**ESTIMATION OF CONTEMPORANEOUS
EMISSIONS REDUCTIONS FROM
EXISTING SOURCES TO BE SHUTDOWN**

Rationale for Selection of Representative Period

Actual emissions from existing sources to be shutdown must be determined in order to define the contemporaneous creditable emission reduction from these sources. "Actual emissions" is defined in Florida Administrative Code (FAC), Chapter 17-2.100(2) as:

The actual rate of emission of a pollutant from a source as determined in accordance with the following provisions:

- a) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the source actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of the normal operation of the source.

The Department may allow the use of a different time period upon a determination that it is more representative of the normal operation of the source. Actual emissions shall be calculated using the source's actual operating hours, production rates and types of materials processed, stored, or combusted during the selected time period.

In the proposed CCA project, the existing lime kilns and causticizing system will be shut down when the new lime kiln and new causticizing system are fully operational. Therefore, the most recent two years of operation for these sources were reviewed to determine if this time period is "representative of the normal operation of the source."

The CCA mill in Fernandina Beach produces linerboard. In order to determine a representative time period which reflects actual emissions from the existing lime kilns and causticizing system, linerboard production records were reviewed. Lime kiln operation will generally parallel linerboard production, although this may deviate somewhat from year to year due to lime kiln availability, volume of purchased lime and other mill operating parameters. Linerboard production at CCA for 1984 through 1986, and the projected 1987 production (based upon actual production through September 1987), are presented below:

<u>Year</u>	<u>Linerboard Production</u>	
	<u>(Avg.TPD)</u>	<u>(Total Tons)</u>
1984	1748	638,020
1985	1331	485,815
1986	1715	625,975
1987	2035	742,897

As indicated, 1984 and 1986 were similar in terms of production, while 1985 was a low production year. The low production in 1985 was due to two paper machines being down; therefore, 1985 is considered unrepresentative of normal source operation.

A significant increase in production has occurred in 1987 due to favorable market conditions. Based upon plant production, 1987 is considered the most representative year indicative of current actual emissions. Therefore, the year 1987 was used as the basis of actual emissions for the existing lime kilns and causticizing system. However, for many of the calculations, data from calendar year 1986 were used because 1987 data were not yet available.

I. **EXISTING LIME KILNS**

A. Particulate Matter (TSP)

Actual particulate matter (total suspended particulate) [PM(TSP)] emissions from No. 2 and No. 3 Lime Kilns were reported in the 1986 Annual Operation Report to be 73 TPY and 83.5 TPY, respectively, for a total of 156.5 TPY from both kilns.

B. Particulate Matter (PM10)

Emissions of particulate matter having aerodynamic particle size diameters of 10 um and less (PM10) were estimated based upon particle sizing data contained in USEPA Publication AP-42, Section 10.1, Chemical Wood Pulping (10/86). AP-42 presents information which shows that lime kilns with venturi scrubbers produce PM emissions with 98.3% of the mass having particle sizes of 10 um or less. The existing kilns at CCA are controlled by venturi scrubbers. Based upon this information, PM10 emissions were estimated as follows:

$$\text{No. 2 Lime Kiln} - 73.0 \text{ TPY} \times 0.983 = 71.8 \text{ TPY}$$

$$\text{No. 3 Lime Kiln} - 83.5 \text{ TPY} \times 0.983 = 82.1 \text{ TPY}$$

$$\text{Total} = 71.8 + 82.1 = 153.9 \text{ TPY}$$

C. Total Reduced Sulfur (TRS)

Two approaches were used to estimate actual TRS emissions from the No. 2 and No. 3 Lime Kilns. The first approach uses the published TRS emission factor for lime kilns, USEPA Publication AP-42, "Compilation of Air Pollutant Emission Factors" Fourth Edition, (updated through Supplement A, October 1986). The AP-42 factor, from Section 10.1, Chemical Wood Pulping, is in terms of lb/ton of air dried unbleached pulp (ADUP). A factor of 0.5 lb/ton for H₂S and 0.2 lb/ton for RSH is given for lime kilns (applicable to lime kilns with wet scrubbers for PM control). Adding these two factors together yields a TRS emission factor of 0.7 lb/ton. Since this factor is in terms of tons of ADUP produced by the mill, applying the factor yields the total TRS emissions from both lime kilns at

the mill. Using the 1987 production data, actual TRS emissions are calculated as follows:

$$742,897 \text{ tons/yr ADUP} \times 0.7 \text{ lb/ton} / 2,000 \text{ lb/ton} = 260.0 \text{ TPY}$$

The second approach utilized measurements of TRS emissions conducted by GCA on the lime kilns. These tests have indicated from 200 ppm to 600 ppm TRS in the kiln exhaust gases. Using gas flow rate data from the most recent (January 1987) PM compliance tests conducted on the kilns, actual TRS emissions were calculated in terms of lb/ton of lime mud input. For purposes of this calculation, a TRS level of 300 ppm was assumed, although the test data indicate TRS levels can range up to 600 ppm. The TRS emission factor calculated from the compliance tests was then applied to the 1986 annual lime mud input to each kiln.

The calculation is based upon the ideal gas relationship: $PVC = mRT$

$$m = PVC/RT$$

where, $P = 2,116.8 \text{ lb}_f/\text{ft}^2$

$V = \text{volume of gas (acfm)}$

$m = \text{mass of TRS (lb/hr)}$

$C = \text{concentration of TRS (300 ppm)}$

$R = \text{ideal gas constant, which for TRS (as H}_2\text{S) is (1545/34) ft-lb}_f/\text{lb}_m\text{-}^\circ\text{R}$

$T = \text{temperature of gas (}^\circ\text{R)}$

Compliance Test Data

<u>Lime Kiln</u>	<u>Test Date</u>	<u>Lime Mud (TPH)</u>	<u>Gas Flow (acfm)</u>	<u>Gas Temp. (°F)</u>	<u>TRS Emissions</u>	
					<u>(lb/hr)</u>	<u>(lb/ton)</u>
2	1-15-87	12.7	24,639	159	33.4	2.63
3	1-27-87	18.1	27,901	166	37.4	2.07

Actual TRS emissions:

No. 2 L.K. - 108,264 TPY lime mud x 2.63 lb/ton / 2,000 lb/ton
= 142.4 TPY

No. 3 L.K. - 133,632 TPY lime mud x 2.07 / 2,000 = 138.3 TPY

Totals - 142.4 + 138.3 = 280.7 TPY

This level of TRS emissions based upon 300 ppm TRS is in good agreement with emissions calculated from the AP-42 factor. The emissions based upon the TRS test results were therefore used as the appropriate estimate of actual TRS emissions from the kilns.

D. Sulfur Dioxide (SO₂)

Actual emissions of SO₂ were based upon emission factors in AP-42, Section 10.1, Chemical Wood Pulping (10/86). A factor of 0.3 lb/ton ADUP is given for lime kilns. This factor is based upon plant production, and therefore represents the total from all lime kilns at the plant. Applying this factor to the 1987 production data yields the following:

742,897 tons/yr ADUP x 0.3 lb/ton / 2,000 lb/ton = 111.4 TPY

E. Nitrogen Oxides (NO_x)

Emission factors for NO_x emissions from lime kilns are not presented in AP-42, Section 10.1, Chemical Wood Pulping. However, NCASI has conducted a study of NO_x emissions from lime kilns at pulp mills (Technical Bulletin No. 107). This bulletin was reviewed to determine an appropriate NO_x emission factor for the kilns at CCA.

Lime kilns at five (5) sites were studied by NCASI. The Site 1 and Site 2 lime kilns were oil fired and had rated capacities of 138 TPD lime and 250 TPD lime, respectively. CCA's lime kilns are also oil fired, and No. 2 Lime Kiln's capacity (approximately 135 TPD lime) is nearly identical to the kiln at Site 1. The No. 3 Lime Kiln's capacity (approximately 230 TPD lime) is nearly identical to the

kiln at Site 2. The Site 1 lime kiln exhibited average NO_x emissions of $0.85 \text{ lb}/10^6$ Btu heat input, while the Site 2 kiln exhibited average emissions of $0.155 \text{ lb}/10^6$ Btu.

A study of the relationship between NO_x emissions and combustion zone temperature was conducted on the kiln at Site 5. This kiln was gas fired and had a rated capacity of 125 TPD lime. The kiln exhibited a mean NO_x emission rate of $0.78 \text{ lb}/10^6$ Btu with a mean combustion zone temperature of 2053°F . NO_x emissions were found to vary linearly with combustion zone temperature over the range of 1850°F to 2250°F , according to the following equation:

$$1 \text{ lb } \text{NO}_x/10^6 \text{ Btu} = [2.17 \times 10^{-3} \times T(^{\circ}\text{F})] - 3.58$$

A high correlation coefficient of 0.965 was obtained based on the data.

The combustion zone temperature in the lime kilns at CCA are strictly maintained between 2250°F and 2300°F . Substituting the lower temperature into the above equation yields an NO_x emission rate of $1.30 \text{ lb}/10^6$ Btu.

The combustion zone temperatures of the kilns at Sites 1 and 2 of the NCASI study were not measured, thus no conclusion can be drawn concerning the representativeness of the NO_x emission rates measured from these two kilns. However, the dynamics of thermal NO_x generation demonstrate that NO_x emissions increase with increasing combustion zone temperature. In addition, an oil fired kiln will produce additional NO_x emissions from the nitrogen in the fuel oil as compared to natural gas fuel, which contains essentially no nitrogen. Because of this consideration and the indicated strong correlation of NO_x emissions with combustion zone temperature, the NO_x emission factor of $1.30 \text{ lb}/10^6$ Btu calculated using the equation developed by NCASI based upon gas firing was considered to be the most representative factor for the CCA kilns.

Heat input rates for the existing kilns at CCA were based upon recent fuel usage data for the kilns. In late 1986, an improved computerized kiln control system was installed which provides much better measurement of fuel burned in the kilns. The recent data show that the heat rate of the existing kilns averages 9.5×10^6 Btu/ton lime produced.

Actual NO_x emissions from the kilns are estimated based upon the measured heat rate, actual 1986 lime production, and the emission factor of $1.3 \text{ lb}/10^6 \text{ Btu}$:

Lime Production - No. 2 Lime Kiln = 60,530 tons

No. 3 Lime Kiln = 74,797 tons

Total = 135,327 tons

Total Heat input to Kilns = 135,327 tons $\times 9.5 \times 10^6$ Btu/ton
= 1.286×10^{12} Btu

NO_x emissions = 1.286×10^{12} Btu $\times 1.3 \text{ lb}/10^6 \text{ Btu} / 2,000 \text{ lb/ton}$
= 835.9 TPY

F. Carbon Monoxide (CO)

CO emissions from the No. 2 and No. 3 Lime Kilns were based upon NCASI Technical Bulletin No. 416, "Carbon Monoxide Emissions from Selected Combustion Sources Based on Short-Term Monitoring Records" (January 1984). This publication presented CO emission data from two lime kilns operating at pulp mills. Emissions from the two kilns were very similar, averaging 0.038 and $0.041 \text{ lb}/10^6$ Btu heat input. Based upon this information, a CO emission factor of $0.04 \text{ lb}/10^6$ Btu heat input was used to calculate actual emissions from CCA's two lime kilns.

Total heat input to kilns (see NO_x calculations)

= 1.286×10^{12} Btu

1.286×10^{12} Btu $\times 0.04 \text{ lb}/10^6 \text{ Btu} / 2,000 \text{ lb/ton} = 25.7 \text{ TPY}$

G. Volatile Organic Compounds (VOC)

AP-42 does not contain a VOC emission factor for lime kilns.

However, NCASI conducted a study of VOC (non-methane) emissions from kraft process lime kilns (Technical Bulletin No. 358, September 1981). Three kilns were tested - Kiln A and Kiln C were most like the existing kilns at CCA. Kiln A had a rated capacity of 106 TPD lime, while Kiln C was rated at 245 TPD lime.

Both used fresh water in venturi scrubbers for PM control. Both kilns exhibited similar VOC emissions; 0.060 lb/10⁶ Btu for Kiln A, and 0.024 lb/10⁶ Btu for Kiln C. The average value from these kilns, 0.042 lb/10⁶ Btu, was used as the basis for actual VOC emissions from the existing kilns at CCA. Based upon the total heat input calculated for the existing kilns (see NO_x calculations), VOC emissions are calculated as follows:

$$1.286 \times 10^{12} \text{ Btu} \times 0.042 \text{ lb}/10^6 \text{ Btu} / 2,000 \text{ lb/ton} = 27.0 \text{ TPY}$$

II. EXISTING KILN LEAKS

Inspection of the No. 2 and No. 3 Lime Kilns at CCA showed that leaks of exhaust gases occur at the cold end of the kilns, specifically at the kiln seal and the I.D. fan. Visible emissions of dust were observed at each of these points. Fugitive PM emissions were estimated for these leaks by first estimating the uncontrolled PM entrained in the exhaust gases, and then estimating the fraction of total kiln exhaust gases which leak through the seals and ductwork.

A. PM

Uncontrolled PM in the kiln exhaust gases were estimated using emission factors presented in AP-42, Section 8.15, Lime Manufacturing. This section presents an uncontrolled PM emission rate for rotary kilns of 350 lb/ton lime produced. Applying this factor to the total 1986 lime production from the two kilns yields the following:

No. 2 Lime Kiln production:	60,530 TPY
No. 3 Lime Kiln production:	<u>74,797 TPY</u>
Total:	135,327 TPY

Uncontrolled PM emissions:

$$135,327 \text{ TPY} \times 350 \text{ lb/ton} / 2,000 \text{ lb/ton} = 23,682 \text{ TPY}$$

who? The exhaust flows from each kiln is approximately 14,000 dscfm. It is estimated that the kiln leaks accounted for at least 1/1000 of the total gas flow, or 14 dscfm from each kiln. Therefore, the total fugitive PM emissions due to kiln leaks are 1/1000 of the total uncontrolled PM emissions entrained in the exhaust gas stream:

$$23,682 \text{ TPY} / 1,000 = 23.7 \text{ TPY}$$

B. PM10

AP-42, Section 10.1, Chemical Wood Pulping, presents particle size data for lime kilns. This section states that 16.8% of uncontrolled PM emissions from lime kilns are less than 10 um in diameter. Based

upon this information, PM10 emissions due to kiln leaks were
estimated as follows:

$$23.7 \text{ TPY} \times 0.168 = 4.0 \text{ TPY}$$

III. **EXISTING LIME SLAKERS**

There are two slakers at the CCA mill. These slakers are atmospheric hydrators and are uncontrolled. All lime produced from the two lime kilns is hydrated in the slakers. In addition, purchased lime is also processed by the hydrators.

A. PM

AP-42, Section 8.15, Lime Manufacturing, presents a PM emission factor of 0.1 lb/ton lime produced for atmospheric hydrators, or 0.125 lb/ton of lime feed to the hydrator. The emission factor based upon lime feed was used to estimate current actual emissions from the slakers. Lime production from the lime kilns in 1986, and actual purchased lime amounts for 1986 were also used.

Lime production - No. 2 Lime Kiln:	60,530 TPY
Lime production - No. 3 Lime Kiln:	74,797 TPY
Purchased lime:	<u>14,641 TPY</u>
Total:	149,968 TPY

$$149,968 \text{ TPY} \times 0.125 \text{ lb/ton} / 2,000 \text{ lb/ton} = 9.4 \text{ TPY}$$

B. PM10

Information related to the particle size distribution of PM emissions from slakers was not found in the available literature. Therefore, Appendix C.2 of AP-42 (10/86), Generalized Particle Size Distributions, was reviewed and was found to contain general particle size distribution data for hydration processes (Category 9). The particle size data indicates that PM10 emissions constitute approximately 94% of total PM emissions from hydration processes. These data are considered to be the best currently available to estimate PM10 emissions from the lime slakers. The calculation of PM10 emissions; based upon the total PM emissions, is presented below:

$$9.4 \text{ TPY} \times 0.94 = 8.8 \text{ TPY}$$

IV. EXISTING LIME BINS - CONVEYING, TRANSFER AND STORAGE

The CCA mill has two lime bins servicing the existing causticizing system. The No. 2 Lime Kiln has one lime bin, and the No. 3 Lime Kiln has one lime bin. The No. 3 Lime Kiln lime bin also receives all purchased lime. Visual inspection of the conveying, transfer and storage of lime from the kilns to the lime bins revealed several sources of fugitive dust. These sources, along with control systems (typically only enclosures), are identified below. The relative dustiness as observed from visible emissions of each source is indicated:

<u>Source</u>	<u>Control Technology</u>	<u>Relative Dustiness</u>	<u>Estimated Control Efficiency</u>
<u>No. 2 Lime Kiln</u>			
Kiln discharge	Enclosure	some dust observed	80%
Pan elevator transfer to bucket elevator	Enclosure	some dust observed	80%
Bucket elevator transfer to lime bin load chute	Enclosure	very dusty	70%
Lime Bin	Enclosure	no visible dust	90%
<u>No. 3 Lime Kiln</u>			
Kiln Discharge	Enclosure	some dust observed	80%
Pan elevator transfer to bucket elevator	Enclosure	very dusty	70%
Bucket elevator transfer to lime bin load chute	Enclosure	some dust observed	80%
Lime bin	Enclosure	no visible dust	90%
Purchased lime loading to lime bin	Enclosure	no visible dust	90%

The estimated control efficiencies presented above are based upon several literature sources which report that enclosures applied to material transfer operations result in control efficiencies ranging from 70% to 90% (refer to "Workbook on Estimation of Emissions and Dispersion Modeling for Fugitive Particulate Sources," Environmental Research & Technology, Inc., 1981).

Where no visible dust was observed, the control efficiency was assumed to be 90%; where some dust was observed, an efficiency of 80% was assumed; and for sources which were observed to be very dusty, a 70% efficiency was assumed.

Estimation of PM fugitive dust emissions from the lime transfer operations were performed using the generalized emission factor equation for a continuous drop operation contained in AP-42, Section 11.2.3, Aggregate Handling and Storage Piles.

The recommended equation for a continuous drop operation is as follows:

$$E = k (0.0018) \frac{s U H}{\left(\frac{M}{2}\right)^2} \text{ lb/ton}$$

where,

- E = emission factor
- k = particle size multiplier
- s = material silt content (%)
- U = mean wind speed (mph)
- H = drop height (ft)
- M = material moisture content (%)

The particle size multiplier, k, is 1.0 for total suspended particulate [PM(TSP)], and 0.37 for PM10. The moisture content (M) and silt content(s) of lime produced from the kilns is 0.5% and 60%, respectively. The mean wind speed, U, in Jacksonville is 8.6 mph. For each of the transfer operations, a drop height of 5 feet was used. This is appropriate for all of the transfer points except the discharge from the load chute to the lime bin, where the drop height is on the order of 15 feet. However, the 5 foot height was used to conservatively estimate fugitive dust emission from this source.

Utilizing the above data, fugitive dust emission factors are calculated as follows:

$$\text{PM(TSP)} = 1.0 (0.0018) \frac{\frac{60}{5} \frac{8.6}{5} \frac{5}{10}}{\left(\frac{0.5}{2}\right)^2} = 0.30 \text{ lb/ton}$$

$$\text{PM}_{10} = 0.37 (0.0018) \frac{\frac{60}{5} \frac{8.6}{5} \frac{5}{10}}{\left(\frac{0.5}{2}\right)^2} = 0.11 \text{ lb/ton}$$

Fugitive PM and PM₁₀ emissions from the existing causticizing system, based upon these factors and actual lime processed in 1986, are documented in Table C-3.

OLDFUGEM

Table C-3. Fugitive PM and PM10 Emissions From Existing Causticizing System

Source	Uncontrolled Emission Factor (lb/ton)	Control Efficiency (%)	Controlled Emission Factor (lb/ton)	Lime Processed (TPY)	Fugitive Emissions (TPY)
PM Emissions					

No. 2 Lime Kiln					
Kiln Discharge	0.30	80	0.0600	60,530	1.82
Pan elevator transfer to bucket elevator	0.30	80	0.0600	60,530	1.82
Bucket elevator transfer to Lime Bin load chute	0.30	70	0.0900	60,530	2.72
Lime Bin	0.30	90	0.0300	60,530	0.91
No. 3 Lime Kiln					
Kiln Discharge	0.30	80	0.0600	74,797	2.24
Pan elevator transfer to bucket elevator	0.30	70	0.0900	74,797	3.37
Bucket elevator transfer to Lime Bin load chute	0.30	80	0.0600	74,797	2.24
Lime Bin	0.30	90	0.0300	74,797	1.12
Purchased lime loading to Lime Bin	0.30	90	0.0300	14,641	0.22
				Total =	16.46
PM10 Emissions					

No. 2 Lime Kiln					
Kiln Discharge	0.11	80	0.0220	60,530	0.67
Pan elevator transfer to bucket elevator	0.11	80	0.0220	60,530	0.67
Bucket elevator transfer to Lime Bin load chute	0.11	70	0.0330	60,530	1.00
Lime Bin	0.11	90	0.0110	60,530	0.33
No. 3 Lime Kiln					
Kiln Discharge	0.11	80	0.0220	74,797	0.82
Pan elevator transfer to bucket elevator	0.11	70	0.0330	74,797	1.23
Bucket elevator transfer to Lime Bin load chute	0.11	80	0.0220	74,797	0.82
Lime Bin	0.11	90	0.0110	74,797	0.41
Purchased lime loading to Lime Bin	0.11	90	0.0110	14,641	0.08
				Total =	6.03

ATTACHMENT D
CONTROL EQUIPMENT INFORMATION

I. PARTICULATE CONTROL

An electrostatic precipitator (ESP) has been chosen as the particulate control device because it can provide greater particulate control efficiency with much lower energy consumption than a venturi wet scrubber. Also, dry recycle of particulate fines from the ESP will reduce fossil fuel consumption in the kiln. The reduction in power consumption by the ESP will result in a reduction in pollutants generated to produce power. Operating costs will also be reduced.

Operating experience is provided from a lime kiln which recently began operating at Buckeye Cellulose in Perry, Florida. This 650-TPD lime kiln has an ESP for particulate control. Test results have demonstrated actual PM emissions to be well below the NSPS level, and demonstrates that such a control device can achieve the emission levels stated in this application.

The ESP vendor has not been selected. However, specific ESP design information will be submitted to FDER prior to beginning installation on the ESP. The following design specifications have been developed as the basis for vendor bids:

Fuel: No. 6 fuel oil with 3.0% (max) sulfur

Capacity: 630 TPD lime product

Flue Gas Flow (acfm) 79,500

(dscfm) 40,105

Flue Gas Temperature (°F) 325

%H₂O 25

%O₂ (at stack) 4-6

Inlet Dust Loading (gr/dscf) 26

Construction: The ESP structure will be one chamber, three fields minimum, dry bottom, rigid frame, trough hopper and insulated to minimize condensation and prevent corrosion.

Control Efficiency:

The control efficiency calculation is based on not exceeding the maximum outlet mass emission rate with maximum inlet loading to the ESP.

Maximum outlet PM loading = 43.5 lb/hr

Maximum inlet loading = 26 gr/dscf.

Maximum inlet mass emissions based upon maximum flue gas flow rate:
40,105 dscfm x 60 min/hr x 26 gr/dscf / 7,000 gr/lb = 8,938 lb/hr

Efficiency = [(inlet-outlet)/inlet] x 100

= [(8,938 - 43.5)/8,938] x 100 = 99.5%

Guarantees:

Performance guarantees will assure control of particulate emissions not to exceed emissions as shown in this permit application. Test methods will be as specified in the current FAC Chapter 17-2.

II. TRS CONTROL

Control of TRS is based on good design and control of the causticizing process. Critical process parameters for TRS control are: good kiln combustion and good mud washing. This system design will provide the process control necessary to assure compliance with the 8 ppm-TRS standard, corrected to 10% O₂, on a continuing basis.

MUD WASHING

The existing two stage lime mud clarification system will be used for mud washing. This two stage process allows for sequential dilution and thickening of the lime mud solids to provide for reduced residual chemical content in the mud.

LIME MUD FILTERS

The new lime mud filters will be sized to assure good oxidation of the sulfides. Wash water will be clean hot water. Recycled fines from the ESP will bypass the lime mud filters and will go

directly to the kiln feed in dry form. This reduces plugging of the filter caused by fine particles, thereby improving filter effectiveness. Also, some load is removed from the filter.

The filters will be designed for approximately 1,000 ft² surface area each. At the maximum lime production rate of 26.25 TPH, the lime mud feed rate to each filter will be approximately 22.2 TPH. This results in a maximum filter loading of about 20.5 tons/day/sq.ft.

INERTS

The new lime mud filters will free-up one existing tank which will be used to double the green liquor clarifier capacity and provide storage. Improved green liquor from filtering will contain a lower level of inerts and result in improved lime mud filterability. A lower level of inerts in the lime mud feed to the kiln results in lower TRS emissions from the kiln.

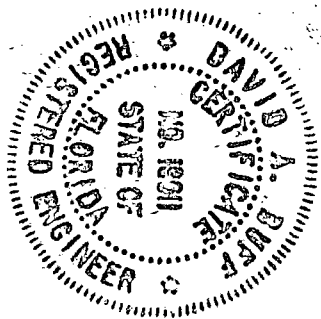
KILN COMBUSTION

Kiln design will include cold end temperature measurement. Improved seals will provide better control of air in-leakage resulting in better kiln combustion control. The new kiln is the latest energy efficient design.

OPERATING EXPERIENCE

Operating experience in good TRS control through process controls and good combustion in the lime kiln has been obtained at Buckeye Cellulose in Perry, Florida. Buckeye has recently installed a new causticizing system and lime kiln. Test data from this kiln show that the proposed control technology of good process controls and a lime kiln with ESP can achieve levels below the 8 ppm standard on a continuing basis.

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 David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

P.O. Box 14288, Gainesville, Fla. 32604
Mailing Address (Please Type)

P.O. Box 14288, Gainesville, Fla. 32604
Mailing Address (Please Type)

Florida Registration No. 19011 Date: 11-9-87 Telephone No. (904) 375-8000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction March 1988 Completion of Construction November 1990

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.)

\$4,000,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Not Applicable

E. Requested permitted equipment operating time: hrs/day 24; days/wk 7; wks/yr 52;
if power plant, hrs/yr _____; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
a. If yes, has "offset" been applied? _____
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. No
3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement 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? No
5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No

- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? No
a. If yes, for what pollutants? _____
b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

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 to Slakers	Particulate	100	31,667	6,7
Green Liquor	NA	NA	59,941 (dry)	8,9
Lime to Lime Bin #1	Particulate	100	52,500	3
Lime to Lime Bin #2	Particulate	100	88,000	4,5

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

- Slakers - 91,608 lb/hr(dry)
1. Total Process Input Rate (lbs/hr): Lime Bins - 52,500 lb/hr + 88,000
Slakers - 91,608 lb/hr(dry)
2. Product Weight (lbs/hr): Lime Kiln - 52,500 lb/hr + 88,000

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable Emission ³ lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
PM*	2.0	8.8	**	2.0	2.0	8.8	10,11
PM10*	1.9	8.3	NA	NA	1.9	8.3	10,11
PM	1.2	5.3	**	1.2	1.2	5.3	13
PM10	1.2	5.3	NA	NA	1.2	5.3	13
PM	0.74	3.2	**	0.74	0.74	3.2	12
PM10	0.74	3.2	NA	NA	0.74	3.2	12

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* Total of both slaker scrubbers

** Maximum emission rate proposed by applicant is less than that allowed by 17-2 based on Process Weight Table regulation.

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Lime Bin Filter	Particulate	99%	Submicron and above	See Att. C.
Lime Bin Filter	Particulate	99%	Submicron and above	See Att. C
Slakers Scrubber	Particulate	90%	Submicron and above	See Att. C

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

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

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum _____

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

Dust captured by lime bin filters is discharged back into lime bin.

Scrubber water from slaker scrubbers is recycled into the second stage lime mud washer.

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

Stack Height: See Attachment C ft. Stack Diameter: _____ ft.
 Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.
 Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
SEE ATTACHMENT A
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.
SEE ATTACHMENT B
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
SEE ATTACHMENT B
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
SEE ATTACHMENT C
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).
SEE ATTACHMENT C
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
ATTACHED
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
ATTACHED
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 9. The appropriate application fee in accordance with Rule 17-4.05. 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 ^{Not Applicable.} 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: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable use additional pages if necessary).

1.

a. Control Device: b. Operating Principles:

c. Efficiency:¹ d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy:² h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device: b. Operating Principles:

c. Efficiency:¹ d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy:² h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

Not Applicable

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? Yes No

b. Was instrumentation calibrated in accordance with Department procedures?
 Yes No Unknown

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	_____ grama/sec

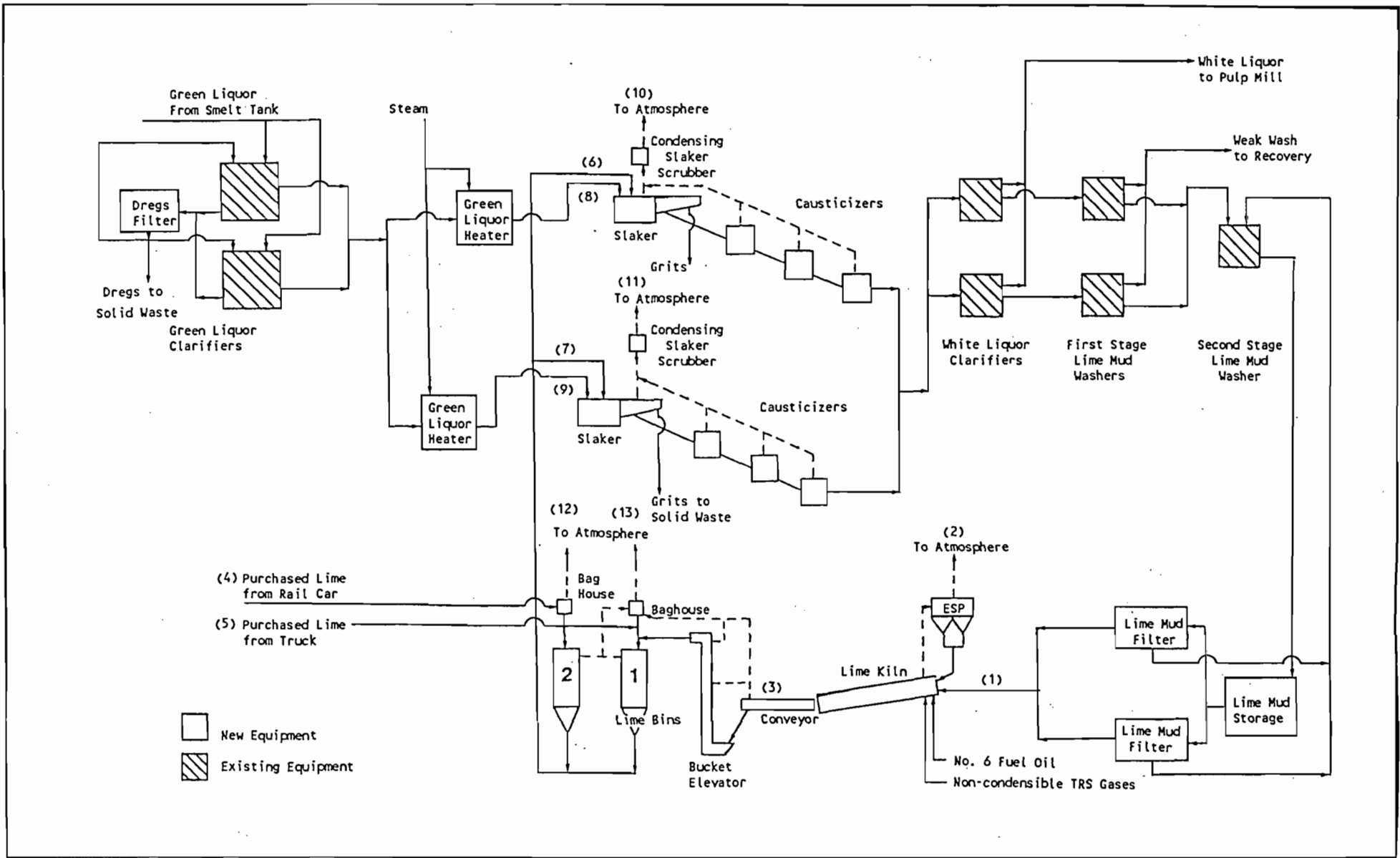
E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

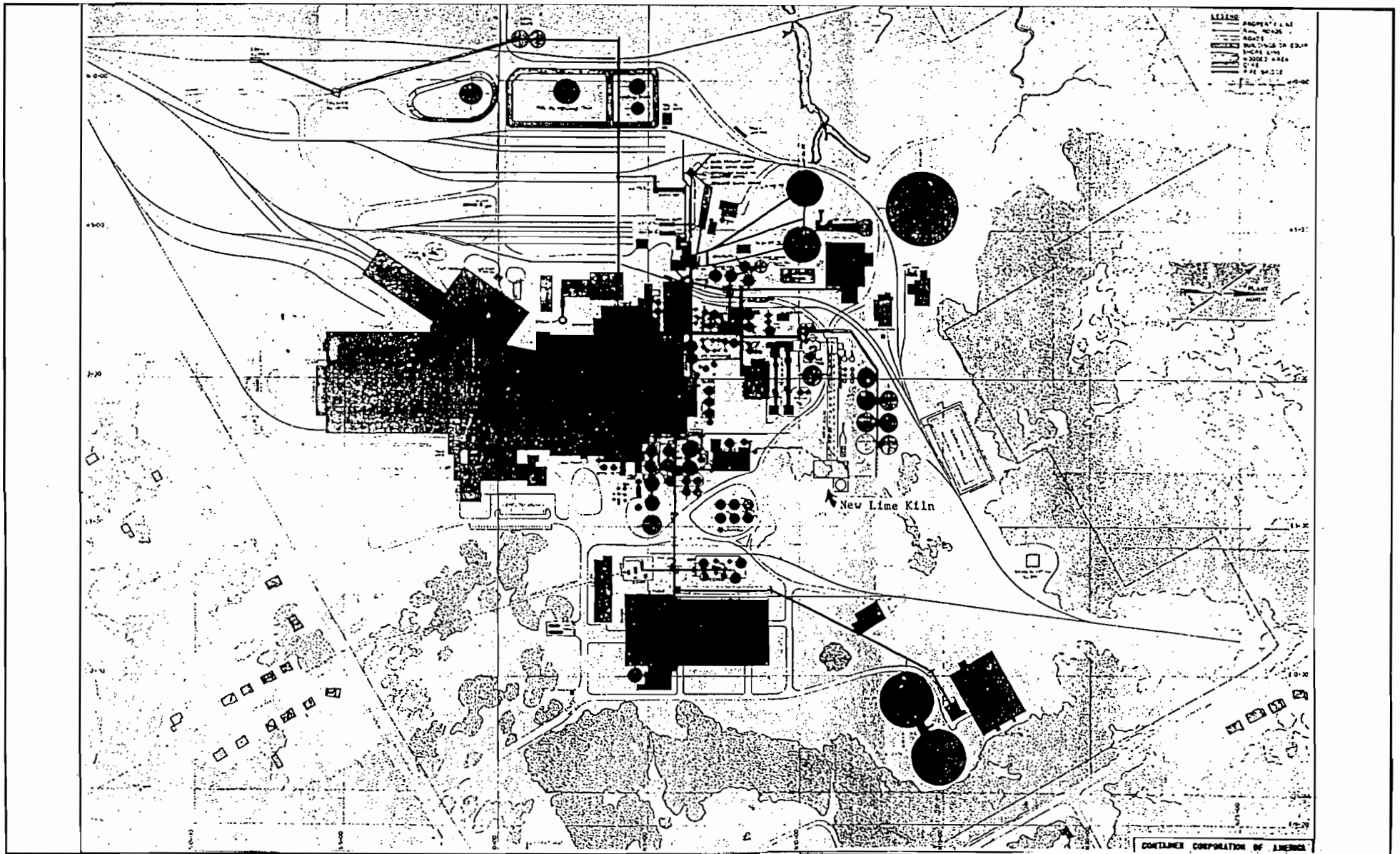
G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

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.



Flow Diagram of Proposed CCA Causticizing System





Plot Plan of CCA Mill



ATTACHMENT A
PROCESS DESCRIPTION

Two new lime slakers will be constructed to replace the existing lime slakers at the CCA mill. The two slakers will be operated in parallel (see flow diagram Figure A-1). Lime product from the new lime bins will be conveyed to the slakers in an enclosed system. Green liquor from the existing green liquor clarifiers is added in the slakers.

Three new causticizers will also be constructed to serve each slaker. White liquor product from the new causticizers will be sent to the existing white liquor clarifiers.

Sources of air emissions associated with the causticizing system are the lime kiln, lime slakers, causticizers, lime bins and the bucket elevator associated with the lime kiln. Air emissions for the new lime kiln are addressed in a companion air permit application. The exhaust vents on the slaker and three causticizers within each line will be ducted to a scrubber for particulate control. The new lime bins will be controlled by filters.

The two new lime bins replace the existing lime bins and will support the new lime kiln. Lime Bin #1 will receive lime from the new lime kiln via a bucket elevator. This lime bin can also receive purchased lime by truck through pneumatic conveying. A filter on top of the lime bin will control particulate emissions from the silo as well as the bucket elevator and lime conveyor. Three air pickup points along the bucket elevator and lime conveyor will maintain a negative pressure on the lime conveying system to control particulate emissions.

The second lime bin constructed (Lime Bin #2) will receive only purchased lime by rail or truck. A filter located on top of the lime bin will control particulate emissions.

Dust collected by the filters on each lime bin will be placed back into the lime bins.

Emission calculations for the slaker scrubbers and lime bin filters are presented in Attachment B. Presented in Attachment C is control equipment information.

Process Rate Derivation

A. Lime Slakers

All figures are per slaker

Maximum design lime feed rate = 380 TPD
= 31,667 lb/hr

Green liquor solids rate:

Available lime = 88% of lime input

Based on molecular weights, 56 lb of available lime requires
106 lb of Na_2CO_3

Na_2CO_3 required = $31,667 \text{ lb/hr} \times 0.88 \times 106/56$
= 52,748 lb/hr

Total green liquor solids to slakers assumes 12% inerts =
 $52,748 / (1-0.12) = 59,941$

Total input (dry) = $31,667 + 59,941 = 91,608 \text{ lb/hr}$
= 45.80 TPH

B. Lime Bins

1. Lime Bin #1

Maximum input rate is maximum production rate of kiln
= 26.25 TPH = 52,500 lb/hr

2. Lime Bin #2

Maximum lime loading rate from rail or truck
= 88,000 lb/hr
= 44.0 TPH

ATTACHMENT B
EMISSION CALCULATIONS
PROPOSED LIME SLAKERS AND LIME BINS

I. LIME BIN #1 FILTER

A. PM(TSP)

Maximum air flow through filter = 6,500 acfm @ 300°F
= 4,516 scfm

Maximum outlet grain loading = 0.03 gr/dscf

Maximum emissions = 4,516 scfm x 0.03 gr/dscf / 7,000 gr/lb x 60 min/hr
= 1.2 lb/hr

1.2 lb/hr x 8,760 hr/yr / 2,000 lb/ton = 5.3 TPY

B. PM10

Based upon information presented in AP-42, Appendix C.2 (10/86), PM10 emissions from fabric filters represent at least 99.5% of total PM(TSP) emissions. To be conservative, it was assumed that all PM(TSP) are of the PM10 size category.

PM10 = 1.2 lb/hr, 5.3 TPY

II. LIME BIN #2 FILTER

A. PM(TSP)

Maximum air flow through filter = 3,000 acfm @ 90°F
= 2,880 scfm

Maximum outlet grain loading = 0.03 gr/dscf

Maximum emissions = 2,880 scfm x 0.03 gr/dscf / 7,000 gr/lb x 60 min/hr
= 0.74 lb/hr

0.74 lb/hr x 8,760 hr/yr / 2,000 lb/ton = 3.2 TPY

B. PM10

As for the lime bin filter, the PM(TSP) emissions were assumed to be composed totally of the PM10 size category.

PM10 = 0.74 lb/hr = 3.2 TPY

III. LIME SLAKERS

A. PM(TSP)

Maximum PM(TSP) emissions will be 1.0 lb/hr per slaker

1.0 lb/hr x 8,760 hr/yr / 2,000 lb/ton = 4.4 TPY per slaker

= 8.8 TPY both slakers

B. PM10

Information regarding the particle size distribution of PM emissions from lime slakers was not found in the available literature.

Appendix C.2 of AP-42 (10/86), Generalized Particle Size

Distributions, contains general particle size distribution data for hydration processes (Category 9). This AP-42 section indicates that PM10 emissions constitute approximately 94% of total PM emissions from hydration processes. These data are considered to be the best currently available to estimate PM10 emissions from the new lime slakers. The calculation of PM10 emissions, based upon the total PM emissions, is presented below:

$$1.0 \text{ lb/hr} \times 0.94 = 0.94 \text{ lb/hr per slaker}$$

$$8.8 \text{ TPY} \times 0.94 = 8.3 \text{ TPY both slakers}$$

ATTACHMENT C
CONTROL EQUIPMENT INFORMATION
AND STACK PARAMETERS

I. SLAKERS WET SCRUBBER DESIGN DATA

The vendor for the lime slakers scrubbers has not yet been selected. Therefore, generic (typical) design information is presented below for the scrubbers. The selected control equipment will be equal to or better than the generic design.

Scrubber type: direct contact condenser

Water pressure: 20-40 psig

Number of nozzles: 3 minimum

Water flow rate: 55 to 120 gpm

Water temperature: less than 90°F

Removal efficiency = 90% minimum

Maximum PM emissions from each slaker = 1.0 lb/hr

Slaker internal design will minimize dust carryover. Features which will be considered in the design include:

- * Distance between lime feed chute and vent follow good engineering practice.
- * Use of an internal dust baffle suspended from roof between lime feed chute and vent stack to reduce dust loading to vent.
- * Maintain a submerged slaker impeller.
- * Slaker design to minimize the vent volume required to keep the slaker under negative pressure.
- * Low face velocity at the plenum of the slaker vent to minimize entrainment of dust in the exhaust gas stream.

After a specific vendor is chosen, and prior to construction of the scrubber, specific design information on the scrubber will be submitted to FDER.

II. LIME BIN FILTERS

The vendor for the two lime bin filters has not yet been selected. The selected filters will meet the design specifications presented below, or equivalent.

A. Lime Bin #1

Design flow rate = 6,500 acfm @ 300⁰F

= 4,516 scfm

Maximum outlet grain loading = 0.03 gr/dscf

Filter area = 956 ft²

Air to cloth ratio = 6.8:1

Cleaning method - pulse jet

Removal efficiency = >99%

B. Lime Bin #2

Design flow rate = 3,000 acfm @ 90⁰F

= 2,880 scfm

Maximum outlet grain loading = 0.03 gr/dscf

Filter area = 440 ft²

Air to cloth ratio = 6.8 to 1

Cleaning method - pulse jet

Removal efficiency = >99%

Table C-1. Emission Stack Geometry and Flow Characteristics*

Emission Point	Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate		Exit Temp. (°F)	Water Vapor (%)	Exit Velocity (ft/s)
			(ACFM)	(DSCFM)			
Slakers Stack	140	2.00	1,700	1,000	175	Saturated	9.0
Lime Bin #1	110	2.00	6,500	4,516	300	Ambient	34.5
Lime Bin #2	110	1.5	3,000	2,880	90	Ambient	28.3

* Final stack design for all stacks will be provided after vendor selection and prior to construction of the stack.

REFERENCES

EXCERPTS FROM AP-42 SECTIONS

10.1 CHEMICAL WOOD PULPING

10.1.1 General

Chemical wood pulping involves the extraction of cellulose from wood by dissolving the lignin that binds the cellulose fibers together. The four processes principally used in chemical pulping are kraft, sulfite, neutral sulfite semichemical (NSSC), and soda. The first three display the greatest potential for causing air pollution. The kraft process alone accounts for over 80 percent of the chemical pulp produced in the United States. The choice of pulping process is determined by the desired product, by the wood species available, and by economic considerations.

10.1.2 Kraft Pulping

Process Description¹ - The kraft pulping process (See Figure 10.1-1) involves the digesting of wood chips at elevated temperature and pressure in "white liquor", which is a water solution of sodium sulfide and sodium hydroxide. The white liquor chemically dissolves the lignin that binds the cellulose fibers together.

There are two types of digester systems, batch and continuous. Most kraft pulping is done in batch digesters, although the more recent installations are of continuous digesters. In a batch digester, when cooking is complete, the contents of the digester are transferred to an atmospheric tank usually referred to as a blow tank. The entire contents of the blow tank are sent to pulp washers, where the spent cooking liquor is separated from the pulp. The pulp then proceeds through various stages of washing, and possibly bleaching, after which it is pressed and dried into the finished product. The "blow" of the digester does not apply to continuous digester systems.

The balance of the kraft process is designed to recover the cooking chemicals and heat. Spent cooking liquor and the pulp wash water are combined to form a weak black liquor which is concentrated in a multiple effect evaporator system to about 55 percent solids. The black liquor is then further concentrated to 65 percent solids in a direct contact evaporator, by bringing the liquor into contact with the flue gases from the recovery furnace, or in an indirect contact concentrator. The strong black liquor is then fired in a recovery furnace. Combustion of the organics dissolved in the black liquor provides heat for generating process steam and for converting sodium sulfate to sodium sulfide. Inorganic chemicals present in the black liquor collect as a molten smelt at the bottom of the furnace.

The smelt is dissolved in water to form green liquor, which is transferred to a causticizing tank where quicklime (calcium oxide) is added to convert the solution back to white liquor for return to the digester system. A lime mud precipitates from the causticizing tank, after which it is calcined in a lime kiln to regenerate quicklime.

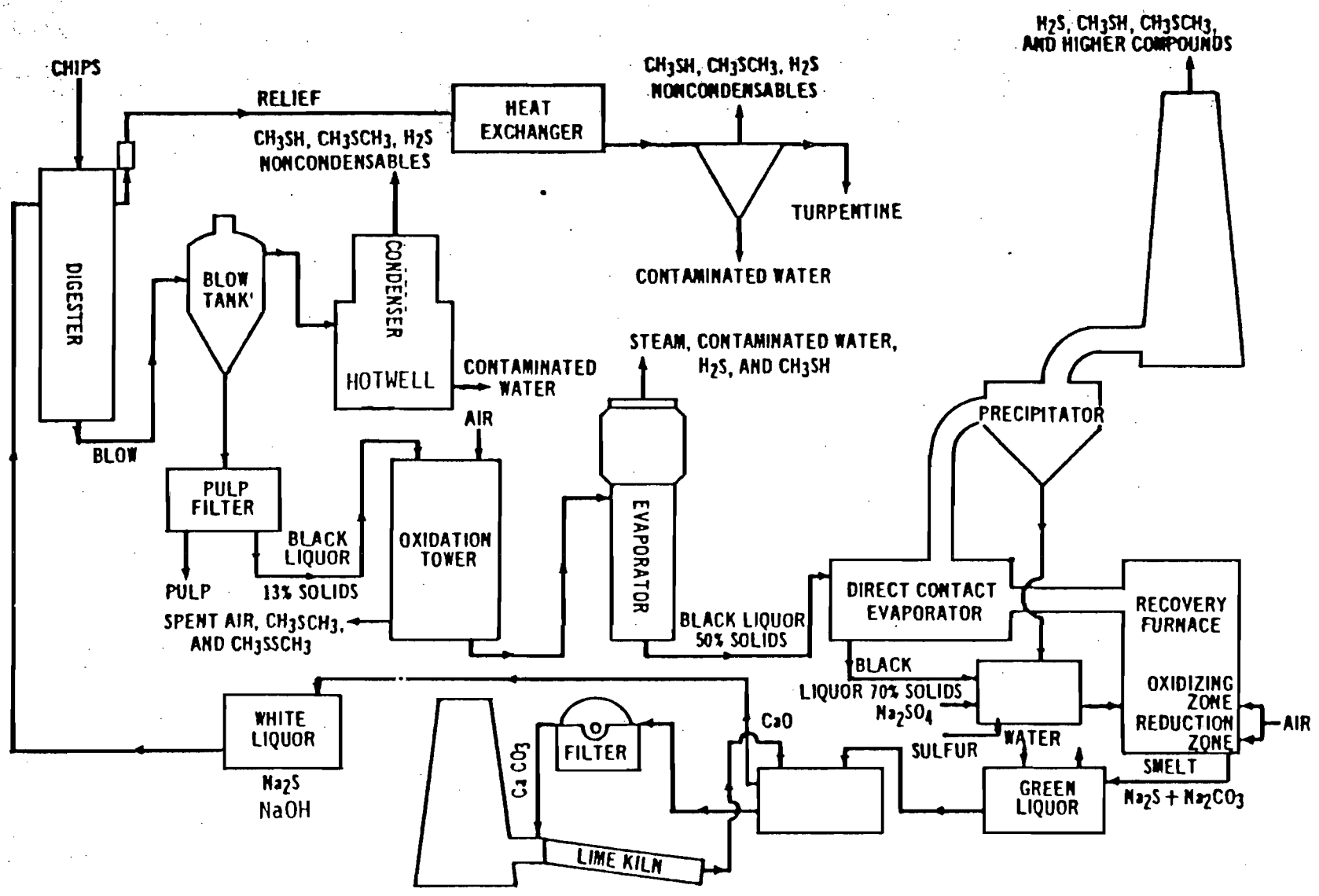


Figure 10.1-1. Typical kraft sulfate pulping and recovery process.

For process heating, for driving equipment, for providing electric power, etc., many mills need more steam than can be provided by the recovery furnace alone. Thus, conventional industrial boilers that burn coal, oil, natural gas, or bark and wood are commonly used.

Emissions And Controls¹⁻⁷ - Particulate emissions from the kraft process occur largely from the recovery furnace, the lime kiln and the smelt dissolving tank. These emissions are mainly sodium salts, with some calcium salts from the lime kiln. They are caused mostly by carryover of solids and sublimation and condensation of the inorganic chemicals.

Particulate control is provided on recovery furnaces in a variety of ways. In mills with either a cyclonic scrubber or cascade evaporator as the direct contact evaporator, further control is necessary, as these devices are generally only 20 to 50 percent efficient for particulates. Most often in these cases, an electrostatic precipitator is employed after the direct contact evaporator, for an overall particulate control efficiency of from 85 to more than 99 percent. Auxiliary scrubbers may be added at existing mills after a precipitator or a venturi scrubber to supplement older and less efficient primary particulate control devices.

Particulate control on lime kilns is generally accomplished by scrubbers. Electrostatic precipitators have been used in a few mills. Smelt dissolving tanks usually are controlled by mesh pads, but scrubbers can provide further control.

The characteristic odor of the kraft mill is caused by the emission of reduced sulfur compounds, the most common of which are hydrogen sulfide, methyl mercaptan, dimethyl sulfide and dimethyl disulfide, all with extremely low odor thresholds. The major source of hydrogen sulfide is the direct contact evaporator, in which the sodium sulfide in the black liquor reacts with the carbon dioxide in the furnace exhaust. Indirect contact evaporators can significantly reduce the emission of hydrogen sulfide. The lime kiln can also be a potential source of odor, as a similar reaction occurs with residual sodium sulfide in the lime mud. Lesser amounts of hydrogen sulfide are emitted with the noncondensable offgasses from the digesters and multiple effect evaporators.

Methyl mercaptan and dimethyl sulfide are formed in reactions with the wood component, lignin. Dimethyl disulfide is formed through the oxidation of mercaptan groups derived from the lignin. These compounds are emitted from many points within a mill, but the main sources are the digester/blow tank systems and the direct contact evaporator.

Although odor control devices, per se, are not generally found in kraft mills, emitted sulfur compounds can be reduced by process modifications and improved operating conditions. For example, black liquor oxidation systems, which oxidize sulfides into less reactive thiosulfates, can considerably reduce odorous sulfur emissions from the direct contact evaporator, although the vent gases from such systems become minor odor sources themselves. Also, noncondensable odorous gases vented from the digester/blow tank system and multiple effect evaporators can be destroyed by thermal oxidation, usually by passing them through the lime kiln. Efficient operation of the recovery furnace, by avoiding overloading and by maintaining sufficient oxygen, residence time and turbulence, significantly reduces emissions of reduced sulfur compounds from

this source as well. The use of fresh water instead of contaminated condensates in the scrubbers and pulp washers further reduces odorous emissions.

Several new mills have incorporated recovery systems that eliminate the conventional direct contact evaporators. In one system, heated combustion air, rather than fuel gas, provides direct contact evaporation. In another, the multiple effect evaporator system is extended to replace the direct contact evaporator altogether. In both systems, sulfur emissions from the recovery furnace/direct contact evaporator can be reduced by more than 99 percent.

Sulfur dioxide is emitted mainly from oxidation of reduced sulfur compounds in the recovery furnace. It is reported that the direct contact evaporator absorbs about 75 percent of these emissions, and further scrubbing can provide additional control.

Potential sources of carbon monoxide emissions from the kraft process include the recovery furnace and lime kilns. The major cause of carbon monoxide emissions is furnace operation well above rated capacity, making it impossible to maintain oxidizing conditions.

Some nitrogen oxides also are emitted from the recovery furnace and lime kilns, although amounts are relatively small. Indications are that nitrogen oxide emissions are on the order of 0.5 and 1.0 kilograms per air dried megagrams (1 and 2 lb/air dried ton) of pulp produced from the lime kiln and recovery furnace, respectively.⁵⁻⁶

A major source of emissions in a kraft mill is the boiler for generating auxiliary steam and power. The fuels used are coal, oil, natural gas or bark/wood waste. See Chapter 1 for emission factors for boilers.

Table 10.1-1 presents emission factors for a conventional kraft mill. The most widely used particulate control devices are shown, along with the odor reductions through black liquor oxidation and incineration of noncondensable offgases. Tables 10.1-2 through 10.1-7 present cumulative size distribution data and size specific emission factors for particulate emissions from sources within a conventional kraft mill. Uncontrolled and controlled size specific emission factors⁷ are presented in Figures 10.1-2 through 10.1-7. The particle sizes presented are expressed in terms of the aerodynamic diameter.

10.1.3 Acid Sulfite Pulping

Process Description - The production of acid sulfite pulp proceeds similarly to kraft pulping, except that different chemicals are used in the cooking liquor. In place of the caustic solution used to dissolve the lignin in the wood, sulfurous acid is employed. To buffer the cooking solution, a bisulfite of sodium, magnesium, calcium or ammonium is used. A diagram of a typical magnesium base process is shown in Figure 10.1-8.

Digestion is carried out under high pressure and high temperature, in either batch mode or continuous digesters, and in the presence of a sulfurous acid/bisulfite cooking liquid. When cooking is completed, either the digester is discharged at high pressure into a blow pit, or its contents are pumped into a dump tank at a lower pressure. The spent sulfite liquor (also called red liquor) then drains through the bottom of the tank and is treated and discarded,

TABLE 10.1-1. EMISSION FACTORS FOR SULFITE PULPING^a

EMISSION FACTOR RATING: A

Source	Type of control	Particulate		Sulfur dioxide (SO ₂)		Carbon monoxide (CO)		Hydrogen sulfide (S ^m)		RSH, RSR, RSSR (S ^m)	
		kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton
Digester relief and blow tank	Untreated ^b	-	-	-	-	-	-	0.02	0.03	0.6	1.2
Brown stock washer	Untreated ^b	-	-	-	-	-	-	0.01	0.02	0.2 ^c	0.4 ^c
Multiple effect evaporator	Untreated ^b	-	-	-	-	-	-	0.55	1.1	0.05	0.1
Recovery boiler and direct evaporator	Untreated ^d	90	180	3.5	7	5.5	11	6 ^e	12 ^e	1.5 ^e	3 ^e
	Venturi scrubber ^f	24	48	3.5	7	5.5	11	6 ^e	12 ^e	1.5 ^e	3 ^e
	ESP	1	2	3.5	7	5.5	11	6 ^e	12 ^e	1.5 ^e	3 ^e
	Auxiliary scrubber	1.5-7.5 ^g	3-15 ^g	-	-	-	-	6 ^e	12 ^e	1.5 ^e	3 ^e
Noncontact recovery boiler without direct contact evaporator	Untreated	115	230	-	-	5.5	11	0.05 ^h	0.1 ^h	-	-
	ESP	1	2	-	-	5.5	11	0.05 ^h	0.1 ^h	-	-
Smelt dissolving tank	Untreated	3.5	7	0.1	0.2	-	-	0.1 ^j	0.2 ^j	0.15 ^j	0.3 ^j
	Mesh pad	0.5	1	0.1	0.2	-	-	0.1 ^j	0.2 ^j	0.15 ^j	0.3 ^j
	Scrubber	0.1	0.2	-	-	-	-	0.1 ^j	0.2 ^j	0.15 ^j	0.3 ^j
Lime kiln	Untreated	28	56	0.15	0.3	0.05	0.1	0.25 ^m	0.5 ^m	0.1 ^m	0.2 ^m
	Scrubber or ESP	0.25	0.5	-	-	0.05	0.1	0.25 ^m	0.5 ^m	0.1 ^m	0.2 ^m
Turpentine condenser	Untreated	-	-	-	-	-	-	0.005	.01	0.25	0.5
Miscellaneous ⁿ	Untreated	-	-	-	-	-	-	-	-	0.25	0.5

^aReferences 8-10. Factors expressed in unit weight of air dried unbleached pulp (ADP). RSH = Methyl mercaptan. RSR = Dimethyl sulfide. RSSR = Dimethyl disulfide. ESP = Electrostatic precipitator. Dash = No data.

^bIf noncondensable gases from these sources are vented to lime kiln, recovery furnace or equivalent, the reduced sulfur compounds are destroyed.

^cApply with system using condensate as washing medium. When using fresh water, emissions are 0.05 (0.1).

^dApply when cyclonic scrubber or cascade evaporator is used for direct contact evaporation, with no further controls.

^eUsually reduced by 50% with black liquor oxidation and can be cut 95 - 99% when oxidation is complete and recovery furnace is operated optimally.

^fApply when venturi scrubber is used for direct contact evaporation, with no further controls.

^gUse 7.5 (15) when auxiliary scrubber follows venturi scrubber, and 1.5 (3) when it follows ESP.

^hApply when recovery furnace is operated optimally to control total reduced sulfur (TRS) compounds.

^jUsually reduced to 0.01 g/kg (0.02 lb/ton) ADP when water low in sulfides is used in smelt dissolving tank and associated scrubber.

^mUsually reduced to 0.015 g/kg (0.03 lb/ton) ADP with efficient mud washing, optimal kiln operation and added caustic in scrubbing water. With only efficient mud washing and optimal process control, TRS compounds reduced to 0.04 g/kg (0.08 lb/ton) ADP.

ⁿIncludes knotter vents, brownstock seal tanks, etc. When black liquor oxidation is included, emissions are 0.3 (0.6).

TABLE 10.1-2. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE SPECIFIC EMISSION FACTORS FOR A RECOVERY BOILER WITH A DIRECT CONTACT EVAPORATOR AND AN ESP^a

EMISSION FACTOR RATING: C

Particle size (um)	Cumulative mass % \leq stated size		Cumulative emission factor (kg/Mg of air dried pulp)	
	Uncontrolled	Controlled	Uncontrolled	Controlled
15	95.0	-	86	-
10	93.5	-	84	-
6	92.2	68.2	83	0.7
2.5	83.5	53.8	75	0.5
1.25	56.5	40.5	51	0.4
1.00	45.3	34.2	41	0.3
0.625	26.5	22.2	24	0.2
Total	100	100	90	1.0

^aReference 7. Dash = no data.

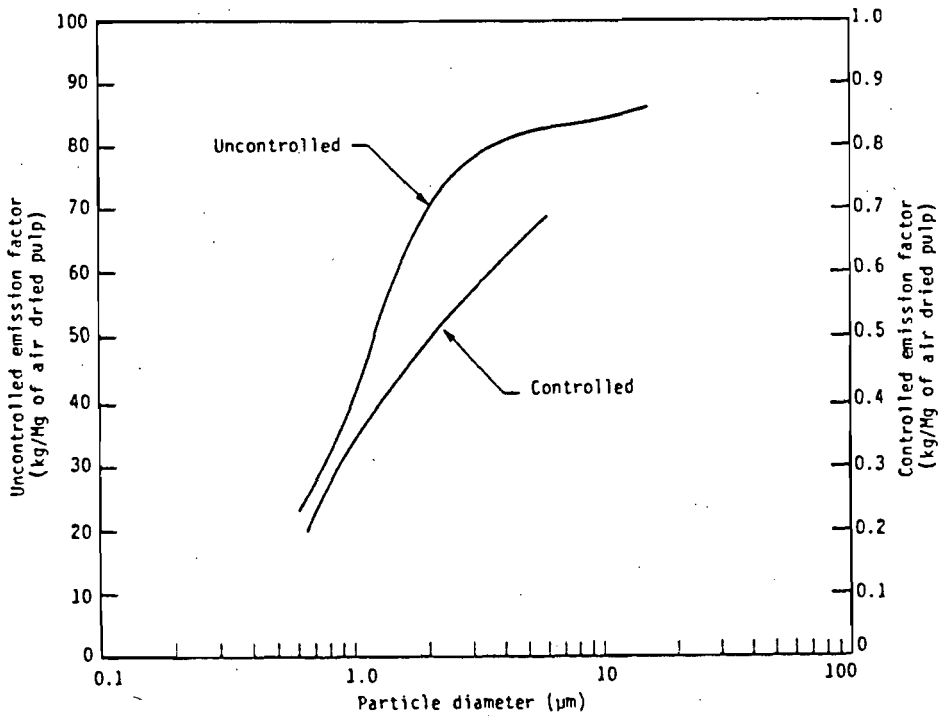


Figure 10.1-2. Cumulative particle size distribution and size specific emission factors for recovery boiler with direct contact evaporator and ESP.

TABLE 10.1-3. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE SPECIFIC EMISSION FACTORS FOR A RECOVERY BOILER WITHOUT A DIRECT CONTACT EVAPORATOR BUT WITH AN ESP^a

EMISSION FACTOR RATING: C

Particle size (um)	Cumulative mass % \leq stated size		Cumulative emission factor (kg/Mg of air dried pulp)	
	Uncontrolled	Controlled	Uncontrolled	Controlled
15	-	78.8	-	0.8
10	-	74.8	-	0.7
6	-	71.9	-	0.7
2.5	78.0	67.3	90	0.6
1.25	40.0	51.3	46	0.5
1.00	30.0	42.4	35	0.4
0.625	17.0	29.6	20	0.3
Total	100	100	115	1.0

^aReference 7. Dash = no data.

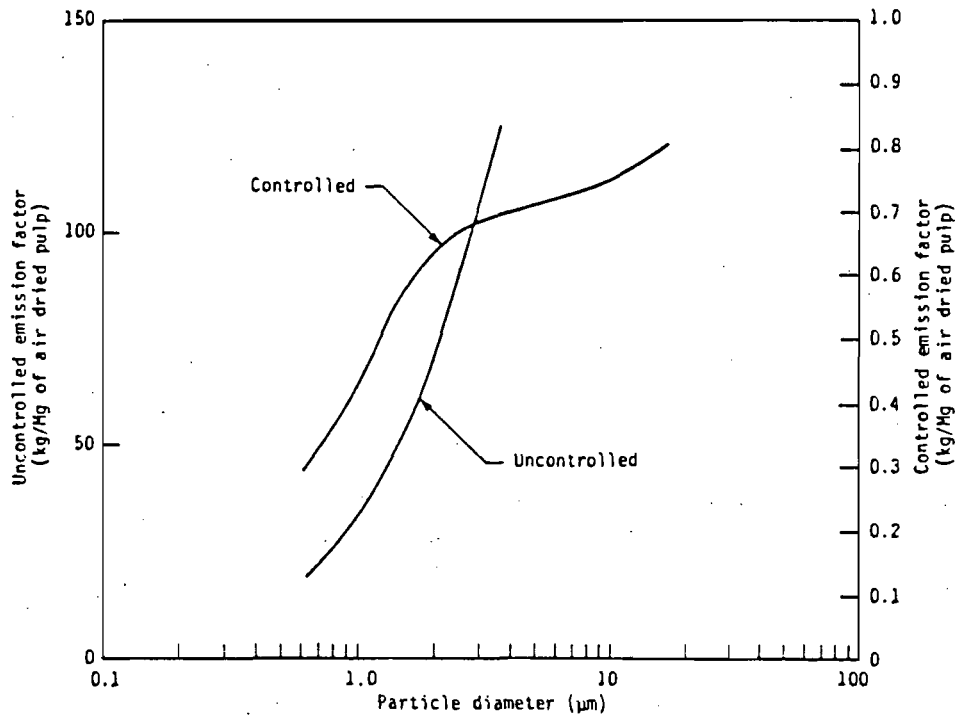


Figure 10.1-3. Cumulative particle size distribution and size specific emission factors for recovery boiler without direct contact evaporator but with ESP.

TABLE 10.1-4. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE SPECIFIC EMISSION FACTORS FOR A LIME KILN WITH A VENTURI SCRUBBER^a

EMISSION FACTOR RATING: C

Particle size (um)	Cumulative mass % \leq stated size		Cumulative emission factor (kg/Mg of air dried pulp)	
	Uncontrolled	Controlled	Uncontrolled	Controlled
15	27.7	98.9	7.8	0.24
10	16.8	98.3	4.7	0.24
6	13.4	98.2	3.8	0.24
2.5	10.5	96.0	2.9	0.24
1.25	8.2	85.0	2.3	0.21
1.00	7.1	78.9	2.0	0.20
0.625	3.9	54.3	1.1	0.14
Total	100	100	28.0	0.25

^aReference 7.

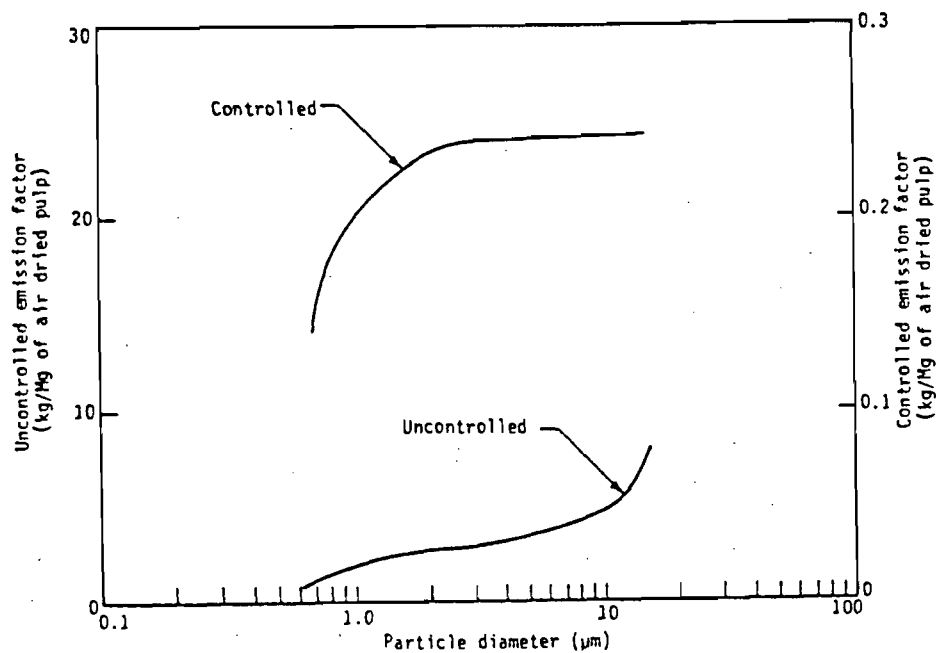


Figure 10.1-4. Cumulative particle size distribution and size specific emission factors for lime kiln with venturi scrubber.

TABLE 10.1-5. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE SPECIFIC EMISSION FACTORS FOR A LIME KILN WITH AN ESP^a

EMISSION FACTOR RATING: C

Particle size (um)	Cumulative mass % \leq stated size		Cumulative emission factor (kg/Mg of air dried pulp)	
	Uncontrolled	Controlled	Uncontrolled	Controlled
15	27.7	91.2	7.8	0.23
10	16.8	88.5	4.7	0.22
6	13.4	86.5	3.8	0.22
2.5	10.5	83.0	2.9	0.21
1.25	8.2	70.2	2.3	0.18
1.00	7.1	62.9	2.0	0.16
0.625	3.9	46.9	1.1	0.12
Total	100	100	28.0	0.25

^aReference 7.

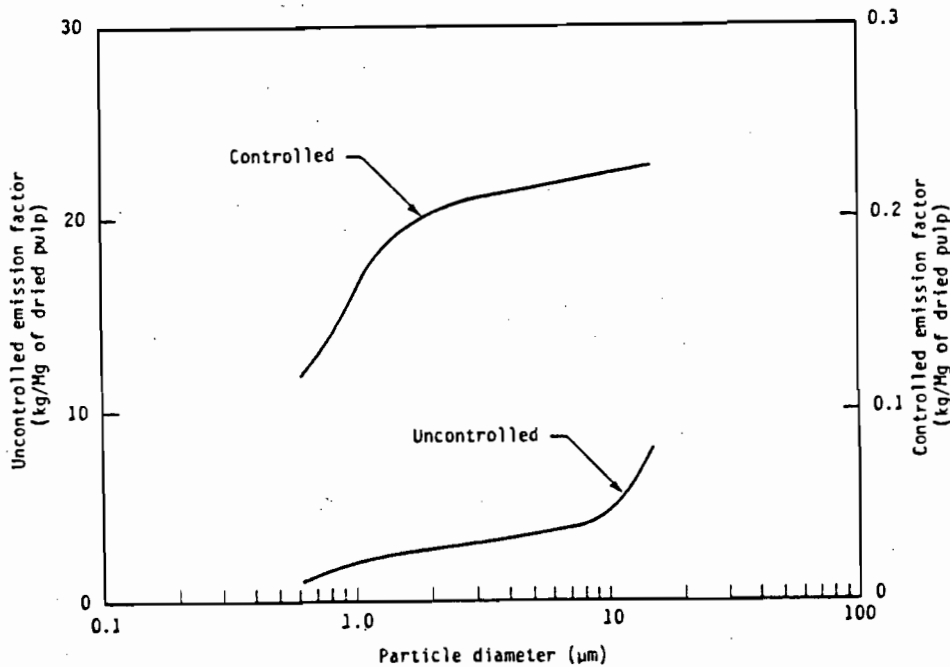


Figure 10.1-5. Cumulative particle size distribution and size specific emission factors for lime kiln with ESP.

TABLE 10.1-6. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE SPECIFIC EMISSION FACTORS FOR A SMELT DISSOLVING TANK WITH A PACKED TOWER^a

EMISSION FACTOR RATING: C

Particle size (um)	Cumulative mass % < stated size		Cumulative emission factor (kg/Mg of air dried pulp)	
	Uncontrolled	Controlled	Uncontrolled	Controlled
15	90.0	95.3	3.2	0.48
10	88.5	95.3	3.1	0.48
6	87.0	94.3	3.0	0.47
2.5	73.0	85.2	2.6	0.43
1.25	47.5	63.8	1.7	0.32
1.00	40.0	54.2	1.4	0.27
0.625	25.5	34.2	0.9	0.17
Total	100	100	3.5	0.50

^aReference 7.

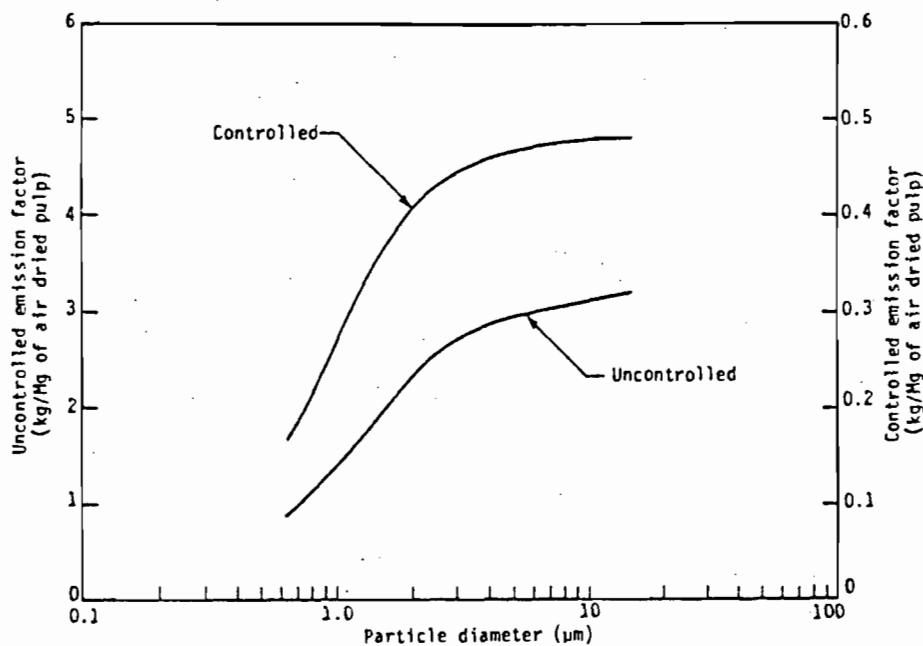


Figure 10.1-6. Cumulative particle size distribution and size specific emission factors for smelt dissolving tank with packed tower.

TABLE 10.1-7. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE SPECIFIC EMISSION FACTORS FOR A SMELT DISSOLVING TANK WITH A VENTURI SCRUBBER^a

EMISSION FACTOR RATING: C

Particle size (um)	Cumulative mass % \leq stated size		Cumulative emission factor (kg/Mg of air dried pulp)	
	Uncontrolled	Controlled	Uncontrolled	Controlled
15	90.0	89.9	3.2	0.09
10	88.5	89.5	3.1	0.09
6	87.0	88.4	3.0	0.09
2.5	73.0	81.3	2.6	0.08
1.25	47.5	63.5	1.7	0.06
1.00	54.0	54.7	1.4	0.06
0.625	25.5	38.7	0.9	0.04
Total	100	100	3.5	0.09

^aReference 7.

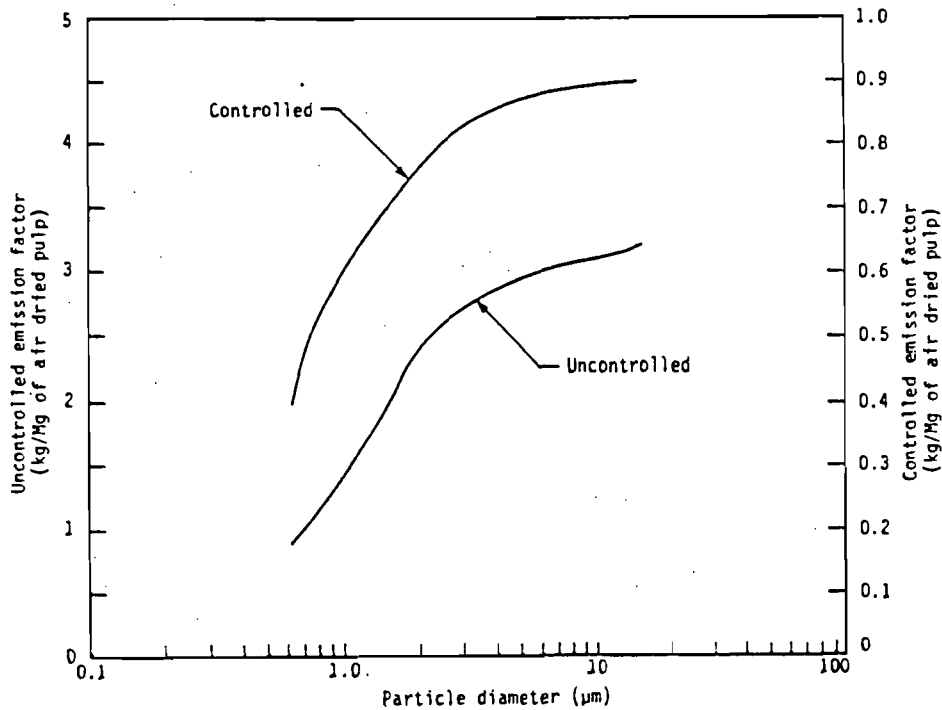


Figure 10.1-7. Cumulative particle size distribution and size specific emission factors for smelt dissolving tank with venturi scrubber.

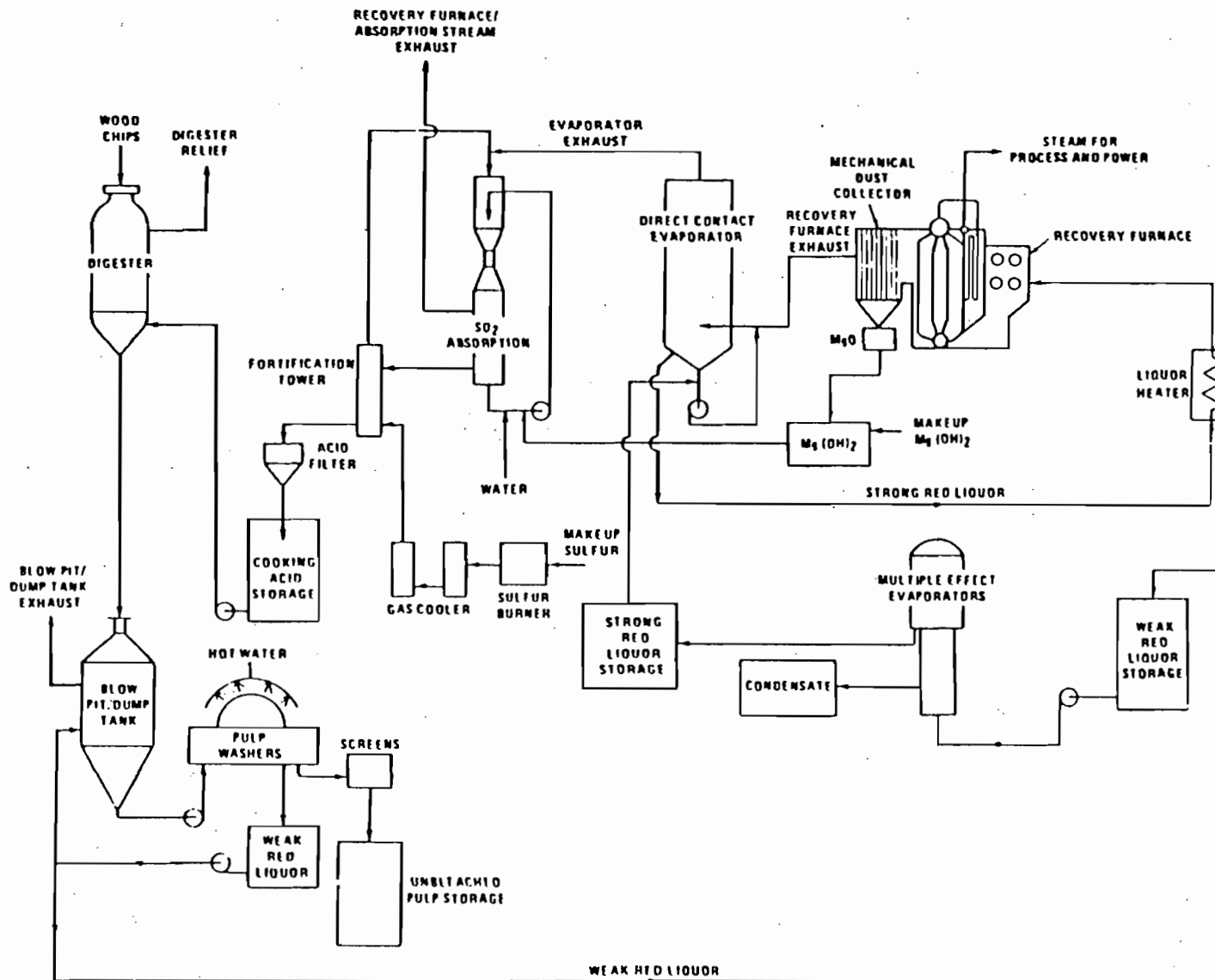


Figure 10.1-8. Simplified process flow diagram of magnesium-base process employing chemical and heat recovery.

incinerated, or sent to a plant for recovery of heat and chemicals. The pulp is then washed and processed through screens and centrifuges to remove knots, bundles of fibers and other material. It subsequently may be bleached, pressed and dried in papermaking operations.

Because of the variety of cooking liquor bases used, numerous schemes have evolved for heat and/or chemical recovery. In calcium base systems, found mostly in older mills, chemical recovery is not practical, and the spent liquor is usually discharged or incinerated. In ammonium base operations, heat can be recovered by combusting the spent liquor, but the ammonium base is thereby consumed. In sodium or magnesium base operations, the heat, sulfur and base all may be feasibly recovered.

If recovery is practiced, the spent (weak) red liquor (which contains more than half of the raw materials as dissolved organic solids) is concentrated in a multiple effect evaporator and a direct contact evaporator to 55 to 60 percent solids. This strong liquor is sprayed into a furnace and burned, producing steam to operate the digesters, evaporators, etc. and to meet other power requirements.

When magnesium base liquor is burned, a flue gas is produced from which magnesium oxide is recovered in a multiple cyclone as fine white power. The magnesium oxide is then water slaked and is used as circulating liquor in a series of venturi scrubbers, which are designed to absorb sulfur dioxide from the flue gas and to form a bisulfite solution for use in the cook cycle. When sodium base liquor is burned, the inorganic compounds are recovered as a molten smelt containing sodium sulfide and sodium carbonate. This smelt may be processed further and used to absorb sulfur dioxide from the flue gas and sulfur burner. In some sodium base mills, however, the smelt may be sold to a nearby kraft mill as raw material for producing green liquor.

If liquor recovery is not practiced, an acid plant is necessary of sufficient capacity to fulfill the mill's total sulfite requirement. Normally, sulfur is burned in a rotary or spray burner. The gas produced is then cooled by heat exchangers and a water spray and is then absorbed in a variety of different scrubbers containing either limestone or a solution of the base chemical. Where recovery is practiced, fortification is accomplished similarly, although a much smaller amount of sulfur dioxide must be produced to make up for that lost in the process.

Emissions And Controls¹¹ - Sulfur dioxide is generally considered the major pollutant of concern from sulfite pulp mills. The characteristic "kraft" odor is not emitted because volatile reduced sulfur compounds are not products of the lignin/bisulfite reaction.

A major SO₂ source is the digester and blow pit (dump tank) system. Sulfur dioxide is present in the intermittent digester relief gases, as well as in the gases given off at the end of the cook when the digester contents are discharged into the blow pit. The quantity of sulfur dioxide evolved and emitted to the atmosphere in these gas streams depends on the pH of the cooking liquor, the pressure at which the digester contents are discharged, and the effectiveness of the absorption systems employed for SO₂ recovery. Scrubbers can be installed that reduce SO₂ from this source by as much as 99 percent.

Another source of sulfur dioxide emissions is the recovery system. Since magnesium, sodium, and ammonium base recovery systems all use absorption systems to recover SO₂ generated in recovery furnaces, acid fortification towers, multiple effect evaporators, etc., the magnitude of SO₂ emissions depends on the desired efficiency of these systems. Generally, such absorption systems recover better than 95 percent of the sulfur so it can be reused.

The various pulp washing, screening, and cleaning operations are also potential sources of SO₂. These operations are numerous and may account for a significant fraction of a mill's SO₂ emissions if not controlled.

The only significant particulate source in the pulping and recovery process is the absorption system handling the recovery furnace exhaust. Ammonium base systems generate less particulate than do magnesium or sodium base systems. The combustion productions are mostly nitrogen, water vapor and sulfur dioxide.

Auxiliary power boilers also produce emissions in the sulfite pulp mill, and emission factors for these boilers are presented in Chapter 1.

Table 10.1-8 contains emission factors for the various sulfite pulping operations.

10.1.4 Neutral Sulfite Semichemical (NSSC) Pulping

Process Description^{9, 12-14} - In this method, wood chips are cooked in a neutral solution of sodium sulfite and sodium carbonate. Sulfite ions react with the lignin in wood, and the sodium bicarbonate acts as a buffer to maintain a neutral solution. The major difference between all semichemical techniques and those of kraft and acid sulfite processes is that only a portion of the lignin is removed during the cook, after which the pulp is further reduced by mechanical disintegration. This method achieves yields as high as 60 to 80 percent, as opposed to 50 to 55 percent for other chemical processes.

The NSSC process varies from mill to mill. Some mills dispose of their spent liquor, some mills recover the cooking chemicals, and some, when operated in conjunction with kraft mills, mix their spent liquor with the kraft liquor as a source of makeup chemicals. When recovery is practiced, the involved steps parallel those of the sulfite process.

Emissions And Controls^{9, 12-14} - Particulate emissions are a potential problem only when recovery systems are involved. Mills that do practice recovery but are not operated in conjunction with kraft operations often utilize fluidized bed reactors to burn their spent liquor. Because the flue gas contains sodium sulfate and sodium carbonate dust, efficient particulate collection may be included for chemical recovery.

A potential gaseous pollutant is sulfur dioxide. Absorbing towers, digester/blower tank system, and recovery furnace are the main sources of SO₂, with amounts emitted dependent upon the capability of the scrubbing devices installed for control and recovery.

Hydrogen sulfide can also be emitted from NSSC mills which use kraft type recovery furnaces. The main potential source is the absorbing tower, where a

TABLE 10.1-8. EMISSION FACTORS FOR SULFITE PULPING^a

Source	Base	Control	Emission factor ^b				Emission Factor Rating
			Particulate		Sulfur dioxide		
			kg/ADUMg	lb/ADUT	kg/ADUMg	lb/ADUT	
Digester/blow pit or dump tank ^c	All	None	Neg	Neg	5 to 35	10 to 70	C
	MgO	Process change ^d	Neg	Neg	1 to 3	2 to 6	C
	MgO	Scrubber	Neg	Neg	0.5	1	B
	MgO	Process change and scrubber	Neg	Neg	0.1	0.2	B
	MgO	All exhaust vented through recovery system	Neg	Neg	0	0	A
	NH ₃	Process change	Neg	Neg	12.5	25	D
	NH ₃	Process change and scrubber	Neg	Neg	0.2	0.4	B
	Na	Process change and scrubber	Neg	Neg	1	2	C
	Ca	Unknown	Neg	Neg	33.5	67	C
	Recovery system ^e	MgO	Multicyclone and venturi scrubbers	1	2	4.5	9
NH ₃		Ammonia absorption and mist eliminator	0.35	0.7	3.5	7	B
Na		Sodium carbonate scrubber	2	4	1	2	C
Acid plant ^f	NH ₃	Scrubber	Neg	Neg	0.2	0.3	C
	Na	Unknown ^g	Neg	Neg	0.1	0.2	D
	Ca	Jenssen scrubber	Neg	Neg	4	8	C
Other ^h	All	None	Neg	Neg	6	12	D

^aReference 11. All factors represent long term average emissions. ADUMg = Air dried unbleached megagram. ADUT = Air dried unbleached ton. Neg = negligible.

^bExpressed as kg (lb) of pollutant/air dried unbleached ton (mg) of pulp.

^cFactors represent emissions after cook is completed and when digester contents are discharged into blow pit or dump tank. Some relief gases are vented from digester during cook cycle, but these are usually transferred to pressure accumulators and SO₂ therein reabsorbed for use in cooking liquor. In some mills, actual emissions will be intermittent and for short periods.

^dMay include such measures as raising cooking liquor pH (thereby lowering free SO₂), relieving digester pressure before contents discharge, and pumping out digester contents instead of blowing out.

^eRecovery system at most mills is closed and includes recovery furnace, direct contact evaporator, multiple effect evaporator, acid fortification tower, and SO₂ absorption scrubbers. Generally only one emission point for entire system. Factors include high SO₂ emissions during periodic purging of recovery systems.

^fNecessary in mills with insufficient or nonexistent recovery systems.

^gControl is practiced, but type of system is unknown.

^hIncludes miscellaneous pulping operations such as knotters, washers, screens, etc.

significant quantity of hydrogen sulfite is liberated as the cooking liquor is made. Other possible sources, depending on the operating conditions, include the recovery furnace, and in mills where some green liquor is used in the cooking process, the digester/blow tank system. Where green liquor is used, it is also possible that significant quantities of mercaptans will be produced. Hydrogen sulfide emissions can be eliminated if burned to sulfur dioxide before the absorbing system.

Because the NSSC process differs greatly from mill to mill, and because of the scarcity of adequate data, no emission factors are presented for this process.

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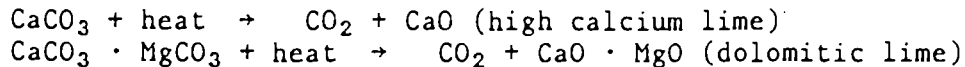
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8.15 LIME MANUFACTURING

8.15.1 General¹⁻⁴

Lime is the high temperature product of the calcination of limestone. There are two kinds, high calcium lime (CaO) and dolomitic lime (CaO · MgO). Lime is manufactured in various kinds of kilns by one of the following reactions:



In some lime plants, the resulting lime is reacted (slaked) with water to form hydrated lime.

The basic processes in the production of lime are 1) quarrying raw limestone; 2) preparing limestone for the kilns by crushing and sizing; 3) calcining limestone; 4) processing the lime further by hydrating; and 5) miscellaneous transfer, storage and handling operations. A generalized material flow diagram for a lime manufacturing plant is given in Figure 8.15-1. Note that some operations shown may not be performed in all plants.

The heart of a lime plant is the kiln. The prevalent type of kiln is the rotary kiln, accounting for about 90 percent of all lime production in the United States. This kiln is a long, cylindrical, slightly inclined, refractory lined furnace, through which the limestone and hot combustion gases pass countercurrently. Coal, oil and natural gas may all be fired in rotary kilns. Product coolers and kiln feed preheaters of various types are commonly used to recover heat from the hot lime product and hot exhaust gases, respectively.

The next most common type of kiln in the United States is the vertical, or shaft, kiln. This kiln can be described as an upright heavy steel cylinder lined with refractory material. The limestone is charged at the top and is calcined as it descends slowly to discharge at the bottom of the kiln. A primary advantage of vertical kilns over rotary kilns is higher average fuel efficiency. The primary disadvantages of vertical kilns are their relatively low production rates and the fact that coal cannot be used without degrading the quality of the lime produced. There have been few recent vertical kiln installations in the United States because of high product quality requirements.

Other, much less common, kiln types include rotary hearth and fluidized bed kilns. Both kiln types can achieve high production rates, and neither can operate with coal. The "calcimatic" kiln, or rotary hearth kiln, is a circular shaped kiln with a slowly revolving donut shaped hearth. In fluidized bed kilns, finely divided limestone is brought into contact with hot combustion air in a turbulent zone, usually above a perforated grate. Because of the amount of lime carryover into the exhaust gases, dust collection equipment must be installed on fluidized bed kilns for process economy.

TABLE 8.15-1. EMISSION FACTORS FOR LIME MANUFACTURING^a

EMISSION FACTOR RATING: B

Source	Particulate ^b		Nitrogen oxides		Carbon monoxide		Sulfur dioxide	
	kg/Hg	lb/ton	kg/Hg	lb/ton	kg/Hg	lb/ton	kg/Hg	lb/ton
Crushers, screens, conveyors, storage piles, unpaved roads, etc.	c	c	Neg	Neg	Neg	Neg	Neg	Neg
Rotary kilns ^d								
Uncontrolled ^e	180	350	1.4	2.8	1	2	f	f
Large diameter cyclone	81	160	1.4	2.8	1	2	f	f
Multiple cyclone	42	83	1.4	2.8	1	2	f	f
Electrostatic precipitator ^g	2.4	4.8	1.4	2.8	1	2	h	h
Venturi scrubber	2.4	4.8	1.4	2.8	1	2	h	h
Gravel bed filter ^g	0.53 ⁱ	1.1 ⁱ	1.4	2.8	1	2	h	h
Multiclone and venturi scrubber ^g	0.44	0.87 ^j	1.4	2.8	1	2	h	h
Baghouse	0.45 ^j	0.89 ^j	1.4	2.8	1	2	h	h
Cyclone and baghouse	0.055	0.11	1.4	2.8	1	2	h	h
Vertical kilns								
Uncontrolled	4	8	NA	NA	NA	NA	NA	NA
Calcinatic kilns ^k								
Uncontrolled	25	50	0.1	0.2	NA	NA	NA	NA
Multiple cyclone	3	6	0.1	0.2	NA	NA	NA	NA
Secondary dust collection ^l	NA	NA	0.1	0.2	NA	NA	NA	NA
Fluidized bed kilns	m	m	NA	NA	NA	NA	NA	NA
Product coolers								
Uncontrolled	20 ⁿ	40 ⁿ	Neg	Neg	Neg	Neg	Neg	Neg
Hydrators (atmospheric) ^p								
Wet scrubber	0.05	0.1	Neg	Neg	Neg	Neg	Neg	Neg
Crusher, screen, hammermill								
Baghouse	0.0005	0.001	Neg	Neg	Neg	Neg	Neg	Neg
Final screen								
Baghouse	0.0004	0.0008	Neg	Neg	Neg	Neg	Neg	Neg
Uncontrolled truck loading								
Limestone								
Open truck	0.75	1.5	Neg	Neg	Neg	Neg	Neg	Neg
Closed truck	0.38	0.76	Neg	Neg	Neg	Neg	Neg	Neg
Lime - closed truck	0.15 ⁱ	0.30 ⁱ	Neg	Neg	Neg	Neg	Neg	Neg

TABLE 8.15-1 (cont.).

- ^aReferences 4-7. Factors for kilns and coolers are per unit of lime produced. Divide by two to obtain factors per unit of limestone feed to the kiln. Factors for hydrators are per unit of hydrated lime produced. Multiply by 1.25 to obtain factors per unit of lime feed to the hydrator. Neg = negligible. NA = not available.
- ^bEmission Factor Rating = D.
- ^cFactors for these operations are presented in Sections 8.20 and 11.2 of this document.
- ^dFor coal fired rotary kilns only.
- ^eNo particulate control except for settling that may occur in stack breeching and chimney base.
- ^fSulfur dioxide may be estimated by a material balance using fuel sulfur content.
- ^gCombination coal/gas fired rotary kilns only.
- ^hWhen scrubbers are used, < 5% of the fuel sulfur will be emitted as SO₂ even with high sulfur coal. When other secondary collection devices are used, about 20% of the fuel sulfur will be emitted as SO₂ with high sulfur fuels, and < 10% with low sulfur fuels.
- ⁱEmission Factor Rating = E.
- ^jEmission Factor Rating = C.
- ^kCalcimatic kilns generally have stone preheaters. Factors are for emissions after the kiln exhaust passes through a preheater.
- ^lFabric filters and venturi scrubbers have been used on calcimatic kilns. No data are available on particulate emissions after secondary control.
- ^mFluidized bed kilns must have sophisticated dust collection equipment for process economics, hence particulate emissions will depend on efficiency of the control equipment installed.
- ⁿSome or all cooler exhaust typically is used in kiln as combustion air. Emissions will result only from that fraction not recycled to kiln.
- ^pTypical particulate loading for atmospheric hydrators following water sprays or wet scrubbers. Limited data suggest particulate emissions from pressure hydrators may be approximately 1 kg/Mg (2 lb/ton) of hydrate produced, after wet collectors.

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11.2.3 AGGREGATE HANDLING AND STORAGE PILES

11.2.3.1 General

Inherent in operations that use minerals in aggregate form is the maintenance of outdoor storage piles. Storage piles are usually left uncovered, partially because of the need for frequent material transfer into or out of storage.

Dust emissions occur at several points in the storage cycle, during material loading onto the pile, during disturbances by strong wind currents, and during loadout from the pile. The movement of trucks and loading equipment in the storage pile area is also a substantial source of dust.

11.2.3.2 Emissions and Correction Parameters

The quantity of dust emissions from aggregate storage operations varies with the volume of aggregate passing through the storage cycle. Also, emissions depend on three correction parameters that characterize the condition of a particular storage pile: age of the pile, moisture content and proportion of aggregate fines.

When freshly processed aggregate is loaded onto a storage pile, its potential for dust emissions is at a maximum. Fines are easily disaggregated and released to the atmosphere upon exposure to air currents from aggregate transfer itself or high winds. As the aggregate weathers, however, potential for dust emissions is greatly reduced. Moisture causes aggregation and cementation of fines to the surfaces of larger particles. Any significant rainfall soaks the interior of the pile, and the drying process is very slow.

Field investigations have shown that emissions from aggregate storage operations vary in direct proportion to the percentage of silt (particles < 75 μm in diameter) in the aggregate material.^{1 3} The silt content is determined by measuring the proportion of dry aggregate material that passes through a 200 mesh screen, using ASTM-C-136 method. Table 11.2.3-1 summarizes measured silt and moisture values for industrial aggregate materials.

11.2.3.3 Predictive Emission Factor Equations

Total dust emissions from aggregate storage piles are contributions of several distinct source activities within the storage cycle:

1. Loading of aggregate onto storage piles (batch or continuous drop operations).
2. Equipment traffic in storage area.
3. Wind erosion of pile surfaces and ground areas around piles.
4. Loadout of aggregate for shipment or for return to the process stream (batch or continuous drop operations).

TABLE 11.2.3-1. TYPICAL SILT AND MOISTURE CONTENT VALUES OF MATERIALS AT VARIOUS INDUSTRIES

Industry	Material	Silt (%)			Moisture (%)		
		No. of test samples	Range	Mean	No. of test samples	Range	Mean
Iron and steel production ^a	Pellet ore	10	1.4 - 13	4.9	8	0.64 - 3.5	2.1
	Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.1	5.4
	Coal	7	2 - 7.7	5	6	2.8 - 11	4.8
	Slag	3	3 - 7.3	5.3	3	0.25 - 2.2	0.92
	Flue dust	2	14 - 23	18.0	0	NA	NA
	Coke breeze	1		5.4	1		6.4
	Blended ore	1		15.0	1		6.6
	Sinter	1		0.7	0	NA	NA
	Limestone	1		0.4	0	NA	NA
Stone quarrying and processing ^b	Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Taconite mining and processing ^c	Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.3	0.96
	Tailings	2	NA	11.0	1		0.35
Western surface coal mining ^d	Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
	Overburden	15	3.8 - 15	7.5	0	NA	NA
	Exposed ground	3	5.1 - 21	15.0	3	0.8 - 6.4	3.4

^a References 2-5. NA = not applicable.

^b Reference 1.

^c Reference 6.

^d Reference 7.

Adding aggregate material to a storage pile or removing it usually involves dropping the material onto a receiving surface. Truck dumping on the pile or loading out from the pile to a truck with a front end loader are examples of batch drop operations. Adding material to the pile by a conveyor stacker is an example of a continuous drop operation.

The quantity of particulate emissions generated by a batch drop operation, per ton of material transferred, may be estimated, with a rating of C, using the following empirical expression²:

$$E = k(0.00090) \frac{\left(\frac{s}{5}\right) \left(\frac{U}{2.2}\right) \left(\frac{H}{1.5}\right)}{\left(\frac{M}{2}\right)^2 \left(\frac{Y}{4.6}\right)^{0.33}} \quad (\text{kg/Mg}) \quad (1)$$

$$E = k(0.0018) \frac{\left(\frac{s}{5}\right) \left(\frac{U}{5}\right) \left(\frac{H}{5}\right)}{\left(\frac{M}{2}\right)^2 \left(\frac{Y}{6}\right)^{0.33}} \quad (\text{lb/ton})$$

where: E = emission factor
 k = particle size multiplier (dimensionless)
 s = material silt content (%)
 U = mean wind speed, m/s (mph)
 H = drop height, m (ft)
 M = material moisture content (%)
 Y = dumping device capacity, m³ (yd³)

The particle size multiplier (k) for Equation 1 varies with aerodynamic particle size, shown in Table 11.2.3-2.

TABLE 11.2.3-2. AERODYNAMIC PARTICLE SIZE MULTIPLIER (k) FOR EQUATIONS 1 AND 2

Equation	< 30 μm	< 15 μm	< 10 μm	< 5 μm	< 2.5 μm
Batch drop	0.73	0.48	0.36	0.23	0.13
Continuous drop	0.77	0.49	0.37	0.21	0.11

The quantity of particulate emissions generated by a continuous drop operation, per ton of material transferred, may be estimated, with a rating of C, using the following empirical expression³:

$$E = k(0.00090) \frac{\left(\frac{s}{5}\right) \left(\frac{U}{2.2}\right) \left(\frac{H}{3.0}\right)}{\left(\frac{M}{2}\right)^2} \quad (\text{kg/Mg}) \quad (2)$$

$$E = k(0.0018) \frac{\left(\frac{s}{5}\right) \left(\frac{U}{5}\right) \left(\frac{H}{10}\right)}{\left(\frac{M}{2}\right)^2} \quad (\text{lb/ton})$$

where: E = emission factor
 k = particle size multiplier (dimensionless)
 s = material silt content (%)
 U = mean wind speed, m/s (mph)
 H = drop height, m (ft)
 M = material moisture content (%)

The particle size multiplier (k) for Equation 2 varies with aerodynamic particle size, as shown in Table 11.2.3-2.

Equations 1 and 2 retain the assigned quality rating if applied within the ranges of source conditions that were tested in developing the equations, as given in Table 11.2.3-3. Also, to retain the quality ratings of Equations 1 or 2 applied to a specific facility, it is necessary that reliable correction parameters be determined for the specific sources of interest. The field and laboratory procedures for aggregate sampling are given in Reference 3. In the event that site specific values for correction parameters cannot be obtained, the appropriate mean values from Table 11.2.3-1 may be used, but in that case, the quality ratings of the equations are reduced by one level.

TABLE 11.2.3-3. RANGES OF SOURCE CONDITIONS FOR EQUATIONS 1 AND 2^a

Equation	Silt content (%)	Moisture content (%)	Dumping capacity		Drop height	
			m ³	yd ³	m	ft
Batch drop	1.3 - 7.3	0.25 - 0.70	2.10 - 7.6	2.75 - 10	NA	NA
Continuous drop	1.4 - 19	0.64 - 4.8	NA	NA	1.5 - 12	4.8 - 39

^a NA = not applicable.

For emissions from equipment traffic (trucks, front end loaders, dozers, etc.) traveling between or on piles, it is recommended that the equations for vehicle traffic on unpaved surfaces be used (see Section 11.2.1). For vehicle travel between storage piles, the silt value(s) for the areas

among the piles (which may differ from the silt values for the stored materials) should be used.

For emissions from wind erosion of active storage piles, the following total suspended particulate (TSP) emission factor equation is recommended:

$$E = 1.9 \left(\frac{s}{1.5} \right) \left(\frac{365-p}{235} \right) \left(\frac{f}{15} \right) \text{ (kg/day/hectare)} \quad (3)$$

$$E = 1.7 \left(\frac{s}{1.5} \right) \left(\frac{365-p}{235} \right) \left(\frac{f}{15} \right) \text{ (lb/day/acre)}$$

where: E = total suspended particulate emission factor
s = silt content of aggregate (%)
p = number of days with ≥ 0.25 mm (0.01 in.) of precipitation per year
f = percentage of time that the unobstructed wind speed exceeds 5.4 m/s (12 mph) at the mean pile height

The coefficient in Equation 3 is taken from Reference 1, based on sampling of emissions from a sand and gravel storage pile area during periods when transfer and maintenance equipment was not operating. The factor from Test Report 1, expressed in mass per unit area per day, is more reliable than the factor expressed in mass per unit mass of material placed in storage, for reasons stated in that report. Note that the coefficient has been halved to adjust for the estimate that the wind speed through the emission layer at the test site was one half of the value measured above the top of the piles. The other terms in this equation were added to correct for silt, precipitation and frequency of high winds, as discussed in Reference 2. Equation 3 is rated C for application in the sand and gravel industry and D for other industries.

Worst case emissions from storage pile areas occur under dry windy conditions. Worst case emissions from materials handling (batch and continuous drop) operations may be calculated by substituting into Equations 1 and 2 appropriate values for aggregate material moisture content and for anticipated wind speeds during the worst case averaging period, usually 24 hours. The treatment of dry conditions for vehicle traffic (Section 11.2.1) and for wind erosion (Equation 3), centering around parameter p, follows the methodology described in Section 11.2.1. Also, a separate set of nonclimatic correction parameters and source extent values corresponding to higher than normal storage pile activity may be justified for the worst case averaging period.

11.2.3.4 Control Methods

Watering and chemical wetting agents are the principal means for control of aggregate storage pile emissions. Enclosure or covering of inactive piles to reduce wind erosion can also reduce emissions. Watering is useful mainly to reduce emissions from vehicle traffic in the storage pile area. Watering of the storage piles themselves typically has only a very temporary slight effect on total emissions. A much more effective technique is to apply chemical wetting agents for better wetting of fines and

longer retention of the moisture film. Continuous chemical treatment of material loaded onto piles, coupled with watering or treatment of roadways, can reduce total particulate emissions from aggregate storage operations by up to 90 percent.⁸

References for Section 11.2.3

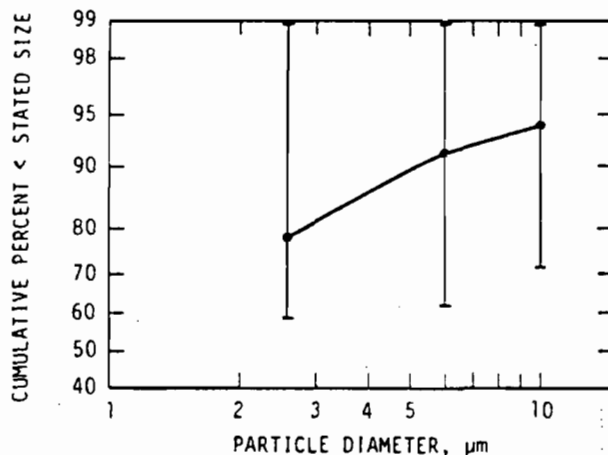
1. C. Cowherd, Jr., et al., Development of Emission Factors for Fugitive Dust Sources, EPA-450/3-74-037, U. S. Environmental Protection Agency, Research Triangle Park, NC, June 1974.
2. R. Bohn, et al., Fugitive Emissions from Integrated Iron and Steel Plants, EPA-600/2-78-050, U. S. Environmental Protection Agency, Research Triangle Park, NC, March 1978.
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7. K. Axetell and C. Cowherd, Jr., Improved Emission Factors for Fugitive Dust from Western Surface Coal Mining Sources, 2 Volumes, EPA Contract No. 68-03-2924, PEDCo Environmental, Inc., Kansas City, MO, July 1981.
8. G. A. Jutze, et al., Investigation of Fugitive Dust Sources Emissions and Control, EPA-450/3-74-036a, U. S. Environmental Protection Agency, Research Triangle Park, NC, June 1974.

TABLE C.2-2 (continued).

Category: 9
 Process: Condensation, Hydration, Absorption, Prilling and Distillation
 Material: All

Category 9 covers condensation, hydration, absorption, prilling, and distillation of all materials. These processes involve the physical separation or combination of a wide variety of materials such as sulfuric acid and ammonium nitrate fertilizer. (Coke ovens are included since they can be considered a distillation process which separates the volatile matter from coal to produce coke.)

REFERENCE: 1, 3



Particle size, μm	Cumulative % less than or equal to stated size (uncontrolled)	Minimum Value	Maximum Value	Standard Deviation
1.0 ^a	60			
2.0 ^a	74			
2.5 ^a	78	59	99	17
3.0 ^a	81			
4.0 ^a	85			
5.0 ^a	88			
6.0	91	61	99	12
10.0	94	71	99	9

^a Value calculated from data reported at 2.5, 6.0, and 10.0 μm. No statistical parameters are given for the calculated value.

C.2.3 How To Use The Generalized Particle Size Distributions For Controlled Processes

To calculate the size distribution and the size specific emissions for a source with a particulate control device, the user first calculates the uncontrolled size specific emissions. Next, the fractional control efficiency for the control device is estimated, using Table C.2-3. The Calculation Sheet provided (Figure C.2-2) allows the user to record the type of control device and the collection efficiencies from Table C.2-3, the mass in the size range before and after control, and the cumulative mass. The user will note that the uncontrolled size data are expressed in cumulative fraction less than the stated size. The control efficiency data apply only to the size range indicated and are not cumulative. These data do not include results for the greater than 10 μm particle size range. In order to account for the total controlled emissions, particles greater than 10 μm in size must be included.

C.2.4 Example Calculation

An example calculation of uncontrolled total particulate emissions, uncontrolled size specific emissions, and controlled size specific emission is shown on Figure C.2-1. A blank Calculation Sheet is provided in Figure C.2-2.

TABLE C.2-3 TYPICAL COLLECTION EFFICIENCIES OF VARIOUS PARTICULATE CONTROL DEVICES. ^{a,b}
(percent)

Type of collector	Particle size, μm		
	0 - 2.5	2.5 - 6	6 - 10
Baffled settling chamber	NR	5	15
Simple (high-throughput) cyclone	50	75	85
High-efficiency and multiple cyclones	80	95	95
Electrostatic precipitator (ESP)	95	99	99.5
Packed-bed scrubber	90	95	99
Venturi scrubber	90	95	99
Wet-impingement scrubber	25	85	95
Fabric filter	99	99.5	99.5

^a The data shown represent an average of actual efficiencies. The efficiencies are representative of well designed and well operated control equipment. Site specific factors (e.g., type of particulate being collected, varying pressure drops across scrubbers, maintenance of equipment, etc.) will affect the collection efficiencies. The efficiencies shown are intended to provide guidance for estimating control equipment performance when source-specific data are not available.

^b Reference: 10
NR = Not reported.

EXCERPTS FROM NCASI PUBLICATIONS

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NATIONAL COUNCIL OF THE PAPER INDUSTRY FOR AIR AND STREAM IMPROVEMENT, INC., 260 MADISON AVENUE, NEW YORK, N.Y. 10016

A STUDY OF NITROGEN OXIDES EMISSIONS
FROM LIME KILNS

ATMOSPHERIC QUALITY IMPROVEMENT
TECHNICAL BULLETIN No. 107

APRIL 1980

Encl. # 5

$$E_{NO_2} = \frac{w(86) + x(130) + y(210) + z(260)}{100}$$

where:

- E_{NO_2} = is the applicable standard for nitrogen oxides when multiple fuels are combusted simultaneously (ng/J heat input);
- w = is the percentage of total heat input derived from the combustion of fuels subject to the 86 ng/J heat input standard;
- x = is the percentage of total heat input derived from the combustion of fuels subject to the 130 ng/J heat input standard;
- y = is the percentage of total heat input derived from the combustion of fuels subject to the 210 ng/J input standard; and
- z = is the percentage of total heat input derived from the combustion of fuels subject to the 260 ng/J heat input standard.

Since the NOx emissions on any source are determined as nitrogen dioxide (NO₂) on a parts per million (ppm) concentration basis, the data must be converted to the appropriate units of pounds NOx as NO₂ per million Btu heat input. This can be accomplished through the measurement of (a) excess oxygen, (b) the combustion gas flow rate, and (c) the quantity and heat content of the fuel burned. As specified in the Federal Register (116), the TRS and particulate matter concentrations determined after a kraft mill lime kiln control device must be adjusted to ten percent excess oxygen content whether it is greater or less than ten percent. This adjustment addresses the need to normalize pollutant emission concentration data for various degrees of gas stream dilution through transport ducts, fans and control devices. For this reason, the NOx three-hour average concentration data in this bulletin is presented on both a measured stack concentration and also adjusted to ten percent oxygen. At all sites tested, the stack flue gas oxygen level at the point of measurement was less than ten percent oxygen.

B. Lime Kiln Sites

The oxides of nitrogen emission results for the five kilns sampled are presented in Table 3. As specified in the Federal Register (34), the data was compiled into first, hourly averages and then into three-hour averages. The mean and range for each site are noted in the table. The NOx concentration in parts per million, measured at stack conditions, is directly above the NOx concentration mean adjusted to ten percent excess oxygen. Both the three-hour mean and range are given in Table 3 with units of pounds NOx per million Btu heat input and nanograms NOx per Joule

TABLE 3 OXIDES OF NITROGEN FIELD MEASUREMENTS FOR LIME KILNS SAMPLED

Location & Fuel Type	NOx (3) Hour Average Mean			NOx (3) Hour Average Range		
	(ppm)	(lb/10 ⁶ Btu)	(ng/J) ¹	(ppm)	(lb/10 ⁶ Btu)	(ng/J) ¹
1: Oil	185 (130)*	0.850	365	165- 215	0.750- 0.990	325- 425
2: Oil	80 (55)*	0.155	65	35- 145	0.065- 0.285	30- 120
3: Oil	50 (45)*	0.160	70	25- 65	0.085- 0.215	35- 90
4A: Oil	150 (100)*	0.310	135	110- 260	0.230- 0.545	100- 235
4B: Gas	145 (100)*	0.290	125	95- 195	0.195- 0.390	85- 165
5: Gas	310 (275)*	0.780	335	145- 430	0.334- 1.125	150- 485

1. 1 lb/10⁶ Btu = 430 nanograms per Joule heat input.

* Adjusted to 10 percent oxygen in the flue gas. The other ppm oxygen concentration data corresponds to actual stack oxygen levels shown in Table 2.

heat input for each of the five sites and six combustion modes studied. These NOx emission values correspond to the time testing interval noted in Table 2. The NOx mean and upper range found for each site in units of pounds NOx per million Btu are depicted in Figure 3. All of the lime kiln sources represented in this figure except Nos. 4B and 5 corresponded to 100 percent oil fuel firing. The two exceptions were kiln sites fired on 100 percent natural gas during the study period.

The dashed line at 0.30 pounds NOx per million Btu in Figure 3 indicates the standard for oil fired boilers. The lower dashed line at 0.20 pounds NOx per million Btu corresponds to the standard for natural gas fired boilers. As shown in the figure, three out of four of the kilns fired on oil had at least one three-hour interval over 0.30 pounds NOx per million Btu. Two of these three sites were found to have data means over the oil fired boiler standard. Both of the kilns which fired natural gas had a majority of their three-hour NOx averages which were above the standard for natural gas fired boilers.

The wide range and high three-hour average NOx emission levels found for the natural gas fired kiln at site No. 5 point toward a potential dependence of NOx concentrations over the normal range of this particular burner operation. A relationship between combustion zone temperature and NOx emission rate was obtained in a study by NCASI personnel with the use of an optical pyrometer and is presented in Figure 4. The relationship in the figure was based on a total of 37 data points. The solid portion of the curve indicates the use of linear regression techniques performed on 33 of these data points which were judged to follow a close linear distribution to give the following equation having a correlation coefficient, R, of 0.965:

$$\frac{\text{lb NOx}}{10^6 \text{ Btu}} = 2.17 \times 10^{-3} (\text{Temperature, } ^\circ\text{F}) - 3.58$$

The dashed portion of the center curve was a smooth fit approximation through the remaining four data points. Based on the data collected encompassing various modes of burner operation at this site, there was judged to be a potential for reduction of NOx emissions to less than 0.4 pounds per million Btu. Adjustment of the gas firing rate and the excess air levels supplied to the kiln's burner may enable the combustion zone temperature as measured by the optical pyrometer to be controlled at less than 1850°F. Below this temperature the NOx to combustion zone temperature relationship was judged to be insignificant for the limited amount of data collected. The normal combustion zone temperature for long kilns usually averages about 2000°F with as much as 2375°F required for short kilns. The minimum temperature at which calcium carbonate dissociates and the partial pressure of carbon dioxide reaches one atmosphere is 1670°F (123). Heat and radiation losses of up to 40% in combination with the energy required to evaporate 30 to 40% water carried in the lime mud charged to the kiln, makes the minimum combustion zone temperature somewhat higher than this value.

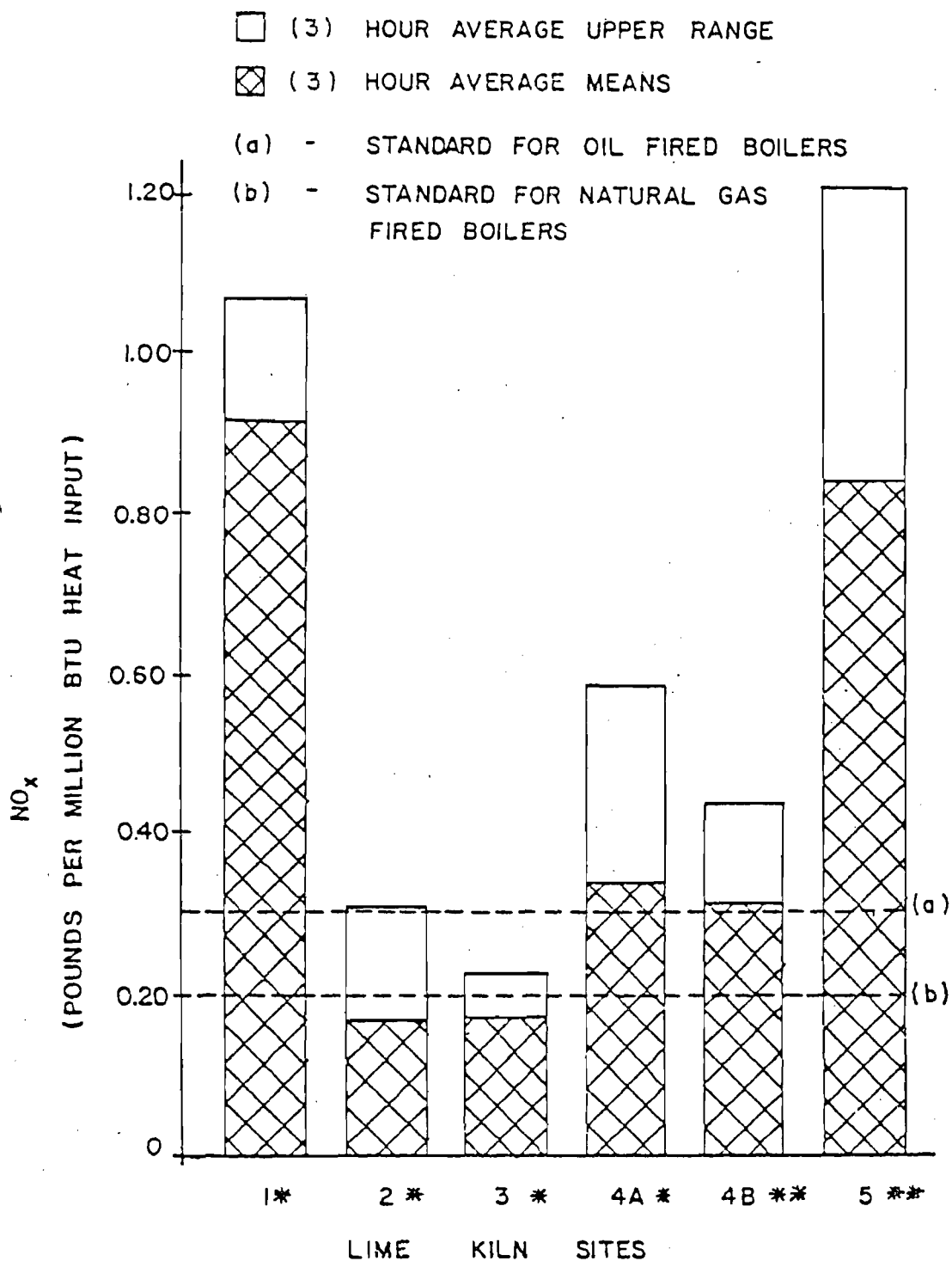


FIGURE 3. NO_x EMISSION LEVELS FOR KRAFT MILL LIME KILNS SAMPLED

* OIL FIRED

** NATURAL GAS FIRED

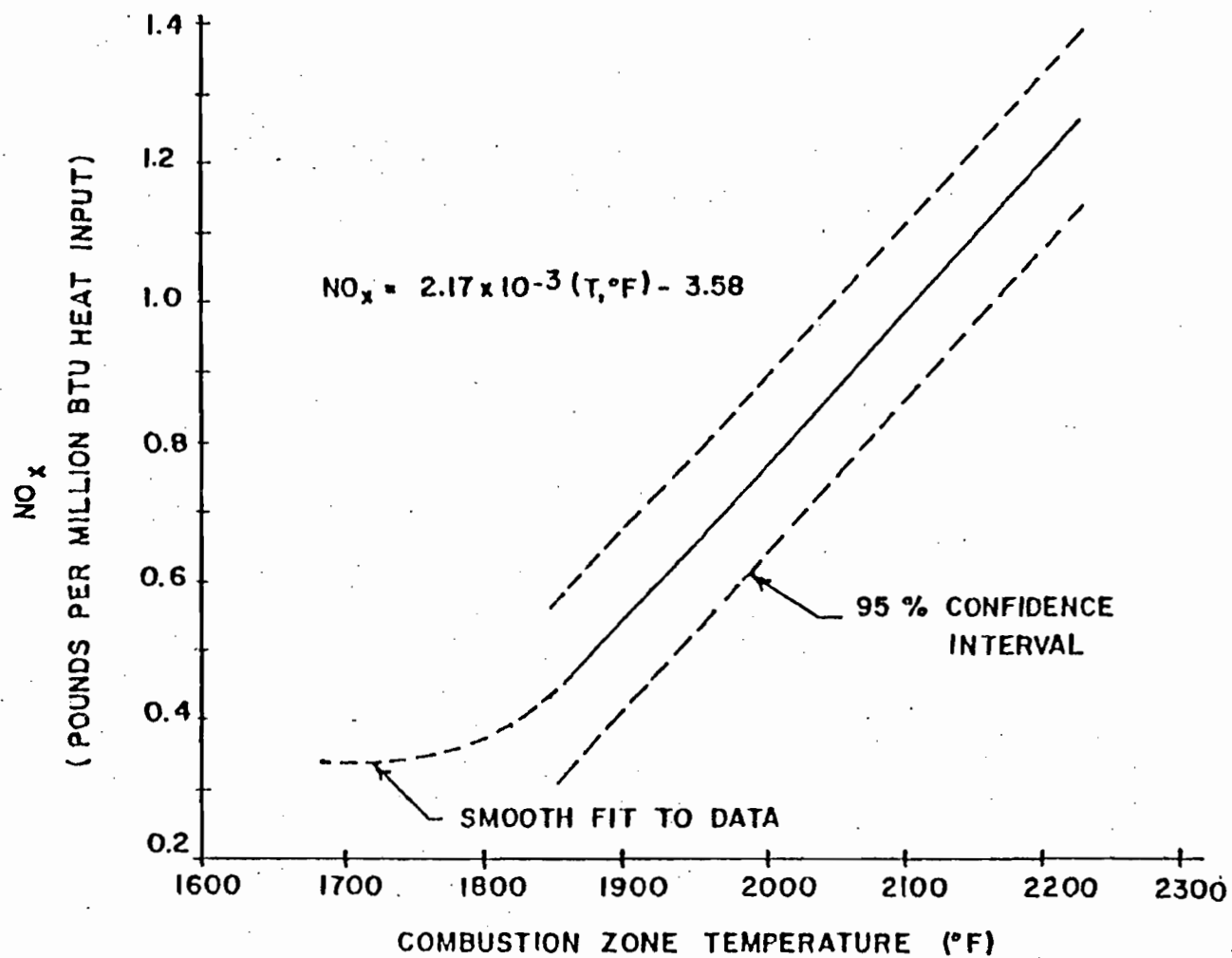


FIGURE 4. THE RELATIONSHIP BETWEEN COMBUSTION ZONE TEMPERATURE AND NO_x EMISSIONS

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NATIONAL COUNCIL OF THE PAPER INDUSTRY FOR AIR AND STREAM IMPROVEMENT, INC., 280 MADISON AVENUE, NEW YORK, N. Y. 10016

CARBON MONOXIDE EMISSIONS FROM SELECTED COMBUSTION
SOURCES BASED ON SHORT-TERM MONITORING RECORDS

TECHNICAL BULLETIN NO. 416

JANUARY 1984

B. Kraft Recovery Furnaces

Carbon monoxide monitoring records from five kraft recovery furnaces were collected and analyzed. These recovery furnaces represent both DCE and non-DCE units with construction dates ranging from 1964 to 1977. Table 2 lists characteristics of these furnaces.

TABLE 2 RECOVERY FURNACE DESIGN INFORMATION

<u>Furnace</u>	<u>Manufacturer</u>	<u>Install- ment Date</u>	<u>Type</u>	<u>Rated Black Liquor Firing Rate lb/hr</u>	<u>Average Black Liquor Firing Rate lb/hr</u>	<u>Black Liquor Heat Value Btu/lb Dry Solids</u>
A	CE	1970	NDCE	100,000	80,000	5,717
B	CE	1964	DCE	100,000	103,000	5,955
C	CE	1977	NDCE	190,000	148,000	6,600
D	CE	1975	DCE	137,500	137,000	6,000
E	B & W (short)	1965	DCE	96,000	79,000	--

C. Lime Kilns

Carbon monoxide monitoring data from two recently constructed lime kilns were collected.

(1) Kiln A - Kiln A was a rotary kiln manufactured by Allis Chalmers and began operation in 1968. The kiln has a 9 ft diameter and 250 ft length with provisions for firing on either gas or oil. Noncondensable gases from the pulp mill were not burned in the kiln. The kiln was designed to produce 106 tons lime as CaO per day for the equivalent production of 425 TPD unbleached pulp. Particulate emissions were controlled with a Chemico venturi type scrubber, which used fresh water for makeup.

(2) Kiln B - Kiln B was rotary kiln manufactured by F. L. Smidth and Co., Inc. and began operation in early 1982. The kiln has a diameter of 11.83 ft (less 1.75 ft for the brick lining at the hot end) and a length of 341 ft. The kiln fires No. 6 oil or natural gas and has a lime production capacity of 325 tons per day as CaO. This kiln used lime product coolers to preheat the combustion air. Noncondensable gases from the pulp mill were not burned in this kiln.

increase. This was at about 350 ppm carbon monoxide. The kraft recovery furnaces studied that were equipped with non-direct contact evaporators operated with higher furnace exit gas oxygen concentrations than the NDCE-equipped furnaces. These furnaces maintained carbon monoxide below 400 ppm and TRS emissions were below 5 ppm throughout the study period.

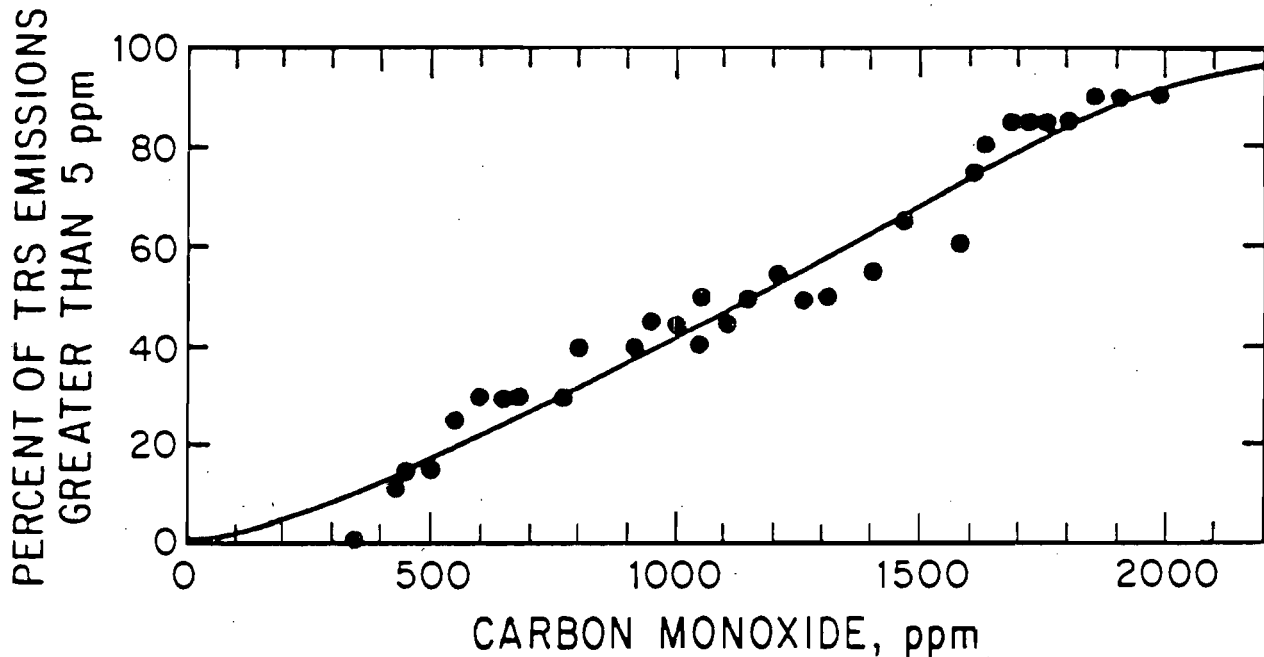


FIGURE 23

PERCENT OF TRS EMISSIONS GREATER THAN 5 ppm
AS A FUNCTION OF CARBON MONOXIDE CONCENTRATIONS
IN THE STACK GASES AT RECOVERY FURNACE C

Carbon monoxide-TRS emission relationships for these five units were inadequate to determine if carbon monoxide monitoring could serve as a surrogate for TRS monitoring. An additional study is required to determine if this is the case. Carbon monoxide monitoring, however, was indicated to be an effective tool to assist the furnace operator in reducing TRS emissions excursions from the furnace.

E. Lime Kiln Carbon Monoxide Emission

Averages of carbon monoxide emission data collected from two lime kilns during this survey, kilns A and B, representing 200 and 60 hours of data respectively, and two lime kilns during TGNMO emissions survey (5), kilns C and D, are listed in Table 6. Cumulative frequency distributions of 1 hr and 8 hr average

carbon monoxide emissions from kilns A and B are shown in Figures 24 and 25. Average 1 hr carbon monoxide emissions from kilns A and B were less than 0.03 lb/10⁶ Btu heat input greater than 70 percent of the time. Occasional process upsets, such as too little excess combustion air or unstable flame conditions resulted in occasional short-term, high concentrations of carbon monoxide. Carbon monoxide emissions during these momentary aberrations increased average emissions from baseline levels. Median 1 hr average carbon monoxide emissions were at 0.008 and 0.023 lb/10⁶ Btu for kilns A and B respectively. Lime kiln C was an older unit and did not have an operating oxygen monitor when sampled. This may have been in part responsible for the higher carbon monoxide emission rates measured.

TABLE 6 AVERAGE LIME KILN CARBON MONOXIDE EMISSIONS

<u>Kiln</u>	<u>Hours of Data</u>	<u>lb CO/10⁶ Btu</u>	<u>lb CO/ton Lime</u>	<u>lb CO/ADT Pulp</u>
A	60	0.038	0.17	0.051
B	200	0.041	0.19	0.058
C	14	0.080	0.41	0.120
D	8	0.020	0.12	0.035

F. Carbon Monoxide Emissions at Optimum Energy Recovery Efficiency

Recovery furnaces and wood-residue fired boilers can be optimized for energy recovery by balancing reduced stack heat losses from low excess combustion air use against energy losses from uncombusted carbon monoxide in the flue gases. Figure 26 shows stack energy losses from three kraft recovery furnaces as a function of the stack gas oxygen concentration and CO concentrations typical of the flue gas oxygen concentration shown for the indicated furnace. Each recovery furnace is indicated to have an optimum operating range. The carbon monoxide emission concentrations in the exit gas at maximum energy recovery were between 300 to 1000 ppm, which corresponded to between 1.1 to 3.8 lb CO/10³ lb bls. These values will vary somewhat with stack gas temperature. A higher stack gas temperature should result in a narrower range in carbon monoxide emission rates at maximum energy recovery. If recovery furnaces are optimized for energy recovery, it would be expected that carbon monoxide emission rate will be within the range mentioned above. A carbon monoxide concentration of 300 ppm or about 1 lb CO/10³ lb bls was

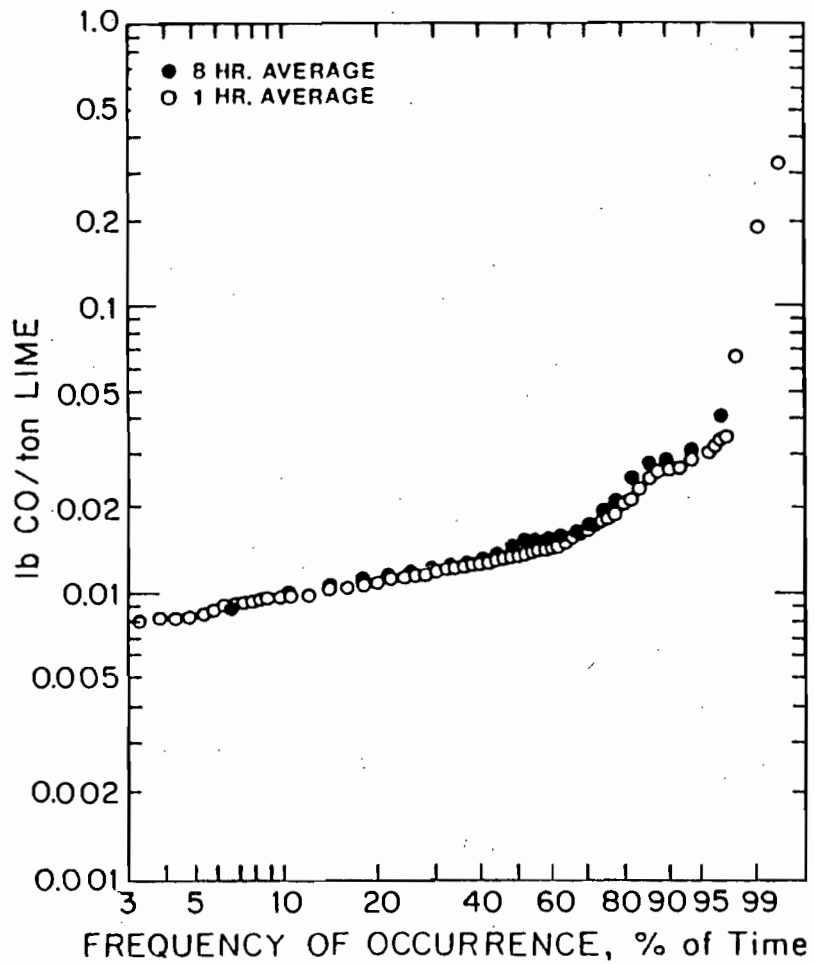


FIGURE 24

FREQUENCY OF OCCURRENCE OF CO EMISSIONS MEASURED AT LIME KILN A

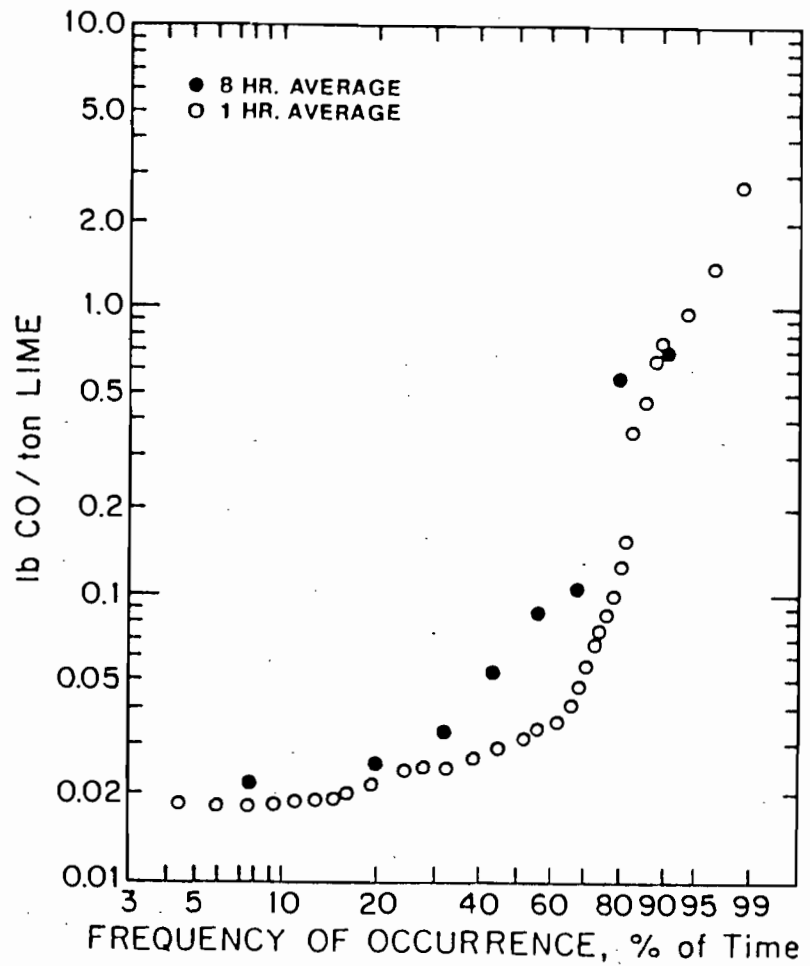


FIGURE 25

FREQUENCY OF OCCURRENCE OF CO EMISSIONS MEASURED AT LIME KILN B

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NATIONAL COUNCIL OF THE PAPER INDUSTRY FOR AIR AND STREAM IMPROVEMENT, INC., 260 MADISON AVENUE, NEW YORK, N.Y. 10016

A STUDY OF KRAFT PROCESS LIME KILN
TOTAL GASEOUS NON-METHANE ORGANIC EMISSIONS

TECHNICAL BULLETIN NO. 358

SEPTEMBER 1981

The National Council is currently surveying total gaseous non-methane organic emissions from selected sources in the forest products industry to provide a data base on potential emissions to be expected from various sources. It is the aim of this project to produce data consistent with the EPA reference method to be selected for the measurement of total gaseous non-methane organic compounds (TGNMO). The sampling and analysis procedures used in this study were in accordance with proposed EPA Method 25, published in the Federal Register October 3, 1980 (Appendix A) (2).

The EPA analytical procedure yields values for carbon monoxide, carbon dioxide, methane and total gaseous non-methane organics. The analytical procedure was altered to produce results for ethane and ethylene. Methane and ethane are not photoreactive and were not included in the results. The total gaseous non-methane organics (TGNMO) results are reported as methane. The following presents and discusses the sampling equipment, the procedures used, and results obtained from the kraft process lime kiln portion of this study. The kilns sampled were considered as representative of current kiln design and operating practices.

II KILN DESCRIPTIONS

Three lime kilns were sampled for TGNMO emissions both before and after wet scrubbers.

Kiln A is a rotary kiln manufactured by Allis Chalmers and began operation in 1968. The kiln is 9 ft. in diameter and 250 ft. long and can be fired on either gas or oil. Noncondensable gases from the pulp mill are not burned in the kiln. The kiln was designed to produce lime for production of 106 tons per day CaO (425 TPD of unbleached pulp). Fresh water was used throughout the causticizing system. Particulate emissions were controlled with a Chemico venturi type scrubber, which used fresh water for makeup.

Kiln B is a rotary kiln manufactured by Allis Chalmers and began operation in 1964. The kiln is 8 ft. in diameter and 250 ft. long and can be fired with either gas or oil. Noncondensable gases from the pulp mill were burned in the kiln. The kiln was designed to produce 90 tons per day CaO (360 tons pulp per day) but normally operated at 120 to 140 tons per day CaO. Evaporator condensates are used as makeup water throughout the causticizing system and in the scrubber. Particulate emissions were controlled with a Peabody bubble tray falling film scrubber.

Kiln C is a rotary kiln manufactured by Taylor Co. and began operation in 1980. The kiln is 11 ft. 6 in. in diameter and 330 ft. long. Combustion air was preheated by flowing over the outside of the hot end of the kiln. Noncondensable gases were burned in the kiln. The kiln was designed to produce 245 tons per day product (980 tons pulp per day). Fresh water was used for makeup throughout the causticizing system. Particulate emissions were controlled by

an Air Pollution Industries venturi scrubber operating at a 30 to 32 in. pressure drop. Fresh water was used throughout the causticizing system for makeup.

III SAMPLING AND ANALYSIS METHOD

The procedure used for data collection was similar to the one developed by the Southern California Air Pollution Control District and EPA method 25 (Appendix A) procedures. The principle of the procedure is to separate organic compounds at the time of collection into high and low molecular weight fractions using a cold trap (-78°C). The light components are captured in an evacuated tank. The trap containing condensed organics is burned to convert organics to CO₂ for analysis in the laboratory. The light organics captured in the evacuated tank are separated on a chromatographic column yielding concentrations for CO, CH₄, CO₂, C₂H₆ and C₂H₄. All other organics are eluted in one peak. Summation of the trap and tank organic results gives TGNMO stack concentrations. All results are reported as methane.

A. Sampling

Field samples were taken simultaneously in duplicate through separate 1/2 in. stainless steel probes. The stack end of the probes were filled with glass wool before each sample was drawn to prevent collection of particulates in the traps. Six feet of 1/8 in. stainless steel tubing ran from the probes to the traps which were submerged in granular dry ice. The connection between the probe and sampling line was kept inside the stack during sampling. Schematics of the trap construction and sampling assembly are presented in Figures 1 and 2, respectively. Condensable organics and water vapor were captured in the traps. From the traps the gas flowed through a rotometer, a flow control valve, and into a 17-liter evacuated stainless steel tank.

All screw connections in the sampling system were checked for leaks in the field before sampling by pressurizing with air at 30 psi and soaking the joints individually with soapy water. Leaks detected were eliminated prior to sampling.

Sampling flow rates were set at about 230 ml/min so that about 13 liters of sample were collected in the one hour sampling period. When a trap froze due to condensation of stack moisture, the trap inlet was heated momentarily with a propane torch to melt the ice. The sampling system was watched closely to maintain the proper flow rate. After sampling, the trap and 6-foot section of line to the probe were capped and transported to the laboratory packed in dry ice. Tank pressures were measured before and after sampling to determine sample size. Orsat analyses were made for CO₂ and O₂ during sampling.

$$SSc = \frac{Tc^2}{n} - \frac{T^2}{N}$$

$$SSt = \sum x^2 - \frac{T^2}{N}$$

$$SSr = SSt - SSc$$

Shown below is a table to calculate the mean squares and separate estimates of variance due to analytical or wood-residue boiler sources.

<u>Source of Variation</u>	<u>Squares (SS)</u>	<u>Freedom (DF)</u>	<u>Square, (MS) (MS=SS/DF)</u>	<u>Mean Square Ratio (MSR)</u>	<u>Parameters Estimated</u>
Boilers	SSc	c-1		$\frac{MSc}{MSr}$	$\sigma^2 + n\sigma_a^2$
Experimental	SSr	c(n-1)			σ^2

When the MSR is less than the appropriate F statistic from the F distribution tables, the variation appearing in the data is due to the randomness resulting from the analytical procedures and not necessarily from the source.

An estimate of the variance of the TGNMO from the boilers is calculated by:

$$S_a^2 = \frac{SSc/(c-1) - SSr/c(n-1)}{n}$$

An estimate of the variance of the analytical procedure (S_r^2) is given by σ^2 .

VI RESULTS

All the TGNMO ppm results were corrected for the CO₂ interference as shown in Appendix B. Average CO₂ interferences were 73, 62, and 34 ppm, which represented 75%, 19%, and 109% of the corrected TGNMO for kilns A-C, respectively. The subsequent data presented in this report has been corrected for the CO₂ interference.

Table 6 presents TGNMO emission data in terms of ppm CH₄, lb/ton lime produced, and lb/ton unbleached pulp, along with kiln operation information. The TGNMO emissions expressed as lb/ton unbleached pulp was calculated by assuming 0.3 tons of lime are required to produce 1 ton of pulp. Average TGNMO emissions from the kilns were 0.41, 1.6, and 0.24 lb/ton CaO produced or 0.12, 0.48, and 0.07 lb/ton pulp produced for kilns A-C, respectively. In terms of energy input to the kilns, the TGNMO emissions were 0.060, 0.30, and 0.037 lb/10⁶ Btu, respectively.

Kiln B produced the highest emissions. The high TGNMO emission rate from this kiln likely resulted from organics introduced to the lime mud by the use of evaporator condensates in the lime mud washing system and at the scrubber. These organics were driven into the gas stream at the cold end of the kiln where the lime mud is dried at the scrubber.

Fresh water was being used in sprays to further wash the mud on the lime mud filter for the first 5 data entries for lime kiln B in Table 6. The TGNMO emissions were higher when fresh water was being used than when evaporator condensates were being used on the lime mud filter sprays. This result is contrary to what may be expected if the organic compounds emitted were introduced to the process through the wash water.

The TGNMO emissions from kiln A could also be due in part to organic compounds contained in the water associated with the lime mud rather than from uncombusted fuel. This kiln and causticizing system was operating over capacity and there were green liquor dregs in the lime mud. Dregs are composed of unburned carbon and products of corrosion contained in the smelt from the recovery furnace. Between 40 to 56% of dregs are lost upon ignition (6). It is possible that the unburned carbon contained volatile organic compounds and were emitted at the cold end of the kiln during drying.

To assess if the TGNMO emissions were associated with the lime mud or a product of combustion, a laboratory study on the lime mud organic content was performed. A measured quantity of lime mud from kiln A was heated to drive off water and organic compounds into the sample preparation system in the TGNMO analysis procedure. Results showed a potential emission rate of 0.44 lb TGNMO per ton lime produced when heated. Corrected field sampling results showed emissions of 0.37 lb/ton lime produced at the time the lime mud sample was collected.

It appears that organics present in the lime mud may be responsible for a significant portion of TGNMO emissions from this kiln. More studies of a similar nature on other lime kilns and a variety of lime muds are advisable to better define this potential relationship.

TGNMO emissions from kiln C were the lowest of the three kilns studied. This kiln burned noncondensable gases. It is not known whether burning of noncondensable gases contributes to TGNMO

TABLE 6 LIME KILN TGNMO EMISSIONS AND OPERATING PARAMETERS

ppm CH ₄	TGNMO		Stack Flow DSCFM	Lime Produced Tons/hr	Gas Burned cfm	Oil Burned gpm	10 ⁶ Btu Input Ton CaO	TGNMO lb/10 ⁶ Btu
	lb/Ton CaO	lb/Ton Pulp						
<u>Kiln A</u>								
112	0.52	0.16	10,700	7.0	650		5.7	0.091
214	0.96	0.29	12,200	8.2	-	-		
82	0.37	0.11	12,200	8.2	-	-		
126	0.49	0.15	9,400	7.2		4.4	5.5	0.089
62	0.24	0.07	9,400	7.2		4.4	5.5	0.043
1	0.01	0.00	13,200	4.8		4.5	8.5	0.001
121	0.52	0.16	8,000	5.6	550		6.1	0.086
56	0.20	0.06	10,300	8.6		3.8	4.0	0.050
<u>Avg. 97</u>	0.41	0.12						0.060
<u>Kiln B</u>								
570	2.5	0.75	8,600	5.9	500		5.2	0.48
360	2.0	0.60	9,700	5.4	470		5.4	0.37
340	1.8	0.54	9,700	5.4	470		5.4	0.33
180	0.8	0.24	8,700	6.0	546		5.6	0.14
360	1.6	0.49	9,000*	6.0	460		4.7	0.34
250	1.6	0.49	10,400*	4.8	470		6.0	0.26
320	1.2	0.36	8,600	6.8	495		4.5	0.27
240	0.9	0.27	7,300	6.2	500		5.0	0.18
<u>Avg. 328</u>	1.6	0.48						0.30
<u>Kiln C</u>								
38	0.35	0.11	16,800	6.1		5.0	7.4	0.047
26	0.15	0.04	22,000	9.9		5.4	4.9	0.031
43	0.33	0.10	17,800	7.4		4.6	5.6	0.045
18	0.14	0.04	18,600	7.4		4.8	5.9	0.024
<u>Avg. 31</u>	0.24	0.07						

* Flow rates calculated from material balance

emissions. Possible contribution to TGNMO emission from lime mud contaminants was not investigated at this kiln.

TGNMO emission changes across the scrubbers on each lime kiln were monitored by simultaneous sampling before and after the scrubber. Table 7 shows the results. All three kilns showed a slight increase in emissions across the scrubber. The increases found, however, were not statistically significant. A large number of samples would be required to show a definite trend.

TABLE 7 CHANGE IN TGNMO EMISSIONS ACROSS SCRUBBER

	<u>TGNMO Before Scrubber ppm</u>	<u>TGNMO After Scrubber ppm</u>	<u>TGNMO Change</u>
<u>Kiln A</u>	1	63	+62
	122	163	+41
	56	90	+34
<u>Avg.</u>	60	105	+45
<u>Kiln B</u>	195	225	+30
	361	264	-97
	246	263	+17
	198	272	+74
<u>Avg.</u>	250	206	+ 6
<u>Kiln C</u>	20	40	+20
	44	57	+13
<u>Avg.</u>	32	48	+16

The precision of the data as indicated by duplicate samples was obtained from an analysis of variance. Results of the analysis of variance on the TGNMO data in terms of lb/ton CaO produced are listed in Table 8. These results indicated: (1) significant variation in the results not caused by random sampling and analysis error exist in the data from kilns A and B, (2) that the average of a single paired sample is within ± 0.14 , ± 0.64 , and ± 0.19 lb/ton CaO produced of the true value at the 95% confidence level for kilns A-C respectively, and (3) that the average TGNMO emissions reported for each lime kiln are within ± 0.22 , ± 1.33 , and ± 0.08 lb/ton lime produced of the true average at the 95% confidence level for kilns A-C respectively.

ADDITIONAL REFERENCES

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or operator may use any of the following procedures during a performance test:

(1) Base compliance on control of the combined emissions;

(2) Utilize a method acceptable to the Administrator that compensates for the emissions from the facilities not subject to the provisions of this subpart, or;

(3) Any combination of the criteria of paragraphs (h)(1) and (h)(2) of this section.

(i) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart, determinations of compliance with § 60.272a(a)(3) will only be based upon emissions originating from the affected facility(ies).

(j) Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under § 60.8 to demonstrate compliance with § 60.272a(a) (1), (2), and (3) of this subpart.

§ 60.276a Recordkeeping and reporting requirements.

(a) Records of the measurements required in § 60.274a must be retained for at least 2 years following the date of the measurement.

(b) Each owner or operator shall submit a written report of exceedances of the control device opacity to the Administrator semi-annually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater.

(c) Operation at a furnace static pressure that exceeds the value established under § 60.274a(g) and either operation of control system fan motor amperes at values exceeding ± 15 percent of the value established under § 60.274a(c) or operation at flow rates lower than those established under § 60.274a(c) may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Administrator semiannually.

(d) The requirements of this section remain in force until and unless EPA,

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in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with this section, provided that they comply with the requirements established by the State.

(e) When the owner or operator of an EAF or AOD is required to demonstrate compliance with the standard under § 60.275a (h)(2) or (h)(3), the owner or operator shall obtain approval from the Administrator of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be post-marked 30 days prior to the performance test.

(Approved by the Office of Management and Budget under control number 2060-0038)

Subpart BB—Standards of Performance for Kraft Pulp Mills

§ 60.280 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in kraft pulp mills: Digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of this subpart are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation.

(b) Except as noted in § 60.283(a)(1)(iv), any facility under paragraph (a) of this section that commences construction or modification after September 24, 1976, is subject to the requirements of this subpart.

[51 FR 18544, May 20, 1986]

§ 60.281 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.

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(a) "Kraft pulp mill" means any stationary source which produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.

(b) "Neutral sulfite semichemical pulping operation" means any operation in which pulp is produced from wood by cooking (digesting) wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating (grinding).

(c) "Total reduced sulfur (TRS)" means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, that are released during the kraft pulping operation and measured by Reference Method 16.

(d) "Digester system" means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), below tank(s), chip steamer(s), and condenser(s).

(e) "Brown stock washer system" means brown stock washers and associated knotters, vacuum pumps, and filtrate tanks used to wash the pulp following the digestion system. Diffusion washers are excluded from this definition.

(f) "Multiple-effect evaporator system" means the multiple-effect evaporators and associated condenser(s) and hotwell(s) used to concentrate the spent cooking liquid that is separated from the pulp (black liquor).

(g) "Black liquor oxidation system" means the vessels used to oxidize, with air or oxygen, the black liquor, and associated storage tank(s).

(h) "Recovery furnace" means either a straight kraft recovery furnace or a cross recovery furnace, and includes the direct-contact evaporator for a direct-contact furnace.

(i) "Straight kraft recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains 7 weight percent

or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.

(j) "Cross recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than 7 weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.

(k) "Black liquor solids" means the dry weight of the solids which enter the recovery furnace in the black liquor.

(l) "Green liquor sulfidity" means the sulfidity of the liquor which leaves the smelt dissolving tank.

(m) "Smelt dissolving tank" means a vessel used for dissolving the smelt collected from the recovery furnace.

(n) "Lime kiln" means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.

(o) "Condensate stripper system" means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.

[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18544, May 20, 1986]

§ 60.282 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 recovery furnace any gases which:

(i) Contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.

(ii) Exhibit 35 percent opacity or greater.

(2) From any smelt dissolving tank any gases which contain particulate matter in excess of 0.1 g/kg black liquor solids (dry weight) [0.2 lb/ton black liquor solids (dry weight)].

(3) From any lime kiln any gases which contain particulate matter in excess of:

(i) 0.15 g/dscm (0.067 gr/dscf) corrected to 10 percent oxygen, when gaseous fossil fuel is burned.

(ii) 0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen, when liquid fossil fuel is burned.

[43 FR 7572, Feb. 23, 1978]

§ 60.283 Standard for total reduced sulfur (TRS).

(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 digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met:

(i) The gases are combusted in a lime kiln subject to the provisions of paragraph (a)(5) of this section; or

(ii) The gases are combusted in a recovery furnace subject to the provisions of paragraphs (a)(2) or (a)(3) of this section; or

(iii) The gases are combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this subpart, and are subjected to a minimum temperature of 1200° F. for at least 0.5 second; or

(iv) It has been demonstrated to the Administrator's satisfaction by the owner or operator that incinerating the exhaust gases from a new, modified, or reconstructed brown stock washer system is technologically or economically unfeasible. Any exempt system will become subject to the provisions of this subpart if the facility is changed so that the gases can be incinerated.

(v) The gases from the digester system, brown stock washer system, or condensate stripper system are controlled by a means other than combustion. In this case, this system shall not discharge any gases to the atmosphere which contain TRS in excess of 5 ppm

by volume on a dry basis, corrected to the actual oxygen content of the untreated gas stream.

(vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg ADP (0.01 lb/ton ADP).

(2) From any straight kraft recovery furnace any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen.

(3) From any cross recovery furnace any gases which contain TRS in excess of 25 ppm by volume on a dry basis, corrected to 8 percent oxygen.

(4) From any smelt dissolving tank any gases which contain TRS in excess of 0.016 g/kg black liquor solids as H₂S (0.033 lb/ton black liquor solids as H₂S).

(5) From any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.

[43 FR 7572, Feb. 23, 1978, as amended at 50 FR 6317, Feb. 14, 1985; 51 FR 18544, May 20, 1986]

§ 60.284 Monitoring of emissions and operations.

(a) Any owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring systems:

(1) A continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity.

(2) Continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln, recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except where the provisions of § 60.283(a)(1)(iii) or (iv) apply. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:

(i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system, except that for any cross recovery furnace the span shall be set at 50 ppm.

(ii) At 20 percent oxygen for the continuous oxygen monitoring system.

(b) Any owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) For any incinerator, a monitoring device which measures and records the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple-effect evaporator system, black liquor oxidation system, or condensate stripper system where the provisions of § 60.283(a)(1)(iii) apply. The monitoring device is to be certified by the manufacturer to be accurate within ±1 percent of the temperature being measured.

(2) For any lime kiln or smelt dissolving tank using a scrubber emission control device:

(i) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gage pressure of ±500 pascals (ca. ±2 inches water gage pressure).

(ii) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.

(c) Any owner or operator subject to the provisions of this subpart shall, except where the provisions of § 60.283(a)(1)(iv) or (a)(4) apply.

(1) Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12

contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(2) Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace and lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under paragraph (c)(1) of this section and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(3) Correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentration from a recovery furnace shall be corrected to 8 volume percent using the following equation:

$$C_{corr} = C_{meas} \times (21 - X/21 - Y)$$

where:

C_{corr} = the concentration corrected for oxygen.

C_{meas} = the concentration uncorrected for oxygen.

X = the volumetric oxygen concentration in percentage to be corrected to (8 percent for recovery furnaces and 10 percent for lime kilns, incinerators, or other devices).

Y = the measured 12-hour average volumetric oxygen concentration.

(4) Record once per shift measurements obtained from the continuous monitoring devices installed under paragraph (b)(2) of this section.

(d) For the purpose of reports required under § 60.7(c), any owner or operator subject to the provisions of this subpart shall report semiannually periods of excess emissions as follows:

(1) For emissions from any recovery furnace periods of excess emissions are:

(i) All 12-hour averages of TRS concentrations above 5 ppm by volume for straight kraft recovery furnaces and above 25 ppm by volume for cross recovery furnaces.

(ii) All 6-minute average opacities that exceed 35 percent.

(2) For emissions from any lime kiln, periods of excess emissions are all 12-hour average TRS concentration above 8 ppm by volume.

(3) For emissions from any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system periods of excess emissions are:

(i) All 12-hour average TRS concentrations above 5 ppm by volume unless the provisions of § 60.283(a)(1) (i), (ii), or (iv) apply; or

(ii) All periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200 °F, where the provisions of § 60.283(a)(1)(iii) apply.

(e) The Administrator will not consider periods of excess emissions reported under paragraph (d) of this section to be indicative of a violation of § 60.11(d) provided that:

(1) The percent of the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating) during which excess emissions occur does not exceed:

(i) One percent for TRS emissions from recovery furnaces.

(ii) Six percent for average opacities from recovery furnaces.

(2) The Administrator determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.

(Approved by the Office of Management and Budget under control no. 2060-0021)

(43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18545, May 20, 1986)

§ 60.285 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 § 60.282(a) as follows:

(1) Method 5 for the concentration of particulate matter and the associated moisture content,

(2) Method 1 for sample and velocity traverses,

(3) When determining compliance with § 60.282(a)(2), Method 2 for velocity and volumetric flow rate,

(4) Method 3 for gas analysis, and

(5) 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 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator. Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure outlined in Method 5.

(c) Method 17 (in-stack filtration) may be used as an alternate method for Method 5 for determining compliance with § 60.282(a)(1)(i): *Provided*, That a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17 and the stack temperature is no greater than 205° C (ca. 400° F). Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure outlined in Method 17.

(d) For the purpose of determining compliance with § 60.283(a) (1), (2), (3), (4), and (5), the following reference methods shall be used:

(1) Method 16 or, at the discretion of the owner or operator, Method 16A for the concentration of TRS.

(2) Method 3 for gas analysis, and

(3) When determining compliance with § 60.283(a)(4), use the results of Method 2, Method 16 or 16A, and the black liquor solids feed rate in the following equation to determine the TRS emission rate on an equivalent hydrogen sulfide (H₂S) basis.

$$E = (C_{TRS})(F)(Q_w)/BLS$$

Where:

E = mass of TRS emitted per unit of black liquor solids (g/kg)(lb/ton).

C_{TRS} = average combined concentration of TRS as determined by Method 16 or 16A during the test period, ppm.

F = 0.001417 g H₂S/m³ ppm for metric units. = 0.08844 × 10⁻⁴ lb H₂S/ft³ ppm for English units.

Q_w = dry volumetric stack gas flow rate corrected to standard conditions, dscm/hr (dscf/hr).

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BLS = black liquor solids feed rate, kg/hr (ton/hr).

(4) When determining whether a furnace is a straight kraft recovery furnace or a cross recovery furnace, TAPPI Method T.624 (incorporated by reference—see § 60.17) shall be used to determine sodium sulfide, sodium hydroxide, and sodium carbonate. These determinations shall be made three times daily from the green liquor and the daily average values shall be converted to sodium oxide (Na₂O) and substituted into the following equation to determine the green liquor sulfidity:

$$GLS = 100 C_{Na_2S} / (C_{Na_2S} + C_{NaOH} + C_{Na_2CO_3})$$

where:

GLS = percent green liquor sulfidity

C_{Na₂S} = average concentration of Na₂S expressed as Na₂O (mg/l)

C_{NaOH} = average concentration of NaOH expressed as Na₂O (mg/l)

C_{Na₂CO₃} = average concentration of Na₂CO₃ expressed as Na₂ (mg/l)

(5) When determining compliance with § 60.283(a)(1)(vi), use the results of Method 2, Method 16, and the pulp production rate in the equation specified in § 60.285(d)(3), except substitute the pulp production rate (PPR) (kg/hr (tons/hr)) for the black liquor solids feed rate (BLS).

(e) All concentrations of particulate matter and TRS required to be measured by this section from lime kilns or incinerators shall be corrected to 10 volume percent oxygen and those concentrations from recovery furnaces shall be corrected to 8 volume percent oxygen. These corrections shall be made in the manner specified in § 60.284(c)(3).

(43 FR 7572, Feb. 23, 1978, as amended at 43 FR 3738, Jan. 27, 1983; 50 FR 6318, Feb. 14, 1985; 50 FR 9579, Mar. 8, 1985; 50 FR 19022, May 6, 1985)

§ 60.286 Innovative technology waiver.

(a) Pursuant to section 111(j) or the Clean Air Act, 42 U.S.C. 7411(j), the No. 10 batch digester at Owens-Illinois Incorporated's Valdosta kraft pulp mill in Clyattville, Georgia, shall comply with the following conditions:

(1) Owens-Illinois, Incorporated shall obtain the necessary permits as required by section 173 of the Clean

Air Act, as amended August 1977, to operate the No. 10 batch digester at the Valdosta mill.

(2) Commencing on February 14, 1985, and continuing for 2 years or to December 31, 1986, or until the displacement heating system that can achieve the standard specified in 40 CFR 60.283 is demonstrated to the Administrator's satisfaction, whichever comes first, Owens Illinois, Incorporated shall limit the discharge of TRS emissions to the atmosphere:

(i) From the No. 10 batch digester at the Valdosta mill to 0.02 lb of TRS per ton of air-dried pulp.

(ii) From the existing multiple-effect evaporators at the Valdosta mill to the TRS level existing prior to the modifications.

(3) Commencing the day after the expiration of the period described in paragraph (a)(2) of this section, and continuing thereafter, emissions of TRS from the No. 10 batch digester shall not exceed the TRS level of 0.005 g/kg ADP (0.01 lb/ton ADP) as specified in § 60.283 of this part.

(4) The No. 10 batch digester system shall comply with the provisions of §§ 60.284 and 60.285.

(5) A technology development report shall be sent to EPA, Emission Standards and Engineering Division (MD-13), Research Triangle Park, North Carolina 27711 and EPA Region IV, 345 Courtland, NE, Atlanta, Georgia 30365, postmarked before 60 days after the promulgation of this waiver and every 6 months thereafter while this waiver is in effect. The technology development report shall summarize the displacement heating system work including the results of tests of the various emission points being evaluated. The report shall include an updated schedule of attainment of 40 CFR 60.283 based on the most current information. Tests will be conducted prior to and after the digester modifications for TRS emissions and air flow rates on all vents to the atmosphere from the No. 10 digester system, the multiple effect evaporator system, and at the existing batch digester system. In addition, tests will be performed to determine the BOD content of the effluents from the multiple effect evaporator system, the brown stock washing

system, and the mill prior to and after the digester modifications.

(b) This waiver shall be a federally promulgated standard of performance. As such, it shall be unlawful for Owens-Illinois, Incorporated to operate the No. 10 batch digester or the multiple-effect evaporators in violation of the requirements established in this waiver. Violations of the terms and conditions of this waiver shall subject Owens-Illinois, Incorporated to enforcement under section 113 (b) and (c), 42 U.S.C. 7412 (b) and (c), and section 120, 42 U.S.C. 7420, of the Act as well as possible citizen enforcement under section 304 of the Act, 42 U.S.C. 7604.

[50 FR 6317, Feb. 14, 1985; 50 FR 7595, Feb. 25, 1985]

Subpart CC—Standards of Performance for Glass Manufacturing Plants

Source: 45 FR 66751, Oct. 7, 1980, unless otherwise noted.

§ 60.290 Applicability and designation of affected facility.

(a) Each glass melting furnace is an affected facility to which the provisions of this subpart apply.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 15, 1979, is subject to the requirements of this subpart.

(c) This subpart does not apply to hand glass melting furnaces, glass melting furnaces designed to produce less than 4,550 kilograms of glass per day and all-electric melters.

§ 60.291 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A of this part, unless otherwise required by the context.

"All-electric melter" means a glass melting furnace in which all the heat required for melting is provided by electric current from electrodes submerged in the molten glass, although some fossil fuel may be charged to the furnace as raw material only.

"Borosilicate recipe" means glass product composition of the following

approximate ranges of weight proportions: 60 to 80 percent silicon dioxide, 4 to 10 percent total R_2O (e.g., Na_2O and K_2O), 5 to 35 percent borix oxides, and 0 to 13 percent other oxides.

"Container glass" means glass made of soda-lime recipe, clear or colored, which is pressed and/or blown into bottles, jars, ampoules, and other products listed in Standard Industrial Classification 3221 (SIC 3221).

"Experimental furnace" means a glass melting furnace with the sole purpose of operating to evaluate glass melting processes, technologies, or glass products. An experimental furnace does not produce glass that is sold (except for further research and development purposes) or that is used as a raw material for nonexperimental furnaces.

"Flat glass" means glass made of soda-lime recipe and produced into continuous flat sheets and other products listed in SIC 3211.

"Flow channels" means appendages used for conditioning and distributing molten glass to forming apparatuses and are a permanently separate source of emissions such that no mixing of emissions occurs with emissions from the melter cooling system prior to their being vented to the atmosphere.

"Glass melting furnace" means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, melter cooling system, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming apparatuses. The forming apparatuses, including the float bath used in flat glass manufacturing and flow channels in wool fiberglass and textile fiberglass manufacturing, are not considered part of the glass melting furnace.

"Glass produced" means the weight of the glass pulled from the glass melting furnace.

"Hand glass melting furnace" means a glass melting furnace where the

molten glass is removed from the furnace by a glassworker using a blowpipe or a pontil.

"Lead recipe" means glass product composition of the following ranges of weight proportions: 50 to 60 percent silicon dioxide, 18 to 35 percent lead oxides, 5 to 20 percent total R_2O (e.g., Na_2M and K_2O), 0 to 8 percent total R_2O_3 (e.g., Al_2O_3), 0 to 15 percent total RO (e.g., CaO , MgO), other than lead oxide, and 5 to 10 percent other oxides.

"Pressed and blown glass" means glass which is pressed, blown, or both, including textile fiberglass, noncontinuous flat glass, noncontainer glass, and other products listed in SIC 3229. It is separated into:

- (1) Glass of borosilicate recipe.
- (2) Glass of soda-lime and lead recipes.
- (3) Glass of opal, fluoride, and other recipes.

"Rebricking" means cold replacement of damaged or worn refractory parts of the glass melting furnace. Rebricking includes replacement of the refractories comprising the bottom, sidewalls, or roof of the melting vessel; replacement of refractory work in the heat exchanger; replacement of refractory portions of the glass conditioning and distribution system.

"Soda-lime recipe" means glass product composition of the following ranges of weight proportions: 60 to 75 percent silicon dioxide, 10 to 17 percent total R_2O (e.g., Na_2O and K_2O), 8 to 20 percent total RO but not to include any PbO (e.g., CaO , and MgO), 0 to 8 percent total R_2O_3 (e.g., Al_2O_3), and 1 to 5 percent other oxides.

"Textile fiberglass" means fibrous glass in the form of continuous strands having uniform thickness.

"With modified-processes" means using any technique designed to minimize emissions without the use of add-on pollution controls.

"Wool fiberglass" means fibrous glass of random texture, including fiberglass insulation, and other products listed in SIC 3296.

[45 FR 66751, Oct. 7, 1980, as amended at 49 FR 41035, Oct. 19, 1984]

§ 60.292 Standards 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 of a glass melting furnace subject to the provisions of this subpart shall cause to be discharged into the atmosphere—

(1) From any glass melting furnace fired exclusively with either a gaseous fuel or a liquid fuel, particulate matter at emission rates exceeding those specified in Table CC-1, Column 2 and Column 3, respectively, or

(2) From any glass melting furnace, fired simultaneously with gaseous and liquid fuels, particulate matter at emission rates exceeding STD as specified by the following equation:

$$STD = X [1.3(Y) + (Z)]$$

Where:

STD = Particulate matter emission limit, g of particulate/kg of glass produced.

X = Emission rate specified in Table CC-1 for furnaces fired with gaseous fuel (Column 2).

Y = Decimal percent of liquid fuel heating value to total (gaseous and liquid) fuel heating value fired in the glass melting furnaces as determined in § 60.296(f), (joules/joules).

Z = (1-Y).

(b) Conversion of a glass melting furnace to the use of liquid fuel is not considered a modification for the purposes of § 60.14.

(c) Rebricking and the cost of rebricking is not considered a reconstruction for the purposes of § 60.15.

(d) An owner or operator of an experimental furnace is not subject to the requirements of this section.

(e) During routine maintenance of add-on pollution controls, an owner or operator of a glass melting furnace subject to the provisions of paragraph (a) of this section is exempt from the provisions of paragraph (a) of this section if:

- (1) Routine maintenance in each calendar year does not exceed 6 days;
- (2) Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions; and
- (3) A report is submitted to the Administrator 10 days before the start of

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OAQPS No. 1.2-091

Kraft Pulping Control of TRS Emissions from Existing Mills

Emission Standards and Engineering Division

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air, Noise, and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

March 1979.

Table 5-2. TRS EMISSIONS FROM THE EXISTING KRAFT PULP INDUSTRY

Source a	Average Uncontrolled Level		Percent Capacity Controlled(1)	Typical Controlled Level		Average National Emissions		
	ppm	g/kg ADP (lb/T ADP)		ppm	g/kg ADP (lb/T ADP)	ppm	g/kg ADP (lb/T ADP)	megagrams
Recovery Furnace	550	7.5 (15.0)	88.7	5-70	0.075-1.05 (0.15-2.1)	92	1.25 (2.5)	39,000
Digester System	9500	0.75 (1.5)	58.4	5	0.01 (0.02)	4050	0.32 (0.64)	10,000
Multiple-Effect Evaporator System	6800	0.5 (1.0)	58.6	5	0.01 (0.02)	2920	0.22 (0.43)	6,700
Lime Kiln	170	0.4 (0.8)	28.2	5-40	0.0125-0.1 (0.025-0.2)	130	0.31 (0.62)	9,700
Brown Stock Washer System	30	0.15 (0.3)	2.8	5	0.01 (0.02)	30	0.15 (0.3)	4,420
Black Liquor Oxidation System	35	0.05 (0.1)	2.1	0-10	0.0-0.01 (0.0-0.02)	35	0.05 (0.1)	1,470
Smelt Dissolving Tank	60	0.1 (0.2)	-	-	-	60	0.1 (0.2)	2,940
Condensate Stripper System	5000	1.0 (2.0)	100	5	0.01 (0.02)	500	0.11 (0.22)	0.4

(1) Percentage based on mills controlled by existing state regulations, plus information collected during previous surveys.