Smurfit-Stone

Containerboard Mill Division

April 7, 2000

Mr. A. A. Linero
Florida Dept. of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32999-2400

Dear Mr. Linero:

Enclosed are 6 copies of the supplemental information requested for the Stone Container Corporation's PSD permit application.

Also enclosed is a check in the amount of $7,250.00 for the processing fee. Two hundred fifty dollars was remitted with the initial application for a total of $7,500.00.

If you have any questions or comments, please contact David Buff at (352) 336-5600 or David Riley at (850) 785-4311, Ext. 257.

Yours truly,

L. D. Riley, Jr.
Environmental Superintendent

Cc: Jack Prescott w/o encl.
Ches Fensom w/o encl.
David Buff w/o encl.

Smurfit-Stone Container Corporation
1 Everitt Avenue 32401 P.O. Box 59560 32412-0560 Panama City, FL Phone (850) 785-4311 Fax (850) 763-6290

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603

Golder Associates

April 6, 2000

9937518

Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Attention: Mr. A. A. Linero, P.E.

Subject: File No. 0050009-005-AC
Stone Container Corp. Panama City Mill
Pulp Production Increase

PSD-FL-288

Dear Mr. Linero:

This correspondence is in response to the Department's letter dated September 15, 1999, concerning the above referenced pulp production increase for Stone Container Corp.'s (SCC) Panama City mill. The letter states that the Department has determined that the proposed project requires PSD review. The purpose of this letter is to present the additional information required for a PSD permit application. SCC has already submitted the FDEP Long Form air construction permit application form for the pulp production increase. The application form addresses the various emissions units affected by the pulp production increase. Also, a complete air quality impact analysis has been submitted which addresses compliance with ambient air quality standards (AAQS) and PSD Class II and Class I increments.

The remaining PSD new source review requirements are addressed in the attached document entitled "Supplemental Information for PSD Permit Application." This document includes the following information:

1. A revised application form for the condensate stripper, which will be installed for Cluster Rule compliance. This change is due to elimination of the stand-alone thermal oxidizer for the condensate stripper off-gases. These gases will now be destroyed in the No. 3 Combination Boiler.

2. Application forms for the No. 3 Combination Boiler and for the No. 4 Combination Boiler are included. For the No. 3 Combination Boiler, the form updates information to reflect destruction of condensate stripper off-gases, a new SO_2 emissions limit for the boiler, and to clarify maximum heat input and fuel usage rates for the boiler. For the No. 4 Combination Boiler, the form updates information to reflect a new SO_2 emissions limit for the boiler, and to clarify maximum heat input and fuel usage rates for the boiler.

3. A revised PSD applicability determination, along with the calculations, assumptions, etc., for the current actual emissions from the Panama City mill and the future potential emissions. The baseline actual emissions are based on the 2-year period 1996 and 1997. This 2-year period was selected because the mill was shutdown for three months in 1998 due to economic reasons, and therefore 1998 was not representative of normal operation.

4. A Best Available Control Technology (BACT) analysis for each emissions unit for which there is an increase in emissions due to the proposed pulp production increase. Note that SCC believes that this is not the appropriate application of the Florida PSD rules, and that BACT should only apply to those emission units which are being physically modified or for which there is a change in the method of operation (i.e., the batch digester system,), per EPA PSD regulations. This issue is being addressed in a separate letter to the Department. Nevertheless, the BACT analysis addresses all emission units based on the Department's stated interpretation.

5. Additional impacts upon soils, vegetation and visibility, including impacts upon the nearest PSD Class I areas, and a regional haze analysis.

Golder will continue to pursue approval of the ISC-PRIME model with the Department and the EPA. A revised ambient impact analysis for the Panama City mill will be forthcoming shortly, which will present the necessary information for approval of the ISC-PRIME model.

Please call if you have any questions concerning this information.

Sincerely,

Golder Associates Inc.

David A. Buff

David A. Buff, P.E.
Principal Engineer
Florida P.E. # 19011

DAB/jkw

Enclosure

cc: Ed Middleswart, FDEP Pensacola ✓
David Riley
Charlie Ackel
Tom Clements
Steve Hamilton
S. Arif
B. Mitchell
C. Holladay
EPA
NPS

\\GATORBAIT\DP\Projects\99\9937\9937518Y\F1\WP\#02ltr.doc

THE FACE OF THIS CHECK HAS A COLORED BACKGROUND — NOT A WHITE BACKGROUND

Stone Container Corporation

62-26
311

9948-09

401 ALTON STREET, P.O. BOX 276
ALTON, IL 62002-2276

CHASE MANHATTAN BANK DELAWARE
1201 Market Street
Wilmington, DE 19801

1361689

date
04/05/2000

amount
*****7,250.00

dollars and cents
**********PAY*****SEVEN THOUSAND TWO HUNDRED FIFTY DOLLARS AND 00 CENTS

to the order of

*
*
*
*

FLORIDA DEPT OF ENVIRONMENTAL
PROTECTION

32412-0500

THIS CHECK NOT VALID UNLESS PRESENTED FOR PAYMENT WITHIN 180 DAYS FROM DATE OF ISSUE.
2nd SIGNATURE REQUIRED IF OVER $5,000.

Stone Container Corporation

⑈1361689⑈ ⑆031100267⑆ 6301499483 509⑈

SUPPLEMENTAL INFORMATION
FOR
PSD PERMIT APPLICATION

STONE CONTAINER CORPORATION
PANAMA CITY MILL

Prepared For:

STONE CONTAINER CORPORATION
PANAMA CITY, FLORIDA

Prepared By:

Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

April 2000
9937518Y/F1

DRAFT DISTRIBUTION:
6 Copies - FDEP
2 Copies - David Riley
1 Copy - Charlie Ackel
2 Copies - Golder Associates Inc.

PERMIT APPLICATION

Scope of Application

This Application for Air Permit addresses the following emissions units(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Unit #	Emissions Unit ID	Description of Emissions Unit	Permit Type
1		Pulping Area General	AC1A
2R		Pulping System – MACT I	AC1A
3R		Condensate Stripper	AC1A
4R	005	Lime Slaker	AC1A
5R		Methanol Storage Tank	AC1A
6		Chemical Recovery Area	AC1A
7		Paper Making/Warehousing	AC1A
8R	015	No. 3 Combination Boiler	AC1A
9R	016	No. 4 Combination Boiler	AC1A

See individual Emissions Unit (EU) sections for more detailed descriptions.
Multiple EU IDs indicated with an asterisk (*). Regulated EU indicated with an "R".

Application Processing Fee

Check one: [X] Attached - Amount: $: 7,500 [ ] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

   This application is for a revision of the maximum pulp production capacity of the mill for PSD purposes from 668,850 TPY ADUP to 781,000 TPY ADUP.

2. Projected or Actual Date of Commencement of Construction: **1 Sep 2000**

3. Projected Date of Completion of Construction: **1 Jan 2001**

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**

2. Professional Engineer Mailing Address:
   Organization/Firm: **Golder Associates Inc.**
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**

3. Professional Engineer Telephone Numbers:
   Telephone: **(352) 336 - 5600** Fax: **(352) 336 - 6603**

0050009-005-AC
PSD-FL-288
Rec'd April 10, 2000

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

David A. Buff
Signature

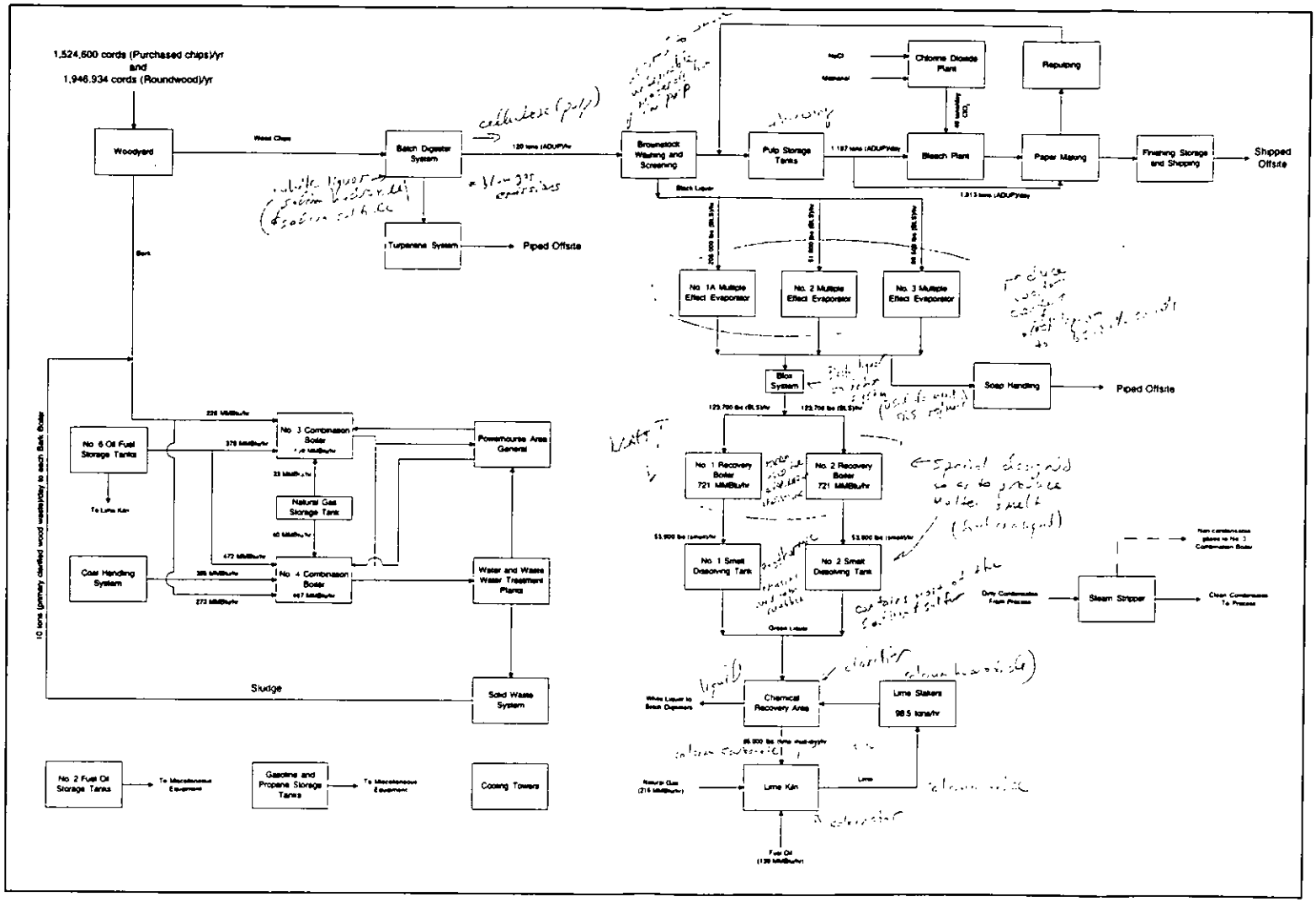
4/6/00
Date

(seal)

* Attach any exception to certification statement.

ATTACHMENT SCC-FI-C3

OVERALL PLANT FLOW DIAGRAM



Stone Container Corporation		Emission Unit: Facility Process Area: Overall Plant Flow Diagram Filename: 9937518Y/F1/WP/SCC-FAC.VSD Latest Revision Date: 4/5/00 4:01 PM	Golder Associates
SCC-FI-C3	Panama City, FL		

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Condensate Stripper System

4. Emissions Unit Identification Number:
ID: **033**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**26**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emission unit consists of the condensate stripper system, vented to the No. 3 Combination Boiler for TRS and HAP destruction.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Destruction in No. 3 Combination Boiler

Process Enclosed

2. Control Device or Method Code(s): **21, 54**

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:				mmBtu/hr
2. Maximum Incineration Rate:		lb/hr		tons/day
3. Maximum Process or Throughput Rate:			**781,000**	**TPY**
4. Maximum Production Rate:				
5. Requested Maximum Operating Schedule:				
	24	hours/day	**7**	days/week
	52	weeks/year	**8,760**	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

Max production rate in terms pulp production rate for facility (air dried tons of unbleached pulp).

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

40CFR60.11(a) Compliance with standards and maintenance requirements.
40CFR60.11(d) Compliance with standards and maintenance requirements.
40CFR60.11(f) Compliance with standards and maintenance requirements.
40CFR60.12 Circumvention.
40CFR60.13(a) Monitoring requirements.
40CFR60.13(b) Monitoring requirements
40CFR60.13(f) Monitoring requirements
40CFR60.19
40CFR60.283(a)(1)(iii) Standard for Total Reduced Sufur
40CFR60.7 Notification and record keeping.
40CFR60.8 Performance tests.
40CFR63.443(c) MACT Standards – Closed Vent Systems
40CFR63.443(d)(4) MACT Standards – HAP Reduction in a Boiler
40CFR63.443(e) MACT Standards – Excess Emissions
40CFR63.446(b) MACT Standards – Pulping Process Condensates
40CFR63.446(c) MACT Standards – Pulping Process Condensates
40CFR63.446(d) MACT Standards – Pulping Process Condensates
40CFR63.446(e) MACT Standards – Pulping Process Condensates
40CFR63.446(f) MACT Standards – Pulping Process Condensates
40CFR63.446(g) MACT Standards – Pulping Process Condensates
40CFR63.446(h) MACT Standards – Pulping Process Condensates
40CFR63.446(I) MACT Standards – Pulping Process Condensates
40CFR63.450 MACT Standards – Closed Vent Systems
40CFR63.453(g) Monitoring – Steam Stripper
40CFR63.453(h) Monitoring – Steam Stripper
40CFR63.453(i) MACT Standards – Monitoring Condensates
40CFR63.453(k) MACT Standards – Monitoring-Closed Vent Systems
40CFR63.453(l) MACT Standards – Monitoring Condensate Closed Collection
40CFR63.453(m) MACT Standards – CMS for Alternatives
40CFR63.453(n) MACT Standards – Monitoring-Parameter Monitoring
40CFR63.453(o) MACT Standards – Operating Parameter Ranges
40CFR63.454 MACT Standards – Recordkeeping
40CFR63.455 MACT Standards - Reporting
(Continued on Next Page)

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

40CFR63.457 – Test Methods and Procedures
40CFR63.962 MACT Standards – Subpart RR – Individual Drains
40CFR63.964 MACT Standards – Subpart RR – Individual Drains
62-204.800(7)(b)33.
62-296.404(3)(a)1. Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(3)(a)3. Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(3)(f) Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(4)(e) Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(4)(f) Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(6)(a) Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(6)(b) Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(6)(c)3. Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(6)(c)4. Kraft (Sulfate) Pulp Mills and Tall Oil Plants
62-296.404(6)(d) Kraft (Sulfate) Pulp Mills and Tall Oil Plants

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **Condensate Stripper**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Condensate Stripper off-gases are vented to the No. 3 Combination Boiler**		
5. Discharge Type Code: **V**	6. Stack Height: **213** feet	7. Exit Diameter: **7.8** feet
8. Exit Temperature: **149** °F	9. Actual Volumetric Flow Rate: **221,000** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters): **Stack parameters are for the No. 3 Combination Boiler**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Sulfate (Kraft) Pulping – Other Not Classified**		
2. Source Classification Code (SCC): **3-07-001-99**	3. SCC Units: **Tons Air-Dried Unbleached Pulp Produced**	
4. Maximum Hourly Rate: **120**	5. Maximum Annual Rate: **781,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): **Max annual rate based on permit limit for PSD purposes**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **In-Process Fuel Use, Fuel Recovered Solvent: General**		
2. Source Classification Code (SCC): **3-90-013-99**	3. SCC Units: **1,000 gallons burned**	
4. Maximum Hourly Rate: **0.121**	5. Maximum Annual Rate: **1,062**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **65**
10. Segment Comment (limit to 200 characters): **Recovered solvent represents condensate stripper off gas (methanol) being burned in the No. 3 Combination Boiler.**		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
TRS	021	054	EL
HAPs	021	054	WP

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **TRS**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0** lb/hour **0** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [X] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference: **See Attachment A**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **See Attachment A**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **TRS emissions from Condensate Stripper system are combusted in the No. 3 Combination Boiler. These emissions are accounted for in the No. 3 Combination Boiler emission unit.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **16 Apr 2001**
3. Requested Allowable Emissions and Units: **See Comment**	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters): **See Comment**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **TRS gases will be introduced into the primary flame zone or with the fuel in the No. 3 Combination Boiler per 40CFR63.443(d)(4).**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **HAPs**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0** lb/hour **0** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [X] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference: **See Attachment A**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **See Attachment A**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **HAP emissions from the Condensate Stripper system will be combusted in the No. 3 Combination Boiler, per 40 CFR 63.446(e). Resulting emissions are accounted for in the No. 3 Combination Boiler emission unit.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions: **16 Apr 2001**
3. Requested Allowable Emissions and Units: **See Comment**	4. Equivalent Allowable Emissions: **0** lb/hour **0** tons/year
5. Method of Compliance (limit to 60 characters): **See Comment**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **HAPs will be introduced into the primary flame zone or with the fuel in the No. 3 Combination Boiler per Rule 63.443(d)(4)**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **Refers to condensate stripper process wastewater feed rate. See Attachment SCC-EU3-I7.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **Refers to condensate stripper steam feed rate. See Attachment SCC-EU3-I7.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 3 of 3

1. Parameter Code: **TEMP**	2. Pollutant(s):
3. CMS Requirement:	[**X**] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **Refers to condensate stripper wastewater column feed temperature. See Attachment SCC-EU3-I7.**	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: SCC-EU3-J1 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [ ] Previously submitted, Date: _____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [X] Attached, Document ID: Attachment A [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

ATTACHMENT SCC-EU3-I7

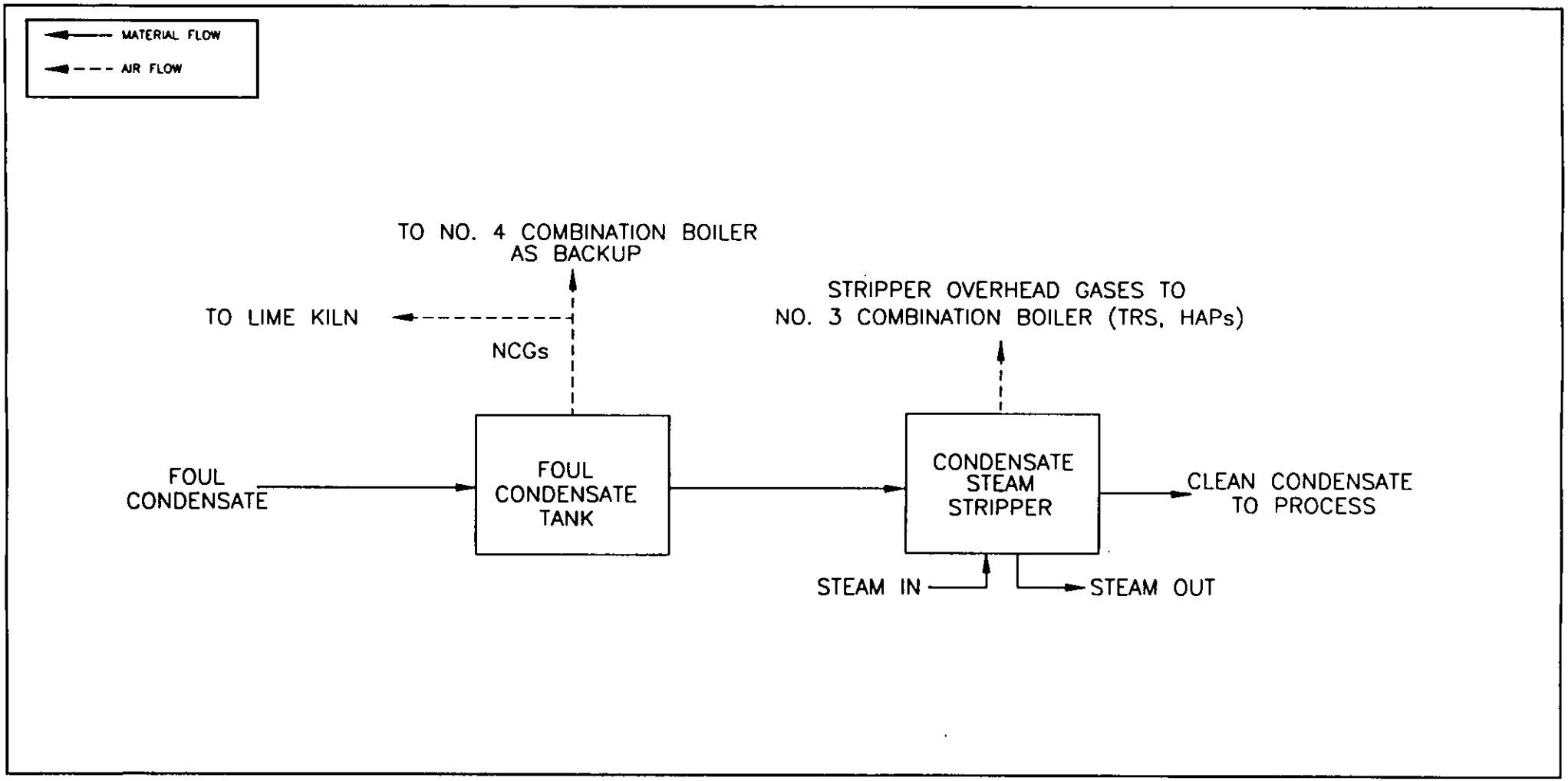
CONTINUOUS MONITOR COMMENT

ATTACHMENT SCC-EU3-I7
CONTINUOUS MONITOR COMMENT

Continuous monitoring requirements for Condensate Stripper process wastewater feed rate are specified in 63.453(g)(1); for Condensate Stripper steam feed rate are specified in 63.453(g)(2); and for Condensate Stripper process wastewater column feed temperature are specified in 63.453(g)(3). As an alternative, SCC may choose to measure methanol outlet concentration per 63.446(e)(4) or (5). Compliance with this requirement will be demonstrated using the condensate collection and treatment compliance demonstration plan approved by the Department on October 14, 1999.

ATTACHMENT SCC-EU3-J1

PROCESS FLOW DIAGRAM



SMURFIT – STONE CONTAINER CORPORATION PANAMA CITY, FL PROCESS FLOW DIAGRAM SCC-EU3-J1	EMISSION UNIT: CONDENSATE STRIPPER PROCESS AREA: FOUL CONDENSATE SYSTEM FILENAME: 9937518Y/F1/WP/SCC-EU3-J1.DWG LATEST REVISION: 3/28/2000 BY PAC	Golder Associates

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
No. 3 Combination Boiler

4. Emissions Unit Identification Number:
ID: **015**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A		**28**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

The proposed Condensate Stripper system will vent to the No. 3 Combination Boiler as a TRS/HAP control device.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Venturi Scrubber

Incineration of TRS/HAP gases

2. Control Device or Method Code(s): **53, 21**

Emissions Unit Details

1. Package Unit: Manufacturer:	Model Number:	
2. Generator Nameplate Rating:	MW	
3. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:			**503**	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr			tons/day
3. Maximum Process or Throughput Rate:				
4. Maximum Production Rate:			**300,000**	**lb (steam)/hr**
5. Requested Maximum Operating Schedule:				
	24	hours/day	**7**	days/week
	52	weeks/year	**8,760**	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

Maximum rate based on requested permit limit, when burning combination of fuels: No. 6 fuel oil - 378 MMBtu; Bark - 474 MMBtu/hr; natural gas - 30 MMBtu/hr; and primary clarified wood waste - 0 MMBtu/hr.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment SCC-EU8-C

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **EU12**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
5. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **213** feet	7. Exit Diameter: **7.8** feet
8. Exit Temperature: **149** °F	9. Actual Volumetric Flow Rate: **221,100** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **External combustion boilers; Industrial; Residual Oil: Grade 6 Oil**		
2. Source Classification Code (SCC): **1-02-004-01**	3. SCC Units: **1000 gallons burned**	
4. Maximum Hourly Rate: **2.52**	5. Maximum Annual Rate: **22,075**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.4**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **External combustion boilers; Industrial: Wood/Bark Waste**		
2. Source Classification Code (SCC): **1-02-009-01**	3. SCC Units: **tons burned**	
4. Maximum Hourly Rate: **30**	5. Maximum Annual Rate: **262,800**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment (limit to 200 characters): **Wood/bark on a dry basis.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **External combustion boilers; Industrial: Natural Gas**		
2. Source Classification Code (SCC): **1-02-006-01**	3. SCC Units: **million cubic feet burned**	
4. Maximum Hourly Rate: **0.030**	5. Maximum Annual Rate: **262.8**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,000**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **External combustion boilers; Industrial: Solid Waste**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **0.417**	5. Maximum Annual Rate: **3,650**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **0**
10. Segment Comment (limit to 200 characters): **Maximum Rate based on 10 tons (primary classified wood waste)/day. Heating value contribution is negligible due to high moisture content (78%).**		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	053		EL
PM_{10}	053		NS
SO_2			EL
NO_X			NS
CO			NS
VOC			NS
TRS	021		EL
PB			NS
HAPS	021		NS
H038			NS
H106			NS
H115			NS

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **109.5** lb/hour **479.61** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **Permit Limit** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **Current permit limit is a maximum of 109.5 lb/hr. See Attachments SCC-EU8-G1 through G6.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.1 lb(PM)/MMBtu**	4. Equivalent Allowable Emissions: **41.1** lb/hour **180** tons/year
5. Method of Compliance (limit to 60 characters): **Annual test using EPA Test Method 5**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **62-296.410(1)(b)2.; Requested Allowable Emission Factor based on fossil fuel. Allowable emissions are 109.5 lb/hr (480 tons/yr) when any combination of fuel is utilized.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: lb/hour tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference:	7. Emissions Method Code:
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.3 lb(PM)/MMBtu**	4. Equivalent Allowable Emissions: **109.5** lb/hour **479.61** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Test Method 5**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **62-296.410(1)(b)2.; Requested Allowable Emission Factor based on carbonaceous fuel. Allowable emissions are 109.5 lb/hr (480 tons/yr) when any combination of fossil fuel is utilized.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **1,190.4** lb/hour **2,124.3** tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **485 lb/hr** Reference: **Proposed Limit**	7. Emissions Method Code: **0**

8. Calculation of Emissions (limit to 600 characters):

Proposed 24-hour permit limit is 485 lb/hr. See Attachments SCC-EU8-G1 through G6. When both No. 3 and No. 4 Combination Boilers are burning oil or coal, or burning TRS gases, total SO_2 emissions from both boilers are limited to 525 lb/hr, 24-hr average.

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

SO_2 emissions controlled through caustic addition and SO_2 monitor.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions: **16 April 2001**
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: **1,190.4** lb/hour **2,124.3** tons/year

5. Method of Compliance (limit to 60 characters):

Source Test using EPA Method 6

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):

Proposed 24-hour average permit limit is 485 lb/hr.

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **TRS**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **3.81** lb/hour **16.7** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **5 ppmvd** Reference: **62-296.404(3)(f)1.**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **5 ppmvd x 144,000 ft^3/min x 60 min/hr ÷ 1546 ft·lbf lb·mol °R x 34 lb(H_2S)/lb·mol(H_2S) ÷ 528°R x 2116.8 lbf/ft^2 = 3.81 lbs/hr**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Emission Factor corrected to 10% O_2 as 12-hr average.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **5 ppmvd**	4. Equivalent Allowable Emissions: **3.81** lb/hour **16.7** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Test Method 16, 16A or 16B**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **62-296.404(3)(f)1. Emissions corrected to 10% O_2 as a 12-hr avg. Allowable emissions only apply when gases from the Condensate Stripper are vented from the No. 3 Combination Boiler.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE30**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **30** % Exceptional Conditions: **40** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **Annual test using EPA Method 9 while operating under normal mix of fuels.**	
5. Visible Emissions Comment (limit to 200 characters): **Due to interference, the visible emission limiting standard pursuant to 62-296.410(1)(b)1. is not applicable and is deferred to 62-296.404(2)(b).**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 4

1. Parameter Code: **TEMP**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **TEMP CMS required by 62-296.405(5)(c). Only required to operate when incinerating TRS gases.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 2 of 4

1. Parameter Code: **pH**	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [X] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **SO_2 control system using the existing scrubber with a continuous SO_2 monitor and alkaline addition control system.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 3 of 4

1. Parameter Code: O_2	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **62-296.404(5)(c).**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 4 of 4

1. Parameter Code: SO_2	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [X] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **SO_2 monitor will be installed to determine compliance with SO_2 limits.**	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [X] Attached, Document ID: SCC-EU8-J1 [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: SCC-EU8-J2 [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [X] Attached, Document ID: SCC-EU8-J3 [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [X] Attached, Document ID: Attachment A [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

ATTACHMENT SCC-EU8-C

APPLICABLE REGULATIONS

ATTACHMENT SCC-EU8-C

Specific Emissions Unit Name (ID): No. 4 Combination Boiler (Non-NSPS)
Facility Name (ID): Stone Container Corporation (10-PCY-03-0009)

Rule Number	PA/A	Rule Title/Summary	Applicability Comment
62-296.404(2)(b) 62-296	A	Kraft (Sulfate) Pulp Mills and Tall Oil Plants: Visible emission limits for sources equipped with wet scrubbers only apply if plume unaffected by plume mixing or moisture condensation	
62-296.404(3)(a)3 62-296	A	Kraft (Sulfate) Pulp Mills and Tall Oil Plants: TRS emissions shall not be vented to the atmosphere except in emergencies or when control device is shut down. Develop an approved contingency plan. Venting allowed for up to 10 days.	Contingency plan requires only that backup devices be assessed, & contingency plan
62-296.404(3)(f) 62-296	A	Kraft (Sulfate) Pulp Mills and Tall Oil Plants: Other Combustion Devices Used to Incinerate TRS Emissions	
62-296.404(4)(e)2. 62-296	A	Test Methods and Procedures: PM for dry control emissions units: EPA Method 5-minimum sample volume 32 dscf. An acetone wash shall be used	
62-296.404(4)(3)3	A	Test Methods and Procedures: TRS: EPA Method 16 or EPA Method 16A or EPA Method	
62-296 168.		EPA Method 16 or EPA Method 16A shall be required for instrument certification and compliance testing.	
62-296.404(4)(f) 62-296	A	Test Methods and Procedures: Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.	
62-296.404(5)(c) 62-296	A	Continuous Emissions Monitoring Requirements: Incinerators shall be equipped with devices to continuously monitor temperature at the point of combustion and oxygen.	Temperature and 02 CMS
62-296.410(1)(b)1.	A	Carbonaceous Fuel Burning Equipment.: Visible emissions -30x opacity (except 62-296 40x opacity for not more than two minutes in any one hour)	
62-296.410(1)(b)2.	A	Carbonaceous Fuel Burning Equipment: Particulate Matter -0.3 lb/MMBtu of 62-296 carbonaceous fuel plus 0.1 lb/MMBtu of fossil fuel.	
62-296.410(3)	A	Test Methods and Procedures: All emissions tests performed pursuant to the 62-296 requirements of this section shall comply with the following requirements	
62-297.310	A	General Test Requirements: The focal point of a compliance test is the stack 62-297 or duct which vents process and/or combustion gases and air pollutants from an emissions unit into the ambient air.	

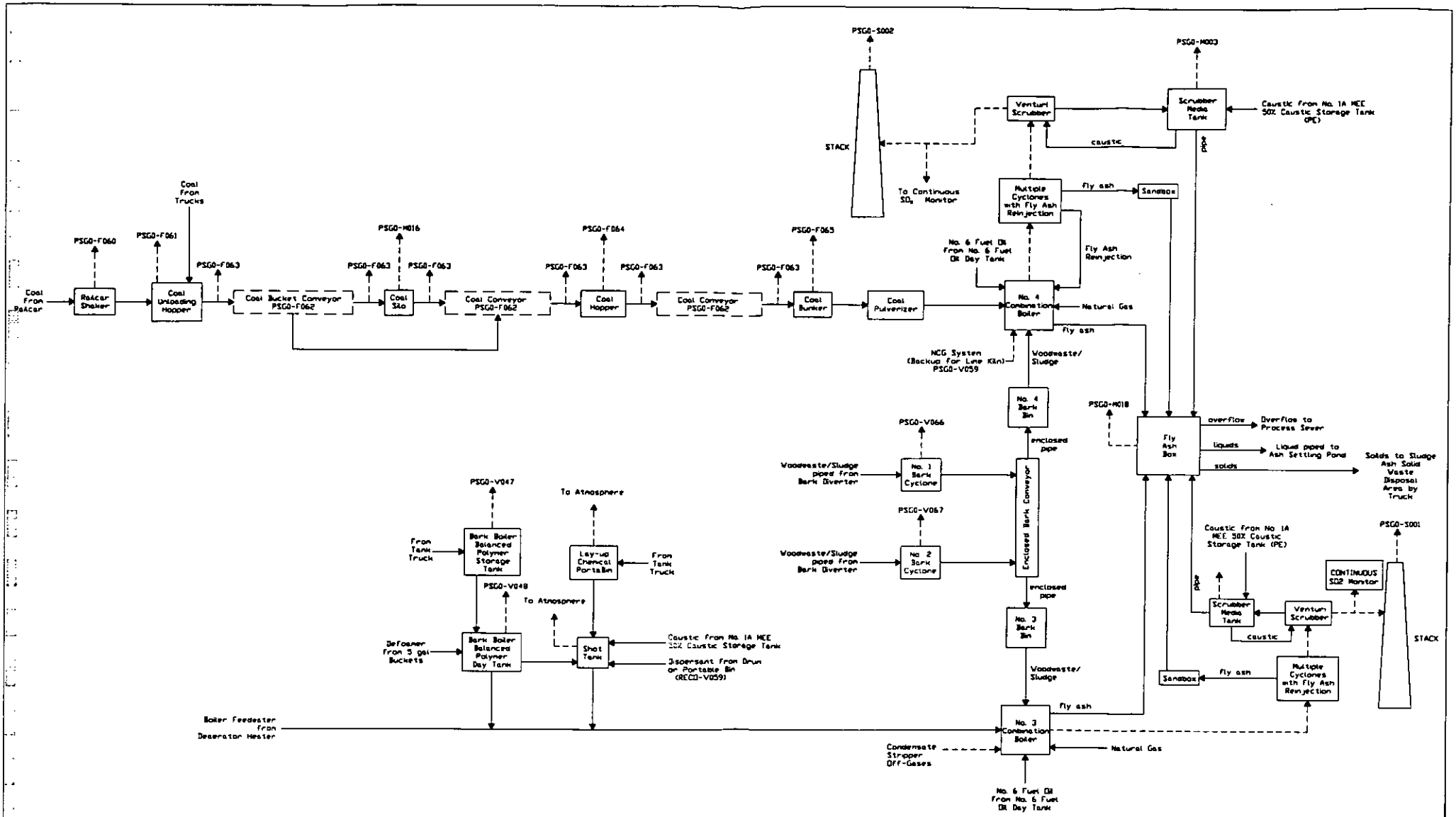
ATTACHMENT SCC-EU8-C

Specific Emissions Unit Name (ID): No. 4 Combination Boiler (Non-NSPS)
Facility Name (ID): Stone Container Corporation (10-PCY-03-0009)

Rule Number	PA/A	Rule Title/Summary	Applicability Comment
62-297.401(1)(a)	A	EPA Method 1 --Sample and Velocity Traverses for Stationary sources --40 CFR 62-297 Test Method 60 Appendix A.	
62-297.401(16)	A	EPA Method 16 --Semicontinuous Determination of Sulfur Emissions from 62-297 Test Method Stationary Sources --40 CFR:	
62-297.401(16)(a)	A	EPA Method 16A --Determination of Total Reduced Sulfur Emissions from 62-297 Test Method Stationary Sources (Impinger)	
62-297.401(16)(b)	A	EPA Method 16B --Determination of Total Reduced Sulfur Emissions from 62-297 Test Method Stationary Sources --40 CFR:	
62-297.401(2)	A	EPA Method 2 --Determination of Stack Gas Velocity and Volumetric Flow Rate -- 62-297 Test Method 40 CFR 60 Appendix A:	
62-297.401(3)	A	EPA Method 3 --Gas Analysis of Carbon Dioxide, Oxygen, Excess Air, and Dry 62-297 Test Method Molecular Weight --40	
62-297.401(4)	A	EPA Method 4 --Determination of Moisture Content in Stack Glases --40 CFR 60-62-297 Test Method Appendix A.:	
62-297.401(5)	A	EPA Method 5 --Determination of Particulate Emissions from Stationary Sources 62-297 Test Method Sources - .40 CFR 60 Appendix:	
62-297.401(6)	A	EPA Method 6 --Determination of Sulfur Dioxide Emissions from Stationary 62-297 Test Method Sources - .40 CFR 60 Appendix:	
62-297.401(9)(c)		DEP Method 9 62-297	
40 CFR 63.443(d)(4)		MACT Standards - HAP reduction in Boiler	
40 CFR 63.443(d)(4)		MACT Standards - Excess Emissions	

ATTACHMENT SCC-EU8-J1

PROCESS FLOW DIAGRAM



Process Flow Legend	
Gas ---------→	Covered Conveyor
Steam ---------→	Enclosed Conveyor

Stone Container Corp.
Panama City, FL
Process Flow Diagram
SCC-EU8-J1

Emission Unit:	No. 3 and 4 Combination Boiler
Process Area:	Utilities/Miscellaneous
Filename:	993751BY/F1/WP/SCC-EU8-J1.dwg
Latest Revision:	04/05/2000 by PAC

Golder Associates

ATTACHMENT SCC-EU8-J2

FUEL ANALYSIS

ATTACHMENT SCC-EU8-J2

No. 3 Combination Boiler
Fuel Analysis

Fuel	Density (lb/gal)	Moisture (%)	Weight % Sulfur	Weight % Nitrogen	Weight % Ash	Heat Capacity
No. 6 Fuel Oil	8.33	--	2.4	0.08	0.1	145,000 - 150,000 Btu/gal
Carbonaceous Fuel *	--	50	--	--	1.2 - 2.7	4,500 Btu/lb
Natural Gas	--	--	0.1	--	--	1,000 Btu/cf

* Includes bark/woodwaste (wet), primary clarified wood waste, bark fly ash, and sludge.

ATTACHMENT SCC-EU8-J3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT SCC-EU8-J3

Control Equipment Parameters (a)

No. 3 Combination Boiler Scrubber (Venturi)

Manufacturer	FMC Link-Belt	
Model No.	200K Dual-Throat	
Date of Installation	1974	
Inlet Gas Flow Rate	220,000-235,000	ACFM
Outlet Gas Temperature	140-150	°F
Outlet Gas Flow Rate	220,000-235,000	ACFM
Pressure Drop Across Device	8	inches of H_2O
Scrubber Media (b)	Water	
Scrubber Liquor Flow Rate	1,500-2,500	gpm
Average Scrubbing liquor pH (c)	Variable	pH units
Control Efficiency - Particulate Matter (d)	90	%
Control Efficiency - Sulfur Dioxide (e)	50-95	%
Maximum Permitted Particulate Matter Emission Rate (f)	109.5	lb (PM)/hr
Maximum Permitted Sulfur Dioxide Emission Rate (g)	485	lb (SO_2)/hr

(a) Control equipment parameters may vary according to process conditions.
(b) pH controlled with caustic
(c) SO_2 monitor with caustic addition.
(d) Based on manufacturer's quote.
(e) Based on caustic scrubbing.
(f) Values obtained from Permit AO03-252353. Based on Carbonaceous fuel firing.
(g) Based on proposed permit limit.

Attachment SCC-EU8-G1. Maximum Fuel Usage and Heat Input Rates, No. 3 Combination Boiler, Stone Container, Panama City

Fuel	Heat Input to Boiler	Heat Transfer Efficiency (%)	Heat Output to Steam	Fuel Firing Rate
		Maximum Individual Fuel Rates		
Wood/Bark	474 MMBtu/hr	72	341 MMBtu/hr	30.0 tons/hr,dry (a)
No. 6 Oil	378 MMBtu/hr	85	321 MMBtu/hr	2,520 gal/hr (b)
Natural Gas	30 MMBtu/hr	80	24 MMBtu/hr	30,000 scf/hr
		Maximum Wood/Bark Firing		
Wood/Bark	474 MMBtu/hr	72	341 MMBtu/hr	30.0 tons/hr,dry (a)
No. 6 Oil	29 MMBtu/hr	85	25 MMBtu/hr	193 gal/hr (b)
Natural Gas	0 MMBtu/hr	80	0 MMBtu/hr	0 scf/hr
TOTAL	503 MMBtu/hr		366 MMBtu/hr	
		Maximum No. 6 Fuel Oil Firing		
Wood/Bark	62 MMBtu/hr	72	45 MMBtu/hr	3.9 tons/hr,dry (a)
No. 6 Oil	378 MMBtu/hr	85	321 MMBtu/hr	2,520 gal/hr (b)
Natural Gas	0 MMBtu/hr	80	0 MMBtu/hr	0 scf/hr
TOTAL	440 MMBtu/hr		366 MMBtu/hr	

Note: Total heat input to steam = 366 MMBtu/hr, derived as follows:
Net enthalpy of steam = 1,219 Btu/lb
Max. steam rate = 300,000 lb/hr
300,000 lb/hr x 1,219 Btu/lb = 366 MMBtu/hr

Fuels may be burned in combination, not to exceed indicated total heat outputs.

(a) Based on heating value for wood waste of 7,900 Btu/lb, dry basis.
(b) Based on heating value for No. 6 fuel oil of 150,000 Btu/gal.

Attachment SCC-EU8-G2. Maximum Emissions for Individual Fuels, No. 3 Combination Boiler Stone Container, Panama City

Regulated Pollutant	No. 6 Oil					Wood/Bark					Natural Gas				
	Emission Factor	Ref	Activity Factors (a)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Emission Factor	Ref.	Activity Factors (a,b)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Emission Factor	Ref	Activity Factors (a)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	0.10 lb/MMBtu	1	378 MMBtu/hr	37.80	165 56	0 3 lb/MMBtu	1	474 MMBtu/hr	109.50 (e)	479 61	0 1 lb/MMBtu	1	30 MMBtu/hr	3 00	13 14
Particulate (PM10)	86 % of PM	9	--	32.51	142.39	87 % of PM	5	–	– 95.27	417.26	0.1 lb/MMBtu	1	30 MMBtu/hr	3 00	13 14
Sulfur dioxide 3-hr	157S lb/Mgal	2	2.52 Mgal/hr	949 54		0 075 lb/TWWF	5	60 0 tons/hr	4.50		0 6 lb/MMscf	6	0 03 MMscf/hr	0 018	
24-hr	485 lb/hr (d)	8	–	485 00	2,124 30	0 075 lb/TWWF	5	60 0 tons/hr	4.50	19.71	0.6 lb/MMscf	6	0.03 MMscf/hr	0 018	0 079
Nitrogen oxides	47 lb/Mgal	2	2.52 Mgal/hr	118 44	518 77	1.5 lb/TWWF	5	60 0 tons/hr	90.00	394 20	280 lb/MMscf	6	0.03 MMscf/hr	8 40	36 79
Carbon monoxide	5 lb/Mgal	2	2.52 Mgal/hr	12 60	55 19	2.923 lb/TWWF	7	60 0 tons/hr	175.38	768.16	84 lb/MMscf	6	0 03 MMscf/hr	2.52	11.04
VOC	0 28 lb/Mgal	2	2 52 Mgal/hr	0 71	3 09	0 12 lb/TWWF	3	60.0 tons/hr	7.20	31.54	5.5 lb/MMscf	6	0.03 MMscf/hr	1.65E-01	7.23E-01
Sulfuric acid mist, 24-hr	5 7S lb/Mgal (c)	2	2 52 Mgal/hr	42 23	184.97	6 1 % of SO2	4	60 0 tons/hr	0.27	1.20	6 1 % of SO2	4	–	0 0011	0 0048
Total reduced sulfur	–		–	–	–	–		–	–	–	--		–	–	–
Lead	1.51E-03 lb/Mgal	2	2.52 Mgal/hr	3 81E-03	1.67E-02	4 45E-04 lb/TWWF	5	60 0 tons/hr	2.67E-02	1.17E-01	1 00E-08 lb/MMscf	6	0.03 MMscf/hr	3 00E-10	1.31E-09
Mercury	1.13E-04 lb/Mgal	2	2.52 Mgal/hr	2.85E-04	1.25E-03	5 15E-06 lb/TWWF	5	60 0 tons/hr	3.09E-04	1.35E-03	2 60E-04 lb/MMscf	6	0.03 MMscf/hr	7.80E-06	3 42E-05
Beryllium	2.78E-05 lb/Mgal	2	2.52 Mgal/hr	7.01E-05	3 07E-04	– –		– –	–	–	1.20E-05 lb/MMscf	6	0.03 MMscf/hr	3 60E-07	1 58E-06
Fluorides	3.73E-02 lb/Mgal	2	2.52 Mgal/hr	9.40E-02	4.12E-01	– –		– –	–	–	-- --		– –	–	–

Notes:
TWWF - ton of wet wood residue fuel
All annual emissions based on 8,760 hr/yr operation.
Footnotes:
(a) Refer to Attachment SCC-EU8-G1.
(b) Based on 30 tons/hr dry basis, and 50% moisture in wood/bark.
(c) S = 2 4% max by current permit
(d) Proposed permit limit for 24 hour average for No. 3 Combination Boiler operating, with No. 4 Combination Boiler shutdown or operating on bark/natural gas only
(e) Based on limit in current operating permit.
References:
1. Based on Florida Rule 62-296 410.
2. Emission Factors based on AP-42 Section 1 3 Table 1.3-1, 1.3-3, 1.3-4 and 1.3-11 for metals (assuming uncontrolled for metals) For sulfuric acid mist, factor shown is for SO3. Convert to HsSO4 by multiplying by 98/80
3. Emission Factor Based on NCASI TB 646 for an average Spreader Stoker Boilers with Scrubbers Tables1, 2, and 3.
4. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil: 5% of SO2 becomes SO3 then take into account the ratio of sulfuric acid mist and sulfur trioxide molecular weights (98/80).
5. Emission Factors based on AP-42 Section 1.6 Table 1 6-1, 1.6-2, 1.6-3, 1.6-5 and 1.6-6 (2/99).
6. Emission Factors based on AP-42 Section 1.4 Table 1.4-1, 1.4-2, and 1 4-4.
7. Emission Factor Based on NCASI TB 416, Table 4.
8. Based on proposed permit limit.
9. Based on AP-42 Section 1.3, Table 1.3-5, for industrial boilers firing residual oil with no control.

Attachment SCC-EU8-G3. Emissions from Maximum Wood/Bark Firing with Supplemental Fuel Oil Firing, No. 3 Combination Boiler, Stone Container, Panama City.

Regulated Pollutant	No. 6 Fuel Oil			Wood/Bark			Total	
	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	0.10 lb/MMBtu	29 MMBtu/hr	2.90	0.3 lb/MMBtu	474 MMBtu/hr	109.50 (a)	109.50	479.61
Particulate (PM10)	86 % of PM	-- --	2.49	87 % of PM	-- --	95.27	97.76	428.18
Sulfur dioxide	157S lb/Mgal	0.193 Mgal/hr	72.7	0.075 lb/TWWF	60.0 tons/hr	4.50	77.22	338.23
Nitrogen oxides	47 lb/Mgal	0.193 Mgal/hr	9.07	1.5 lb/TWWF	60.0 tons/hr	90.00	99.07	433.93
Carbon monoxide	5 lb/Mgal	0.193 Mgal/hr	0.97	2.923 lb/TWWF	60.0 tons/hr	175.38	176.35	772.39
VOC	0.28 lb/Mgal	0.193 Mgal/hr	0.05	0.12 lb/TWWF	60.0 tons/hr	7.20	7.25	31.77
Sulfuric acid mist	5.7S lb/Mgal	0.193 Mgal/hr	2.64	6.1 % of SO2	60.0 tons/hr	0.27	2.91	12.77
Total reduced sulfur	--	--	--	--	--	--	--	--
Lead	1.51E-03 lb/Mgal	0.193 Mgal/hr	2.9E-04	4.45E-04 lb/TWWF	60.0 tons/hr	0.027	0.027	0.12
Mercury	1.13E-04 lb/Mgal	0.193 Mgal/hr	2.2E-05	5.15E-06 lb/TWWF	60.0 tons/hr	3.09E-04	3.31E-04	1.45E-03
Beryllium	2.78E-05 lb/Mgal	0.193 Mgal/hr	5.4E-06	-- --	-- --	--	5.37E-06	2.35E-05
Fluorides	3.73E-02 lb/Mgal	0.193 Mgal/hr	7.2E-03	-- --	-- --	--	7.20E-03	3.15E-02

See Attachment SCC-EU8-G2 for emission factors and references.
(a) Based on limit in current operating permit.

Attachment SCC-EU8-G4. Emissions from Maximum Fuel Oil Firing with Supplemental Wood/Bark Firing, No. 3 Combination Boiler, Stone Container, Panama City

Regulated Pollutant	No. 6 Oil			Wood/Bark			Total	
	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	0.10 lb/MMBtu	378 MMBtu/hr	37.80	0.3 lb/MMBtu	62 MMBtu/hr	18.60	56.40	247.03
Particulate (PM10)	86 % of PM	--	32.51	87.0 % of PM	--	16.18	48.69	213.26
Sulfur dioxide: 3-hr	157S lb/Mgal	2.52 Mgal/hr	949.54	0.075 lb/TWWF	7.8 tons/hr	0.59	950.12	
24-hr	485 lb/hr	--	485.00	0.075 lb/TWWF	7.8 tons/hr	0.59	485.00	2,124.30
Nitrogen oxides	47 lb/Mgal	2.52 Mgal/hr	118.44	1.5 lb/TWWF	7.8 tons/hr	11.70	130.14	570.01
Carbon monoxide	5 lb/Mgal	2.52 Mgal/hr	12.60	2.923 lb/TWWF	7.8 tons/hr	22.80	35.40	155.05
VOC	0.28 lb/Mgal	2.52 Mgal/hr	0.71	0.120 lb/TWWF	7.8 tons/hr	9.36E-01	1.64	7.19
Sulfuric acid mist	5.7S lb/Mgal	2.52 Mgal/hr	42.23	6.1 % of SO2	7.8 tons/hr	0.04	42.27	185.12
Total reduced sulfur	--	--	--	--	--	--	--	--
Lead	1.51E-03 lb/Mgal	2.52 Mgal/hr	3.81E-03	4.45E-04 lb/TWWF	7.8 tons/hr	3.47E-03	7.28E-03	3.19E-02
Mercury	1.13E-04 lb/Mgal	2.52 Mgal/hr	2.85E-04	5.15E-06 lb/TWWF	7.8 tons/hr	4.02E-05	3.25E-04	1.42E-03
Beryllium	2.78E-05 lb/Mgal	2.52 Mgal/hr	7.01E-05	--	--	--	7.01E-05	3.07E-04
Fluorides	3.73E-02 lb/Mgal	2.52 Mgal/hr	9.40E-02	--	--	--	9.40E-02	4.12E-01

See Attachment SCC-EU8-G2 for emission factors and references.

Attachment SCC-EU8-G5. Emissions from No. 3 Combination Boiler Due to Condensate Stripper Off-Gas Burning, Stone Container, Panama City

Regulated Pollutant	Emission Factor	Ref.	Activity Factors	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	--		--	--	--
Particulate (PM10)	--		--	--	--
Sulfur dioxide: 3-hr	1.43 lb/ton ADUP	1	120 tons ADUP/hr	240.24	--
24-hr	1.43 lb/ton ADUP	1	120 tons ADUP/hr	240.24	1,052.25
Nitrogen oxides: 1-hr	0.25 lb/ODTP	2	108 ODTP/hr (a)	27.00	--
Annual	0.25 lb/ODTP	2	702,900 ODTP/yr (a)	--	87.86
Carbon monoxide	--		--	--	--
VOC	--		--	--	--
Sulfuric acid mist	--		--	--	--
Total reduced sulfur	5 ppmvd	3	144,000 dscfm	3.81	16.69
Lead	--		--	--	--
Mercury	--		--	--	--
Beryllium	--		--	--	--
Fluorides	--		--	--	--

(a) Based on 120 ADTP/hr and 781,000 ADTP/yr. ODTP= oven-dried tons of pulp = ADTP*0.9.
References:
1. Based on NCASI Tech. Bulletin No. 701, Table 6. Factor is for TRS; 70% of TRS is sulfur.
2. Based on NCASI draft bulletin entitled: The Effects of Stripper Off-Gas Burning on NOX Emissions.
3. Based on Florida Rule: 62-296.404(3)(f)1, and gas flow rate for No. 3 Combination Boiler.

Attachment SCC-EU8-G6. Proposed Maximum Emissions For Alternate Fuel Scenarios for No. 3 Combination Boiler, Stone Container, Panama City

Regulated Pollutant	Maximum Wood/Bark plus Fuel Oil		Maximum Fuel Oil plus Wood/Bark		Condensate Stripper		Maximum (a)	
	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	109.50	479.61	56.40	247.03	--	--	109.50	479.61
Particulate (PM10)	97.76	428.18	48.69	213.26	--	--	97.76	428.18
Sulfur dioxide: 3-hr	77.22	--	950.12	--	240.24	--	1,190.36	--
24-hr	77.22	338.23	485.00	2,124.30	240.24	1,052.25	485.00	2,124.30
Nitrogen oxides	99.07	433.93	130.14	570.01	27.00	87.86	157.14	657.88
Carbon monoxide	176.35	772.39	35.40	155.05	--	--	176.35	772.39
VOC	7.25	31.77	1.64	7.19	--	--	7.25	31.77
Sulfuric acid mist	2.91	12.77	42.27	185.12	--	--	42.27	185.12
Total reduced sulfur	--	--	--	--	3.81	16.69	3.81	16.69
Lead	2.70E-02	1.18E-01	7.28E-03	3.19E-02	--	--	2.70E-02	1.18E-01
Mercury	3.31E-04	1.45E-03	3.25E-04	1.42E-03	--	--	3.31E-04	1.45E-03
Beryllium	5.37E-06	2.35E-05	7.01E-05	3.07E-04	--	--	7.01E-05	3.07E-04
Fluorides	7.20E-03	3.15E-02	9.40E-02	4.12E-01	--	--	9.40E-02	4.12E-01

(a) Maximum of either firing scenario plus the condensate stripper, except for 24-hour SO2 emissions, which are limited to 485 lb/hr.

AIR OPERATING AND CONSTRUCTION PERMITS

Department of
Environmental Protection

Lawton Chiles
Governor

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

Virginia B. Wetherell
Secretary

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000915
Permit/Certification Number: AO03-252353
Date of Issue: July 5, 1994
Expiration Date: May 31, 1999
County: Bay
Latitude/Longitude: 30°08'30"N/85°37'25"W
Project: Operation of Bark Boiler No. 3

This permit is issued under the provisions of Section 403.087, Florida Statutes, and Florida Administrative Code Rules 17-296, 17-297 and 17-4. The above named applicant, hereinafter called 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:

Operation of Bark Boiler No. 3, fueled by No. 6 fuel oil, wood waste including bark and pressed sludge/wood fiber from the primary clarifier, and natural gas. The boiler's maximum output capacity is 300,000 pounds of steam per hour. Particulate matter (PM) emissions are controlled by a fly ash arrestor, model MTSA-380-9CVT, followed by a wet scrubber manufactured by FMC Link-Belt, model 200K dual-throat. Sulfur dioxide emissions are controlled by limiting sulfur to 2.4% in the fuel oil.

Operation of this source shall be consistent with the operation permit application dated June 13, 1994.

Located at 1 Everitt Avenue, Panama City.

Specific Condition No. 2 establishes maximum allowable operating and testing rates.

Specific Condition No. 4 establishes maximum allowable fuel utilization rates, heat inputs, and fuel oil sulfur content.

Specific Condition No. 6 establishes maximum allowable emission limits.

Specific Condition No. 7 requires emissions testing.

Specific Condition No. 8 requires submission of an annual operation report.

Specific Condition No. 9 requires submission of a Major Air Pollution Source Annual Operation Fee Form.

Specific Condition No. 10 requires submission of a renewal permit application.

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000915
Permit/Certification Number: AO03-252353
Date of Issue: July 5, 1994
Expiration Date: May 31, 1999

SPECIFIC CONDITIONS:

General

1. The attached General Conditions are part of this permit (FAC Rule 17-4.160).

Operation

2. The maximum allowable operating rate is 300,000 pounds of steam produced per hour. This is the operating rate at which compliance with standards shall be demonstrated. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90 to 100% of rated capacity. If it is impracticable to test at capacity, then sources may be tested at less than capacity; if the source is tested at less than capacity, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacity is allowed for no more than fifteen days for purposes of additional compliance testing to regain the rated capacity in the permit with prior notification to the Department. (FAC Rule 17-4.070)

3. The maximum hours of operation are 24 hours/day, 7 days/week, and 52 weeks/year. (Application dated June 13, 1994)

4. The maximum fuel utilization rates, heat inputs, and percent sulfur content are as follows:

Fuel	Max Utilization Rate	Max Heat Input
No. 6 fuel oil	2,520 gal/hour	378 MMBtu/hr
Bark	50,000 lbs/hr	228 MMBtu/hr
Natural gas	30 MCF/hr	33 MMBtu/hr
Primary clarified wood waste	10 TPD	0 Btu/hr

Fuel oil shall contain a maximum of 2.4% sulfur. The Permittee shall maintain records of fuel utilization and of the fuel oil sulfur content and shall make them available as necessary for Department inspections. (Application dated June 13, 1994)

5. Satisfactory ladders, platforms, and other safety devices as well as necessary parts shall be provided, maintained, and made available as necessary to facilitate compliance inspections. (FAC Rule 17-297.345)

Emissions

6. The maximum allowable emission limit for each pollutant is as follows:

Pollutant	FAC Rule	Allowable Emissions
PM	17-296.410	0.3 lbs/MMBtu from carbonaceous fuels 0.1 lbs/MMBtu from natural gas Max of 109.5 lbs/hr
VE	17-296.410	30% opacity except for up to 2 minutes/hr at up to 40% opacity

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000915
Permit/Certification Number: AO03-252353
Date of Issue: July 5, 1994
Expiration Date: May 31, 1999

SPECIFIC CONDITIONS:

Testing

7. Emissions tests for the following pollutants shall be performed between October 1 and November 30, in accordance with the test methods and frequency indicated, with notification to the Department 15 days prior to testing. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. No more than 4% of the heat input shall be supplied by gas during the test. For good cause, the Permittee may request an extension of a compliance test due date. However, inadequate planning of testing does not constitute good cause for an extension of the compliance test due date. The test report documentation must be submitted to the Department within 45 days after completion of testing.

Pollutant	Frequency	Test Method	Reference
PM	annually	EPA 5	FAC Rule 297.330
VE	annually	DEP 9	FAC Rule 297.330

The VE test shall be for a duration of 60 minutes and shall be conducted during one of the P.M. test runs. Test reports shall comply with F.A.C. Rule 17-297.570, Test Reports. The Department can require special compliance tests in accordance with F.A.C. Rule 17-297.340(2).

Administrative

8. An annual operation report [DEP Form 17-210.900(4) attached] shall be submitted by March 1 each year. The attached form shall be reproduced by the Permittee and used for future annual submittals (FAC Rule 17-210.370) .

9. In accordance with F.A.C. Rule 17-213, a Major Air Pollution Source Annual Operation Fee Form [DEP Form 17-213.900(11) attached] must be completed and submitted with appropriate fee between January 15 and March 1 of each year. If the Department has not received the fee payment by March 1, the Department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee, plus interest on such amount computed in accordance with s.220.807, Florida Statutes. The Department may revoke any major air pollution source operation permit if it finds that the permit holder has failed to pay timely and required annual operation license fee, penalty or interest. The attached form shall be reproduced by the Permittee and used for future annual submittals. The completed form and appropriate fees must be submitted to the Department of Environmental Protection, Title V (Facility I.D. Number), 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

10. An application to renew this permit shall be submitted as required for a Title V permit (FAC Rule 17-210).

11. The permanent source identification number for this point source is 10PCY03000915. Please cite this number on all test reports and other correspondence specific to this permitted point source. (FAC Rule 17-297.570)

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000915
Permit/Certification Number: AO03-252353
Date of Issue: July 5, 1994
Expiration Date: May 31, 1999

SPECIFIC CONDITIONS:

12. The Department telephone number for reporting problems, malfunctions or exceedances under this permit is (904) 444-8300, day or night, and for emergencies involving a significant threat to human health or the environment is (904) 488-1320. For routine business, use telephone number (904) 872-4375 during normal working hours. (FAC Rule 17-210.700)

Expiration Date:

May 31, 1999

Issued this 5th day of July, 1994.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Edie C. Middleswart

for BOBBY A. COOLEY
District Director

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000915
Permit/Certification Number: AO03-252353
Expiration Date: May 31, 1999

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "permit conditions", and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The Permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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 acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the Permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The Permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the Permittee to achieve compliance with the conditions of this permit, are 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 this permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and,

GENERAL CONDITIONS:

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 provide the Department with the following information:

a. A description of and cause of noncompliance; 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. The Permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the Permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with Florida Rules of Civil Procedure and appropriate evidentiary rules.

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

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, 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. The Permittee shall comply with the following:

a. Upon request, the Permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The Permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous

GENERAL CONDITIONS:

monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurement;
- the person responsible for performing the sampling or measurement;
- 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.

14. 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 the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

PERMITTED
BY)

NORTHWEST REGION
DEPT. OF POLLUTION CONTROL

PERMIT NO. AC03-2009

DATE 4DEC74

This application and permit

PAID
CK. 2000
10-23-74

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL

APPLICATION TO OPERATE/CONSTRUCT POLLUTION SOURCES

SECTION I – GENERAL INFORMATION FOR ALL POLLUTION SOURCES
I TO BE FILLED IN BY APPLICANT

Source Type: Air Pollution
Type application: [ ] Operation [ ] Temporary Operation [X] Construction
Status Source: [ ] New [ ] Existing [ ] Modification

Source Name: International Paper Company County: Bay

Source Location: Street: #1 Everett Avenue City: Panama City
(Water Source Only) Lat: ____ Long: ____
(Air Source Only) UTM: East Lat. 30° 08' 30" North Long. 85° 37' 25"

Appl. Name and Title: Joel R. Baker, Mill Manager
Appl. Address: P. O. Box 2487, Panama City, Fl. 32401

II TO BE FILLED IN BY REGION (*BY BUREAU OF PERMITTING)

Control No: Region ____ County ____ Type ____ *Project ____

Type Permit	Date Rec'd	*Permit No.	*Issue Date	*Compl. Date	*Exp. Date
Const.	10/23/74	AC03-2009	12/4/74	7/1/75	7/1/75

Source Description: No. 3 Bark Boiler
Control Equipment: Present equipment is a dry dust collector. A high energy wet scrubber will be installed following the dry collector.

Water Permits

Receiving Body Code: ____ Surface Water Code: ____
Station No.: Influent: ____ Effluent: ____

Effluent:	Average	Design	% Reduction
Flow rate, MGD			
BOD, lbs/day			
Susp. Sol., lbs/day			
Other:			

Air Permits

Operating Time: [X] Continuous [ ] Intermittent
Fuel: Type Bark, No. 6 Fuel Oil, Tall Oil M-BTU/hr. In Put ____
Incinerator: Capacity, tons/day Plant Residue Type Waste ____
Mfg. & Model ____

Pollutant Emissions, lbs/day	Actual	Design	Allowable
Particulate		0.1#/MMBTU	0.3#/MMBTU Bark 0.1#/MMBTU Oil & Gas
Sulfur Oxides			1.1 #/MMBTU
Other:			

Implementation: Estimated Appl. Filing Date ____
Estimated Start of Const. 11/1/74 Estimated Compliance Date 4/30/75

DESCRIPTION OF PROPOSED PROJECT

A. Describe the nature and extent of the proposed project. Refer to existing pollution control facilities, DPC permits, conditions, orders and notices, expected improvement in performance of the facilities and state whether the proposed project will result in full compliance of the source. Attach additional sheet if necessary.

Our No. 3 bark boiler covered by permit No. AO-03-693 presently has a dry fly ash dust collector. We propose in this project to install a high energy wet scrubber following the dry collector.

This scrubber will be supplied by FMC Corporation and will consist of a model 200K FMC link belt dual throat scrubber with hydraulically actuated throat insert and hydraulic cylinders; a model 200K cyclonic entrainment separator; and a power pack for actuation of the venturi throat.

Installation of this equipment will bring this unit into full compliance with State emissions limiting standards.

B. Schedule of Project Covered in this Application (Construction Permit Application Only).

Federally or State Financed Projects only:

Planning Complete _____

Financing Program Complete _____

Indicate other local, state and/or federal agency approvals and dates _____

All projects:

Start of Construction October 30, 1974

Completion of Construction April 30, 1974

C. Costs of Construction (Show a breakdown of costs for individual components/units of the proposed project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

Scrubber	$138,500
Related pumps, fans, soot blowers, etc.	145,000
Piping	17,400
Electrical	123,800
Instruments and controls	22,000
Steel & sundry materials	66,200
Foundations	5,800
Labor, contingencies, construction tools, engineering & craft fringes	275,000
Contingent Expense	35,000

D. Indicate any previous DPC permits, issuance dates, and expiration dates.

Permit No. AO-03-693 issued 9/21/72 had expiration date of 9/15/73, but was extended to 7/1/75 per compliance schedule dated May 29, 1973.

AIR POLLUTION SOURCES & CONTROL DEVICES

A. Identification of Air Contaminants

1) [ ] Particulates
   a) [ ] Dust b) [X] Fly Ash c) [X] Smoke d) [ ] Other (Identify)

2) [X] Sulfur Compounds
   a) [X] SO_x as SO_2 b) [X] Reduced Sulfur as H_2S c) [ ] Other (Identify)

3) [ ] Nitrogen Compounds
   a) [X] NO_x as NO_2 b) [ ] NH_3 c) [ ] Other (Identify)

4) [ ] Flourides 5) [ ] Acid Mist 6) [X] Odor

7) [ ] Hydrocarbons 8) [ ] Volatile Organic Compounds

9) [ ] Other (Specify): _____

B. Raw Materials and Chemicals Used (Be Specific)

Description	Utilization - Tons/day, lbs./day, etc.	Approximate Contaminant Content		Relate to Flow Diagram
		Type	% Wt.	
Not Applicable				

C. Process Weight:

1) Total Process Weight Rate _____ lbs./hr. [See Sec. 17-2.04(2)]
2) Product Weight _____ lb./hr. expressed as _____
3) Normal Operating Time Continuous, if seasonal describe: _____

D. Airborne Contaminants Discharged:

Name of Contaminant	Actual Discharge	Discharge Criteria*	Allowable Discharge*	Relate Location to Flow Diagram
Particulate		0.1#/MMBTU	0.3#/MMBTU Bark 0.1#/MMBTU Oil	0
SO2			1.1#/MMBTU	0
Reduced Sulfur				0

* Refer to Chapter 17-2 Florida Administrative Code
(Discharge Criteria: Process Weight Rate, #/ton P_2O_5, #/M BTU/hr etc.)

Control Devices:

Name	Eff.	Conditions of Operation, Particle Size Range, etc.	Relate to Flow Diagram
Fly Ash Dust Collector		Not Applicable	F
Wet Scrubber	90.24	Not Applicable	O

F. Fuels:

Type (Be specific)	Daily Consumption	Heat Input BTU/hr.	Relate to Flow Diagram
No. 6 Fuel Oil	520 BBLS	136,500,000	C
Wood Bark	304 Tons/Day	114,800,000	B
Tall Oil Plant Residue	14 Tons/Day	20,700,000	N

G. Describe briefly, without revealing trade secrets, the unit processes/operations generating the airborne emissions identified in this application:

This is a combination fired steam generating boiler. Airborne emissions are generated by the combustion of fuels listed in section F.

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

Sand and boiler slag are solid waste generated. They are sluiced to a settling pond.

STATEMENTS BY APPLICANT AND ENGINEER

A. Applicant

The undersigned owner or authorized representative of * International Paper Company is fully aware that the statements made in this application for a construction permit are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403 Florida Statutes and all the rules and regulations of the Department or revisions thereof. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted establishment.

Joel R. Baker

Signature of the Owner or Authorized Representative

Joel R. Baker, Mill Manager

Name and Title (Please Type)

Date: 10/21/74 Telephone No.: 904/785-4311

* Attach a letter of authorization

B. Professional Engineer Registered in Florida:

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the control and discharge of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution source(s) with appropriate control facilities, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and the rules and regulations of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the installation covered in this application.

Signature: Philip Franklin Adams

Name: Philip Franklin Adams
(please type)

Florida Registration Number 4643
(Please affix seal)

Mailing Address: International Paper Company
Southern Kraft Division
P. O. Box 2328
Mobile, Alabama 36601

Telephone No.: 205/457-8911

Date: 10/16/74

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
No. 4 Combination Boiler

4. Emissions Unit Identification Number:
ID: **016**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A		**28**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

The Batch Digestor System and Multi Effect Evaporator may vent non-condensable gases (NCGs) to the No. 4 Combination Boiler as a backup control device.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Venturi Scrubber

Incineration of TRS gases (as a backup to the lime kiln)

2. Control Device or Method Code(s): **53, 21**

Emissions Unit Details

1. Package Unit: Manufacturer:	Model Number:	
2. Generator Nameplate Rating:	MW	
3. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:			**545**	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr			tons/day
3. Maximum Process or Throughput Rate:				
4. Maximum Production Rate:			**330,000**	**lb (steam)/hr**
5. Requested Maximum Operating Schedule:				
	24	hours/day	**7**	days/week
	52	weeks/year	**8,760**	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

Maximum rate based on requested permit limit when burning combination of fuels: No. 6 fuel oil – 473 MMBtu/hr; Bark – 474 MMBtu/hr; natural gas – 40 MMBtu/hr; and coal – 395 MMBtu/hr.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment SCC-EU9-C

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **EU12**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
6. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **213** feet	7. Exit Diameter: **7.8** feet
8. Exit Temperature: **149** °F	9. Actual Volumetric Flow Rate: **256,950** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **External combustion boilers; Industrial; Residual Oil: Grade 6 Oil**		
2. Source Classification Code (SCC): **1-02-004-01**	3. SCC Units: **1000 gallons burned**	
4. Maximum Hourly Rate: **3.153**	5. Maximum Annual Rate: **27,620**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.4**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **External combustion boilers; Industrial: Wood/Bark Waste**		
2. Source Classification Code (SCC): **1-02-009-01**	3. SCC Units: **tons burned**	
4. Maximum Hourly Rate: **30.0**	5. Maximum Annual Rate: **262,800**	6. Estimated Annual Activity Factor:
8. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment (limit to 200 characters): **Wood/Bark waste on a dry basis.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **External combustion boilers; Industrial: Natural Gas**		
2. Source Classification Code (SCC): **1-02-006-01**	3. SCC Units: **million cubic feet burned**	
4. Maximum Hourly Rate: **0.04**	5. Maximum Annual Rate: **350.4**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,000**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **External combustion boilers; Industrial: Solid Waste**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **0.417**	5. Maximum Annual Rate: **3,650**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **0**
10. Segment Comment (limit to 200 characters): **Maximum Rate based on 10 tons (primary classified wood waste)/day. Heating value contribution is negligible due to high moisture content (78%).**		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	053		EL
PM_{10}	053		NS
SO_2			EL
NO_X			NS
CO			NS
VOC			NS
TRS	021		EL
PB			NS
HAPS	021		NS
H038			NS
H106			NS
H115			NS

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **86.6** lb/hour **379.31** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **See Comment** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **Based on limit in construction permit. See Attachments SCC-EU9-G1 through G6.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Emission Factor: 0.3 lb(PM)/MMBtu from carbonaceous fuel; 0.1 lb(PM)/MMBtu from fossil fuel.**	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.3 lb(PM)/MMBtu**	4. Equivalent Allowable Emissions: **86.6** lb/hour **379.31** tons/year
5. Method of Compliance (limit to 60 characters): **Annual test using EPA Test Method 5**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **62-296.410(1)(b)2.; Requested Allowable Emission Factor based on carbonaceous fuel. Allowable emissions are 86.6 lb/hr (379.31 tons/yr) when any combination of fuel is utilized.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: lb/hour tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference:	7. Emissions Method Code:
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.1 lb(PM)/MMBtu**	4. Equivalent Allowable Emissions: **47.3** lb/hour **207.2** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Test Method 5**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **62-296.410(1)(b)2.; Requested Allowable Emission Factor based on fossil fuel. Allowable emissions are 86.6 lb/hr (379.31 tons/yr) when any combination of fossil fuel is utilized.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **781** lb/hour **2,518.5** tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference: **Permit Limit**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **Max hourly based on current permit limit. Max 24-hr based on proposed permit limit. See Attachments SCC-EU9-G1 throughG6. When both the No. 3 and No. 4 Combination Boilers are burning oil or coal, or burning TRS gases, total SO_2 emissions from both boilers are limited to 525 lb/hr, 24-hr average.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions: **16 April 2001**
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: **575** lb/hour **2,518.5** tons/year
5. Method of Compliance (limit to 60 characters): **Source Test using EPA Method 6**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Maximum 24-hr limit.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: lb/hour tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: Reference:	7. Emissions Method Code:
8. Calculation of Emissions (limit to 600 characters):	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **781 lb/hr**	4. Equivalent Allowable Emissions: **781** lb/hour **2,518.5** tons/year
5. Method of Compliance (limit to 60 characters): **Annual test using EPA Method 6**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Max hourly permit limit when incinerating TRS gases.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **TRS**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **4.35** lb/hour **19.1** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **5 ppmvd** Reference: **62-296.404(3)(f)1.**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **5 ppmvd x 164,500 ft^3/min x 60 min/hr ÷ 1546 ft·lbf lb·mol °R x 34 lb(H_2S)/lb·mol(H_2S) ÷ 528°R x 2116.8 lbf/ft^2 = 4.35 lbs/hr**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Emission Factor corrected to 10% O_2 as 12-hr average.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **5 ppmvd**	4. Equivalent Allowable Emissions: **4.35** lb/hour **19.1** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Test Method 16, 16A or 16B**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **62-296.404(3)(f)1. Emissions corrected to 10% O_2 as a 12-hr avg. Allowable emissions only apply when NCG gases from the Batch Digestor System and MEE System are vented to the No. 4 Combination Boiler.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE30**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **30** % Exceptional Conditions: **40** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **Annual test using EPA Method 9 while operating under normal mix of fuels.**	
5. Visible Emissions Comment (limit to 200 characters): **Due to interference, the visible emission limiting standard pursuant to 62-296.410(1)(b)1. is not applicable and is deferred to 62-296.404(2)(b).**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 4

1. Parameter Code: **TEMP**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: **Pulsar II** Model Number: **7000 FM-EH-2** Serial Number: **2250**	
5. Installation Date: **01-JUL-1992**	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **TEMP CMS required by 62-296.405(5)(c) and AO03-223447. Only required to operate when incinerating TRS gases.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 2 of 4

1. Parameter Code: **pH**	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [X] Other
4. Monitor Information: Manufacturer: **Yokogawa** Model Number: **pH 200G-PU*A/U/2** Serial Number: **B5409**	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **CMS for pH required by Specific Condition 6 of AO03-223447 and Specific Condition 22 in AC03-190964.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 3 of 4

1. Parameter Code: O_2	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date: 22-JUL-1996	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): 62-296.404(5)(c).	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 4 of 4

1. Parameter Code: SO_2	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [X] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **SO_2 monitor will be installed to determine compliance with SO_2 limit.**	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram
   [X] Attached, Document ID: **SCC-EU9-J1** [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [X] Attached, Document ID: **SCC-EU9-J2** [ ] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [X] Attached, Document ID: **SCC-EU9-J3** [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____
   [ ] Previously submitted, Date:_____
   [X] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

8. Supplemental Information for Construction Permit Application
   [X] Attached, Document ID: **Attachment A** [ ] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID:_____ [X] Not Applicable

10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[X] Not Applicable

ATTACHMENT SCC-EU9-D

APPLICABLE REGULATIONS

ATTACHMENT SCC-EU9-D

Specific Emissions Unit Name (ID): No. 4 Combination Boiler (Non-NSPS)
Facility Name (ID): Stone Container Corporation (10-PCY-03-0009)

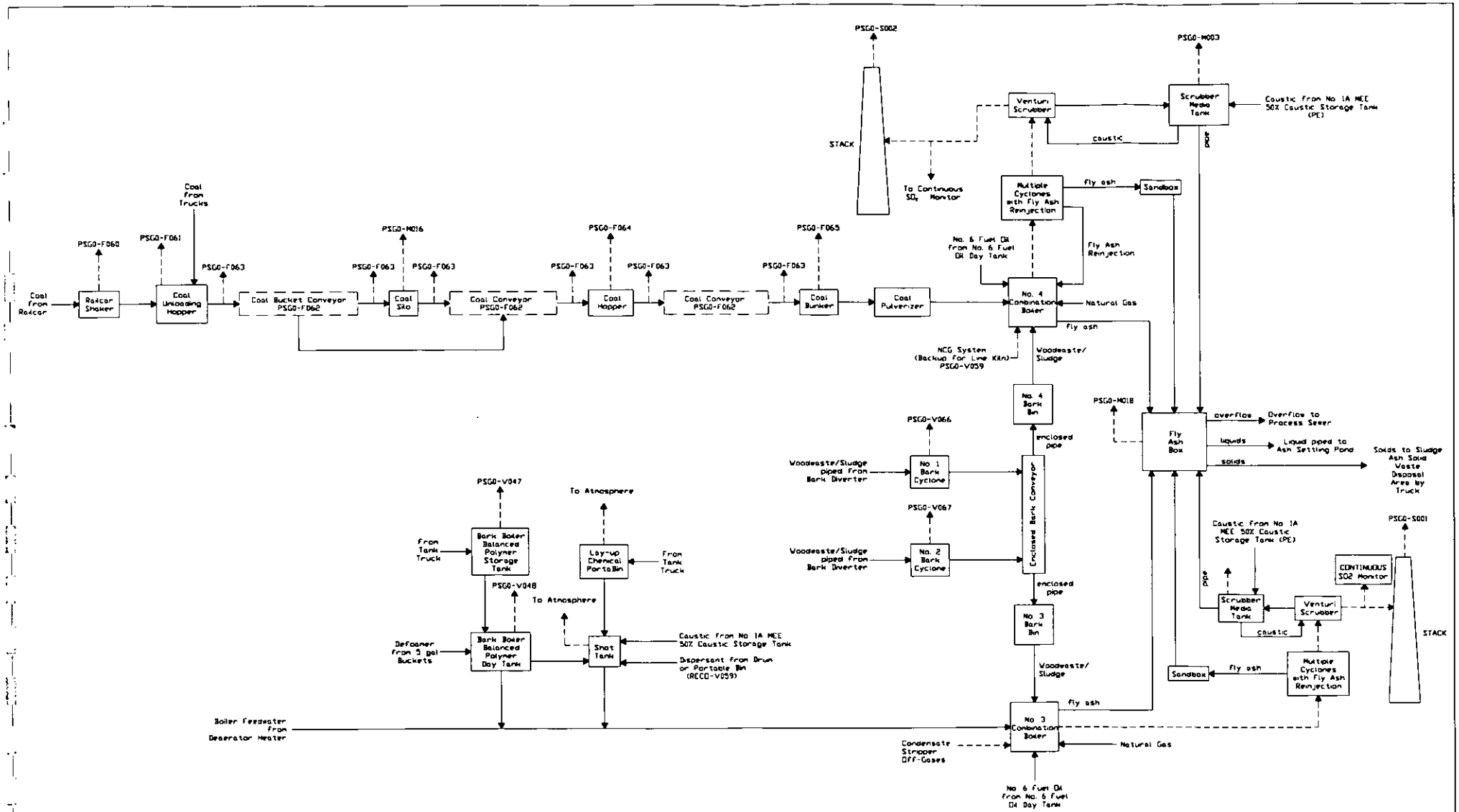
Rule Number	PA/A	Rule Title/Summary	Applicability Comment
62-296.404(2)(b) 62-296	A	Kraft (Sulfate) Pulp Mills and Tall Oil Plants: Visible emission limits for sources equipped with wet scrubbers only apply if plume unaffected by plume mixing or moisture condensation.	
62-296.404(3)(a)3 62-296	A	Kraft (Sulfate) Pulp Mills and Tall Oil Plants: TRS emissions shall not be vented to the atmosphere except in emergencies or when control device is shut down. Develop an approved contingency plan. Venting allowed for up to 10 days.	Contingency plan requires only that backup devices be assessed, & contingency plan
62-296.404(3)(f) 62-296	A	Kraft (Sulfate) Pulp Mills and Tall Oil Plants: Other Combustion Devices Used to Incinerate TRS Emissions	
62-296.404(4)(e)2. 62-296	A	Test Methods and Procedures: PM for dry control emissions units: EPA Method 5-minimum sample volume 32 dscf. An acetone wash shall be used	
62-296.404(4)(3)3	A	Test Methods and Procedures: TRS: EPA Method 16 or EPA Method 16A or EPA Method	
62-296.404(4)(f) 62-296	A	Test Methods and Procedures: Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.	
62-296.404(5)(c) 62-296	A	Continuous Emissions Monitoring Requirements: Incinerators shall be equipped with devices to continuously monitor temperature at the point of combustion and oxygen.	Temperature and 02 CMS
62-296.410(1)(b)1.	A	Carbonaceous Fuel Burning Equipment.: Visible emissions -30x opacity (except 62-296 40x opacity for not more than two minutes in any one hour)	
62-296.410(1)(b)2.	A	Carbonaceous Fuel Burning Equipment: Particulate Matter -0.3 lb/MMBtu of 62-296 carbonaceous fuel plus 0.1 lb/MMBtu of fossil fuel.	
62-296.410(3) 62-296	A	Test Methods and Procedures: All emissions tests performed pursuant to the 62-296 requirements of this section shall comply with the following requirements	
62-297.310 62-297	A	General Test Requirements: The focal point of a compliance test is the stack 62-297 or duct which vents process and/or combustion gases and air pollutants from an emissions unit into the ambient air.	
62-297.401(1)(a) 62-297 Test Method	A	EPA Method 1 --Sample and Velocity Traverses for Stationary sources --40 CFR 62-297 Test Method 60 Appendix A.	

Specific Emissions Unit Name (ID): No. 4 Combination Boiler (Non-NSPS)
Facility Name (ID): Stone Container Corporation (10-PCY-03-0009)

Rule Number	PA/A	Rule Title/Summary	Applicability Comment
62-297.401(16) 62-297 Test Method	A	EPA Method 16 --Semicontinuous Determination of Sulfur Emissions from 62-297 Test Method Stationary Sources --40 CFR:	
62-297.401(16)(a) 62-297 Test Method	A	EPA Method 16A --Determination of Total Reduced Sulfur Emissions from 62-297 Test Method Stationary Sources (Impinger)	
62-297.401(16)(b) 62-297 Test Method	A	EPA Method 16B --Determination of Total Reduced Sulfur Emissions from 62-297 Test Method Stationary Sources --40 CFR:	
62-297.401(2) 62-297 Test Method	A	EPA Method 2 --Determination of Stack Gas Velocity and Volumetric Flow Rate -- 62-297 Test Method 40 CFR 60 Appendix A:	
62-297.401(3) 62-297 Test Method	A	EPA Method 3 --Gas Analysis of Carbon Dioxide, Oxygen, Excess Air, and Dry 62-297 Test Method Molecular Weight --40	
62-297.401(4) 62-297 Test Method	A	EPA Method 4 --Determination of Moisture Content in Stack Glases --40 CFR 60-62-297 Test Method Appendix A.:	
62-297.401(5) 62-297 Test Method	A	EPA Method 5 --Determination of Particulate Emissions from Stationary Sources 62-297 Test Method Sources -.40 CFR 60 Appendix:	
62-297.401(6) 62-297 Test Method	A	EPA Method 6 --Determination of Sulfur Dioxide Emissions from Stationary 62-297 Test Method Sources -.40 CFR 60 Appendix:	
62-297.401(9)(c) 62-297 Test Method	A		DEP Method 9

ATTACHMENT SCC-EU9-J1

PROCESS FLOW DIAGRAM



Process Flow Legend	
Gas --------->	Covered Conveyor
Steam —·—·—>	Enclosed Conveyor

Stone Container Corp.
Panama City, FL
Process Flow Diagram
SCC-EU9-J1

Emission Unit:	No. 3 and 4 Combination Boiler
Process Area:	Utilities/Miscellaneous
Filename:	99375189Y/F1/WP/SCC-EU9-J1.DWG
Latest Revision:	04/05/2000 by PAC

Golder Associates

ATTACHMENT SCC-EU9-J2

FUEL ANALYSIS

ATTACHMENT SCC-EU9-J2

No. 4 Combination Boiler
Fuel Analysis

Fuel	Density (lb/gal)	Moisture (%)	Weight % Sulfur	Weight % Nitrogen	Weight % Ash	Heat Capacity
No. 6 Fuel Oil	8.33	--	2.4	0.08	0.1	145,000 - 150,000 Btu/gal
Carbonaceous Fuel *	--	50	--	--	1.2 - 2.7	4,500 Btu/lb
Coal	--	4 - 7	1.7	--	6 - 12	12,500-13,500 Btu/lb
Natural Gas	--	--	0.1	--	--	1,000 Btu/cf

* Includes bark/woodwaste (wet), primary clarified wood waste, bark fly ash, and sludge.

ATTACHMENT SCC-EU9-J3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Attachment SCC-EU9-J3

Control Equipment Parameters (a)

No. 4 Combination Boiler Scrubber (Venturi)

Manufacturer	FMC Link-Belt	
Model No.	200K Dual-Throat	
Date of Installation	1974	
Inlet Gas Flow Rate	220,000-260,000	ACFM
Outlet Gas Temp	140-150	F
Outlet Gas Flow Rate	220,000-260,000	ACFM
Pressure Drop Across Device	8	inches of H20
Scrubber Media (b)	Water	
Scrubber Liquor Flow Rate	1,500-1,600	gpm
Average Scrubbing Liquor pH (c)	variable	pH units
Control Efficiency - Particulate Matter (d)	90	%
- Sulfur Dioxide (e)	50-95	%
Maximum Permitted Particulate Matter Emission Rate (f)	86.6	lb (PM)/hr
Maximum Permitted Sulfur Dioxide Emission Rate (g)	781	lb (SO2)/hr

(a) Control equipment parameters may vary according to process conditions.

(b) pH controlled with caustic

(c) Controlled by caustic addition to wet scrubber and SO_2 monitor

(d) Based on manufacturer's quote.

(e) Based on source test data.

(f) Values obtained from Permit AC03-190964. Based on Carbonaceous fuel firing.

(g) Values obtained from Permit AC03-190964. Based on incinerating NCG gases in the No. 4 Combination Boiler.

Attachment SCC-EU9-G1. Maximum Fuel Usage and Heat Input Rates, No. 4 Combination Boiler, Stone Container, Panama City

Fuel	Heat Input to Boiler	Heat Transfer Efficiency (%)	Heat Output to Steam	Fuel Firing Rate
		Maximum Individual Fuel Rates		
Wood/Bark	474 MMBtu/hr	72	341 MMBtu/hr	30.0 tons/hr,dry [a]
No. 6 Oil	473 MMBtu/hr	85	402 MMBtu/hr	3,153 gal/hr [b]
Coal	395 MMBtu/hr	87	344 MMBtu/hr	15.8 tons/hr [c]
Natural Gas	40 MMBtu/hr	80	32 MMBtu/hr	40,000 scf/hr
		Maximum Wood/Bark Firing		
Wood/Bark	474 MMBtu/hr	72	341 MMBtu/hr	30.0 tons/hr,dry [a]
No. 6 Oil	71 MMBtu/hr	85	60 MMBtu/hr	473 gal/hr [b]
Coal	0 MMBtu/hr	87	0 MMBtu/hr	0 tons/hr [c]
Natural Gas	0 MMBtu/hr	80	0 MMBtu/hr	0 scf/hr
TOTAL	545 MMBtu/hr		402 MMBtu/hr	
		Maximum No. 6 Fuel Oil Firing		
Wood/Bark	0 MMBtu/hr	72	0 MMBtu/hr	0 tons/hr,dry [a]
No. 6 Oil	473 MMBtu/hr	85	402 MMBtu/hr	3,153 gal/hr [b]
Coal	0 MMBtu/hr	87	0 MMBtu/hr	0 tons/hr [c]
Natural Gas	0 MMBtu/hr	80	0 MMBtu/hr	0 scf/hr
TOTAL	473 MMBtu/hr		402 MMBtu/hr	
		Maximum Coal Firing		
Wood/Bark	81 MMBtu/hr	72	58 MMBtu/hr	5.1 tons/hr,dry [a]
No. 6 Oil	0 MMBtu/hr	85	0 MMBtu/hr	0 gal/hr [b]
Coal	395 MMBtu/hr	87	344 MMBtu/hr	15.8 tons/hr [c]
Natural Gas	0 MMBtu/hr	80	0 MMBtu/hr	0 scf/hr
TOTAL	476 MMBtu/hr		402 MMBtu/hr	

Note: Total heat input to steam = 402 MMBtu/hr, derived as follows:
Net enthalpy of steam = 1,219 Btu/lb
Max. steam rate = 330,000 lb/hr
330,000 lb/hr x 1,219 Btu/lb = 402 MMBtu/hr

Fuels may be burned in combination, not to exceed indicated total heat outputs.

[a] Based on heating value for wood waste of 7,900 Btu/lb, dry basis.
[b] Based on heating value for No. 6 fuel oil of 150,000 Btu/gal.
[c] Based on heating value of 12,500 Btu/lb.

Attachment SCC-EU9-G2. Maximum Emissions for Individual Fuels. No 4 Combination Boiler, Stone Container, Panama City

Regulated Pollutant	No 6 Oil					Wood/Bark					Gas					Coal				
	Emission Factor	Ref	Activity Factors [a]	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Emission Factor	Ref	Activity Factors [a] [b]	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Emission Factor	Ref.	Activity Factors [a]	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Emission Factor	Ref	Activity Factors [a]	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	0 10 lb/MMBtu	1	473 MMBtu/hr	47 3	207.17	0 30 lb/MMBtu	1	474 MMBtu/hr	86 60 [i]	379 31	0 1 lb/MMBtu	1	40 MMBtu/hr	4 00	17.52	0 1 lb/MMBtu	1	395 MMBtu/hr	39 50	173 01
Particulate (PM10)	86 % of PM	10	--	--	40 68	87 % of PM	5	--	--	75 34	0 1 lb/MMBtu	1	40 MMBtu/hr	4 00	17 52	90 % of PM	7	--	35 55	155 71
Sulfur dioxide 3-hr	157S lb/Mgal [d]	2	3 153 Mgal/hr	781.00 [e]		0 075 lb/TWWF	9	60 0 tons/hr	4 50	19 71	0 6 lb/MMscf	6	0.04 MMscf/hr	0 024		781 lb/hr [e]	--	--	781 0	
24-hr	575 lb/hr [h]	9		575 00	2,518 50	--	--	--	--	--	0 6 lb/MMscf	6	0 04 MMscf/hr	0 024	0 11	575 lb/hr	9	--	575 0	2,518 50
Nitrogen oxides	47 lb/Mgal	2	3 153 Mgal/hr	148 19	649 08	1 5 lb/TWWF	5	60 0 tons/hr	90 00	394 20	280 lb/MMscf	6	0 04 MMscf/hr	11.20	49 06	11 lb/ton	7	15 8 TPH	173 8	761.24
Carbon monoxide	5 lb/Mgal	2	3 153 Mgal/hr	15 77	69 05	2 923 lb/TWWF	8	60 0 tons/hr	175 38	768 16	84 lb/MMscf	6	0 04 MMscf/hr	3 36	14 72	5 lb/ton	7	15 8 TPH	79 0	346 02
VOC	0 28 lb/Mgal	2	3 153 Mgal/hr	0 88	3 87	0 12 lb/TWWF	3	60 0 tons/hr	7 20	31 54	5 5 lb/MMscf	6	0 04 MMscf/hr	0 22	0 96	0 05 lb/ton	3	15 8 TPH	0 79	3 46
Sulfuric acid mist 24-hr	6 1 % of SO2	4	3.153 Mgal/hr	35 08	153 6	6 1 % of SO2	4	--	0 27	1.20	6 1 % of SO2	4	--	1 46E-03	6 41E-03	6 1 % of SO2	4	--	35 08	153 63
Total reduced sulfur [c]	--	--	--	--	--	--	--	--	--	--	--		--	--	--	5 ppmvd [f]	1	164 500 acfm [g]	4 40	19 27
Lead	1.51E-03 lb/Mgal	2	3 153 Mgal/hr	4 8E-03	2 1E 02	4 45E-04 lb/TWWF	5	60 0 tons/hr	2 67E-02	1 17E-01	1 0E-06 lb/MMscf	6	0 04 MMscf/hr	4 00E-10	1.75E-09	4 20E-04 lb/ton	7	15 8 TPH	6 64E-03	2 91E-02
Mercury	1.13E-04 lb/Mgal	2	3 153 Mgal/hr	3 6E-04	1 6E-03	5 15E-06 lb/TWWF	5	60 0 tons/hr	3 09E-04	1.35E-03	2 6E-04 lb/MMscf	6	0 04 MMscf/hr	1 04E-05	4 56E-05	8 30E-05 lb/ton	7	15 8 TPH	1.31E-03	5 74E-03
Beryllium	2.76E-05 lb/Mgal	2	3 153 Mgal/hr	8 8E-05	3 8E-04	--	--	--	--	--	1 20E-05 lb/MMscf	6	0 04 MMscf/hr	4 80E-07	2 10E-06	2.10E-05 lb/ton	7	15 8 TPH	3 32E-04	1 45E-03
Fluorides	3 73E-02 lb/Mgal	2	3 153 Mgal/hr	1 2E-01	5 2E 01	--	--	--	--	--	--	--	--	--	--	0 15 lb/ton	7	15 8 TPH	2.37	10 38

Notes
TWWF - ton of wet wood residue fuel
All annual emissions based on 8,760 hr/yr operation
Footnotes
[a] Refer to Attachment SCC-EU9-G1.
[b] Based on 30 tons/hr dry basis and 50% moisture in wood/bark
[c] TRS gases from digester and MEE system must be incinerated in the Lime Kiln or Bark Boiler at a minumum of 1,200 deg F for at least 0 5 seconds
[d] Maximum fuel oil sulfur content = 2 4%
[e] Current permit limit including TRS burning
[f] All TRS emissions calculated under coal section
[g] Based on Title V application
[h] Proposed permit limit for 24 hour average for No 4 Combination Boiler operating, and with No 3 Combination Boiler shutdown or operating on bark/natural gas only.
[i] Based on limit in AC03-190964
References
1 Based on Florida Rule 62-296 410
2 Emission Factors based on AP-42 Section 1 3 Table 1.3-1, 1.3-3, 1 3-4 and 1 3-11 for metals (assuming uncontrolled for metals)
3 Emission Factor Based on NCASI TB 646 for an average Spreader Stoker Boilers with Scrubbers Tables1, 2, and 3
4 Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil 5% of SO2 becomes SO3 then take into account the ratio of sulfuric acid mist and sulfur trioxide molecular weights (98/80)
5 Emission Factors based on AP-42 Section 1 6 Table 1 6-1, 1 6-2, 1 6-3, 1 6-5 and 1 6-6 (2/99)
6 Emission Factors based on AP-42 Section 1 4 Table 1 4-1, 1 4-2, and 1 4-4 .
7. Emission Factors based on AP-42 Section 1.1 Tables 1.1-3, 1.1-5, 1.1-9, 1.1-18 and 1 1-19 for spreader stoker boilers
8 Emission Factor Based on NCASI TB 416, Table 4
9 Based on proposed permit limit
10 Based on AP-42 Section 1 3, Table 1 3-5, for industrial boilers firing residual oil with no control

Attachment SCC-EU9-G3. Emissions from Maximum Wood/Bark Firing with Supplemental Fuel Oil Firing, No. 4 Combination Boiler, Stone Container, Panama City

Regulated Pollutant	No. 6 Oil			Wood/Bark			Total	
	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	0.10 lb/MMBtu	71 MMBtu/hr	7.10	0.30 lb/MMBtu	474 MMBtu/hr	86.6 [a]	86.60	379.31
Particulate (PM10)	86 % of PM		6.11	87 % of PM	--	75.3	81.45	356.74
Sulfur dioxide	157S lb/Mgal	0.473 Mgal/hr	178.23	0.075 lb/TWWF	60.0 tons/hr	4.50	182.73	800.34
Nitrogen oxides	47 lb/Mgal	0.473 Mgal/hr	22.23	1.5 lb/TWWF	60.0 tons/hr	90.00	112.23	491.57
Carbon monoxide	5 lb/Mgal	0.473 Mgal/hr	2.37	2.923 lb/TWWF	60.0 tons/hr	175.38	177.75	778.52
VOC	0.28 lb/Mgal	0.473 Mgal/hr	0.13	0.12 lb/TWWF	60.0 tons/hr	7.20	7.33	32.12
Sulfuric acid mist	6.1 % of SO2	--	10.87	6.1 % of SO2	--	0.27	11.15	48.82
Total reduced sulfur	--	--	--	--	--	--	--	--
Lead	1.51E-03 lb/Mgal	0.473 Mgal/hr	7.14E-04	4.45E-04 lb/TWWF	60.0 tons/hr	2.67E-02	2.74E-02	1.20E-01
Mercury	1.13E-04 lb/Mgal	0.473 Mgal/hr	5.34E-05	5.15E-06 lb/TWWF	60.0 tons/hr	3.09E-04	3.62E-04	1.59E-03
Beryllium	2.78E-05 lb/Mgal	0.473 Mgal/hr	1.31E-05	--	--	--	1.31E-05	5.76E-05
Fluorides	3.73E-02 lb/Mgal	0.473 Mgal/hr	1.76E-02	--	--	--	1.76E-02	7.73E-02

See Attachment SCC-EU9-G2 for emission factors and references.

[a] Based on limit in AC03-190964.

Attachment SCC-EU9-G4. Emissions from Maximum Fuel Oil Firing, No. 4 Combination Boiler at Stone Container, Panama City

Regulated Pollutant	No. 6 Oil		Total	
	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	0.10 lb/MMBtu	473 MMBtu/hr	47.30	207.17
Particulate (PM10)	86 % of PM	--	40.68	178.17
Sulfur dioxide 3-hr	157S lb/Mgal	3.153 Mgal/hr	781.0	
24-hr	575 lb/hr		575.0	2,518.5
Nitrogen oxides	47 lb/Mgal	3.153 Mgal/hr	148.19	649.08
Carbon monoxide	5 lb/Mgal	3.153 Mgal/hr	15.77	69.05
VOC	0.28 lb/Mgal	3.153 Mgal/hr	0.88	3.87
Sulfuric acid mist	6.1 % of SO2	3.153 Mgal/hr	35.08	153.63
Total reduced sulfur	--	--	--	--
Lead	1.51E-03 lb/Mgal	3.153 Mgal/hr	4.76E-03	2.09E-02
Mercury	1.13E-04 lb/Mgal	3.153 Mgal/hr	3.56E-04	1.56E-03
Beryllium	2.78E-05 lb/Mgal	3.153 Mgal/hr	8.77E-05	3.84E-04
Fluorides	3.73E-02 lb/Mgal	3.153 Mgal/hr	1.18E-01	5.15E-01

See Attachment SCC-EU9-G2 for emission factors and references.

Attachment SCC-EU9-G5. Emissions from Maximum Coal Firing with Supplemental Wood/Bark Firing, No. 4 Combination Boiler, Stone Container, Panama City

Regulated Pollutant	Wood/Bark			Coal			Total	
	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Emission Factor	Activity Factors	Hourly Emissions (lb/hr)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	0.30 lb/MMBtu	81 MMBtu/hr	24.30	0.1 lb/MMBtu	395.0 MMBtu/hr	39.50	63.80	279.44
Particulate (PM10)	87 % of PM		21.14	90 % of PM	--	35.55	56.69	248.31
Sulfur dioxide 3-hr	0.075 lb/TWWF	10.2 tons/hr	0.77	781 lb/hr	--	781.00	781.00	
24-hr	--		--	575 lb/hr	--	575.00	575.00	2,518.50
Nitrogen oxides	1.50 lb/TWWF	10.2 tons/hr	15.30	11 lb/ton	15.8 TPH	173.8	189.10	828.26
Carbon monoxide	2.92 lb/TWWF	10.2 tons/hr	29.81	5 lb/ton	15.8 TPH	79.0	108.81	476.61
VOC	0.12 lb/TWWF	10.2 tons/hr	1.22	0.05 lb/ton	15.8 TPH	0.79	2.01	8.82
Sulfuric acid mist (24-hr)	6.1 % of SO2	--	4.67E-02	6.1 % of SO2	--	35.08	35.12	153.83
Total reduced sulfur	--	--	--	5 ppmvd	164,500 dscfm	4.40	4.40	19.27
Lead	4.45E-04 lb/TWWF	10.2 tons/hr	4.54E-03	4.20E-04 lb/ton	15.8 TPH	6.64E-03	1.12E-02	4.89E-02
Mercury	5.15E-06 lb/TWWF	10.2 tons/hr	5.25E-05	8.30E-05 lb/ton	15.8 TPH	1.31E-03	1.36E-03	5.97E-03
Beryllium	--	--	--	2.10E-05 lb/ton	15.8 TPH	3.32E-04	3.32E-04	1.45E-03
Fluorides	--	--	--	0.15 lb/ton	15.8 TPH	2.37	2.37	10.38

See Attachment SCC-EU9-G2 for emission factors and references.

Attachment SCC-EU9-G6. Proposed Maximum Emissions For Alternate Fuel Scenarios, No. 4 Combination Boiler, Stone Container, Panama City

Regulated Pollutant	Maximum Wood/Bark and Fuel Oil		Maximum Fuel Oil		Maximum Coal and Wood/Bark		Maximum Any Scenario	
	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	86.60	379.31	47.30	207.17	63.80	279.44	86.60	379.31
Particulate (PM10)	81.45	356.74	40.68	178.17	56.69	248.31	81.45	356.74
Sulfur dioxide: 3-hr	182.73		781.00		781.00		781.00	
24-hr	182.73	800.34	575.00	2,518.50	575.00	2,518.50	575.00	2,518.50
Nitrogen oxides	112.23	491.57	148.19	649.08	189.10	828.26	189.10	828.26
Carbon monoxide	177.75	778.52	15.77	69.05	108.81	476.61	177.75	778.52
VOC	7.33	32.12	0.88	3.87	2.01	8.82	7.33	32.12
Sulfuric acid mist	11.15	48.82	35.08	153.63	35.12	153.83	35.12	153.83
Total reduced sulfur	--	--	--	--	4.4	19.3	4.40	19.27
Lead	2.74E-02	1.20E-01	4.76E-03	2.09E-02	1.12E-02	4.89E-02	2.74E-02	1.20E-01
Mercury	3.62E-04	3.57E+02	3.56E-04	1.56E-03	1.36E-03	5.97E-03	1.36E-03	3.57E+02
Beryllium	1.31E-05	5.76E-05	8.77E-05	3.84E-04	3.32E-04	1.45E-03	3.32E-04	1.45E-03
Fluorides	1.76E-02	7.73E-02	1.18E-01	5.15E-01	2.37	10.38	2.37	10.38

AIR OPERATING AND CONSTRUCTION PERMITS

Florida Department of Environmental Regulation

Northwest District • 160 Governmental Center • Pensacola, Florida 32501-5794

Lawton Chiles, Governor

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000916
Permit/Certification Number: AO03-223447
Date of Issue: June 10, 1993
Expiration Date: March 1, 1998
County: Bay
Latitude/Longitude: 30°08'30"N/85°37'25"W
Project: Bark Boiler No. 4

This permit is issued under the provisions of Section 403.087, Florida Statutes, and Florida Administrative Code Rules 17-296, 17-297 and 17-4. The above named applicant, hereinafter called 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:

Operation of Bark Boiler No. 4 fueled by coal, No. 6 fuel oil, turpentine reside, gas and wood waste. Capacity is 300,000 pounds of steam produced per hour. Particulate matter (PM) emissions are controlled by a fly ash arrestor, model MTSA-380-9CVT, followed by a wet scrubber manufactured by FMC Link Belt, model 200K dual throat. Sulfur dioxide emissions are controlled by maintaining a minimum pH of 8.0 on the wet scrubber. Bark Boiler No. 4 serves as the backup control device of non-condensible gases (NCG) from the Multiple Effect Evaporator System and the Batch Digester System. TRS emissions are controlled by subjecting the TRS gases to a minimum of 1200°F for at least 0.5 seconds.

Located: 1 Everitt Avenue, Panama City.

Specific Condition No. 5 requires records of TRS gas incineration temperature to be kept and be available for Department inspection.

Specific Condition No. 6 requires records of venturi scrubber system pH to be kept and be available for Department inspection.

Specific Condition No. 7 requires annual PM, SO_2 and VE testing due before the end of November, and TRS testing in 1997 before the end of November.

Specific Condition No. 8 requires submittal of Annual Operation Fee.

Specific Condition No. 9 requires records of sulfur content in fuels to be kept and be available for Department inspections.

Specific Condition No. 10 requires records of incinerating TRS gases to be kept and be available for Department inspection.

Specific Condition No. 11 requires submittal of annual operation reports.

Specific Condition No. 13 requires submittal of permit renewal application by January 1, 1998.

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000916
Permit/Certification Number: AO03-223447
Date of Issue: June 10, 1993
Expiration Date: March 1, 1998

SPECIFIC CONDITIONS:

1. The attached General Conditions are part of this permit.

2. The maximum allowable operating rate is 300,000 pounds of steam produced per hour from firing any combination of wood waste, No. 6 fuel oil, coal and turpentine residue fuels. This is the operating rate at which compliance with standards shall be demonstrated.

3. The maximum fuel utilization rates, heat inputs and their maximum percent sulfur content, by weight, are as follows:

No. 6 Fuel Oil	3150 gal/hr	472 MMBtu/hr	2.4%
Coal	15.8 TPH	395 MMBtu/hr	1.7%
Wood Bark	30.0 TPH	273 MMBtu/hr	---
Natural Gas	0.04 MMcf/hr	40 MMBtu/hr	---

4. The maximum allowable emission rate for each pollutant is as follows:

Pollutant	FAC Rule	Allowable Emission Rate	Estimated TPY
PM	17-296.410(1)(b)	0.3lb/MMBtu heat input from wood waste plus	298.2
		0.1lb/MMBtu heat input from fossil fuels (coal, oil and gas)	128.5
TRS	17-296.404(3)(f)1	5.0 ppm by volume on a dry basis at standard conditions corrected to 10% oxygen.	19.7
VE	17-296.410(1)(b)1	30% opacity except for up to two minutes in any one hour at not more than 40% opacity using carbonaceous fuel and 20% opacity except for up to one two-minute period in any one hour at not more than 40% opacity using fossil fuel only	---

5. When the TRS gases from the Nos. 1A, 2 and 3 MEE Systems and the Batch Digesting system are collected and transported to the No. 4 Bark Boiler for incineration, then the TRS gases shall be subjected to a minimum of 1200°F for at least 0.5 seconds. A continuous temperature monitor and recorder shall be properly calibrated and operated in accordance with F.A.C. Rule 170297.500. The TRS gas incineration monitor serves as a surrogate parameter for minimizing TRS emissions. Records of the TRS gas incineration temperature shall be kept and be available for Department inspection.

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000916
Permit/Certification Number: AO03-223447
Date of Issue: June 10, 1993
Expiration Date: March 1, 1998

SPECIFIC CONDITIONS:

6. The pH of the Venturi Scrubber System shall be maintained above a three-hour average minimum of 8.0 while incinerating TRS gases using wood waste fuel. A continuous pH monitor and recorder shall be properly calibrated and operated to monitor the scrubbing medium pH. The scrubber medium pH monitor serves as a surrogate parameter to minimize SO_2 emissions. Records of the scrubber medium pH shall be kept for a minimum of two years and be available for Department inspection.

7. Emissions test for the following pollutants before November 30, according to the test methods and frequency indicated, notifying the Department 14 days prior to testing. Submit the test report documentation to the Department within 45 days after completion of testing.

Pollutant	Frequency	Test Method
PM	Annual	EPA method 5
SO_2	Annual	EPA method 6
TRS	1997	EPA method 16, 16A or 16B
VE	Annual	DER method 9

The VE test shall be conducted during one of the PM test runs. Test reports shall comply with F.A.C. Rule 17-297.570, Test Reports. The Department can require special compliance tests in accordance with F.A.C. Rule 17-297.340(2).

8. In accordance with F.A.C. Rule 17-213, a Major Air Pollution Source Annual Operation Fee Form [DER Form 17-213.900(11) attached] must be completed and submitted with appropriate fee between January 15 and March 1 of each year. If the Department has not received the fee payment by March 1, the Department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee, plus interest on such amount computed in accordance with s.220.807, Florida Statutes. The Department may revoke any major air pollution source operation permit if it finds that the permit holder has failed to pay timely and required annual operation license fee, penalty or interest. The attached form shall be reproduced by the permittee and used for future annual submittals. The completed form and appropriate fees must be submitted to the Department of Environmental Regulation, Title V (Facility I.D. Number), 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

9. The sulfur content of the No. 6 fuel oil and the coal shall be verified using ASTM D1552-83 and ASTM D3177-75, respectively; and, the lab analysis data sheet(s), which are provided by the fuel oil and coal vendors upon delivery, shall be kept on record for at least two years.

10. The Department shall be notified in writing when the boiler is switched to incinerating TRS gases and/or operating at 100% fossil fuel; and, a log book shall be maintained recording, at a minimum, the date(s) and the beginning and ending "clock time(s)" of operation while incinerating TRS gases and/or firing 100% fossil fuel. Records shall be maintained for at least two years.

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000916
Permit/Certification Number: AO03-223447
Date of Issue: June 10, 1993
Expiration Date: March 1, 1998

SPECIFIC CONDITIONS:

11. An annual operation report [DER Form 17-210.900(4) attached] shall be submitted by March 1 each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

12. All fugitive dust generated at this site shall be adequately controlled.

13. An application to renew this permit shall be submitted prior to January 1, 1998.

14. The permanent source identification number for this point source is 10PCY03000916. Please cite this number on all test reports and other correspondence specific to this permitted point source.

15. The Department telephone number for reporting problems, malfunctions or exceedances under this permit is (904) 436-8300, day or night, and for emergencies involving a significant threat to human health or the environment is (904) 488-1320. For routine business, telephone (904) 872-4375 during normal working hours.

Expiration Date:

March 1, 1998

Issued this 10th day of June, 1993.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

BOBBY A. COOLEY
District Director

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000916
Permit/Certification Number: AO03-223447
Date of Issue: June 10, 1993
Expiration Date: March 1, 1998

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "permit conditions", and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. 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 acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are 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 this permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and,

PERMITTEE:

Stone Container Corporation

I.D. Number: 10PCY03000916
Permit/Certification Number: AO03-223447
Date of Issue: June 10, 1993
Expiration Date: March 1, 1998

GENERAL CONDITIONS:

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 provide the Department with the following information:

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

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

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

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, 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. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous

GENERAL CONDITIONS:

monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurement;
- the person responsible for performing the sampling or measurement;
- 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.

14. 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 the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

DRiley

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

In the matter of an
Application for Permit by:

Mr. L. D. Riley, Jr.
Stone Container Corporation
P. O. Box 2560
Panama City, Florida 32402

DER File No. AC 03-190964
Bay County

Enclosed is Permit Number AC 03-190964 for a modification to allow the use of the No. 4 Bark Boiler as the back-up TRS incinerator to the lime kiln on a continuous basis (i.e., 8760 hrs/yr) and to establish emission standards and operation requirements while operating at 100% fossil fuel. The facility is located in Panama City, Bay County, Florida. This permit is issued pursuant to Section(s) 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by 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, 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 this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 12-13-91 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED,
on this date, pursuant to
§120.52(11), Florida Statutes,
with the designated Department
Clerk, receipt of which is hereby
acknowledged.

(Clerk) 12-13-91 (Date)

Copies furnished to:

E. Middleswart, NW District
C. T. Fontaine, P.E., SCC
J. Harper, EPA

Final Determination

Stone Container Corporation
Bay County
Panama City, Florida

Construction Permit No.
AC 03-190964

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

December 4, 1991

Final Determination

The construction permit application package has been reviewed by the Department. Public Notice of the Department's Intent to Issue was published in the News Herald on November 8, 1991. The Technical Evaluation and Preliminary Determination was distributed on August 1, 1991, and available for public inspection at the Department's Northwest District office and the Department's Bureau of Air Regulation office.

There were no comments received during the public notice period. However, the expiration date was changed from December 31, 1991, to June 30, 1992, to allow sufficient time for Stone Container Corporation to apply for and obtain an operation permit. Therefore, it is recommended that the construction permit be issued as drafted.

Florida Department of Environmental Regulation

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

Lawton Chiles, Governor Carol M. Browner, Secretary

PERMITTEE:
Stone Container Corporation
Post Office Box 2560
Panama City, Florida 32402

Permit Number: AC 03-190964
Expiration Date: June 30, 1992
County: Bay
Latitude/Longitude: 30°08'30"N
85°37'25"W
Project: No. 4 Bark Boiler Modification.

This permit is issued under the provisions of Chapter 403, Florida Statutes, Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July, 1990 version). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For a modification to the No. 4 Bark Boiler by designating it as the secondary control device (incinerator) of the TRS gases from the TRS noncondensible gas handling and transport system on an as needed basis, with the lime kiln remaining as the primary incinerator. The TRS gases are collected from the Nos. 1A, 2, and 3 Multiple Effect Evaporator (MEE) Systems and the batch digesting blow heat recovery system. The No. 4 Bark Boiler's capacity is 300,000 pounds of steam produced per hour. A venturi scrubber system will use pH control (i.e., pH @ 8.0 minimum) to minimize SO_2 emissions. The UTM coordinates of the existing facility are Zone 16, 632.8 km East and 3355.1 km North.

The Standard Industrial Codes are: 2611-Pulp Mill.
2621-Paper Mill.

The Standard Classification Code is:
o External Combustion Boilers: 1-02-009-02 tons burned
Wood/Bark Waste

The source shall be constructed/modified in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments to be Incorporated:

1. Mr. David Riley's letter received December 21, 1990, via FAX.
2. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.202(1), received May 23, 1991.
3. Interoffice Memorandum by Bruce Mitchell dated July 26, 1991.
4. Mr. C. H. Fancy's letter dated April 5, 1990.
5. Technical Evaluation and Preliminary Determination dated July 31, 1991.

PERMITTEE:
Stone Container Corporation

Permit Number: AC 03-190964
Expiration Date: June 30, 1992

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

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

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

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

GENERAL CONDITIONS:

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

a. Have access to and copy any records that must be kept under the conditions of the permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and,

c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

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

a. a description of and cause of non-compliance; and,

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

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

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

GENERAL CONDITIONS:

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 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

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

c. Records of monitoring information shall include:

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

GENERAL CONDITIONS:

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

SPECIFIC CONDITIONS:

1. This permit, which is for the No. 4 Bark Boiler, shall supercede previous air permits issued.

2. The No. 4 Bark Boiler may operate continuously, i.e., 8760 hrs/yr, including the incineration of TRS gases.

3. The maximum rated capacity is 300,000 pounds of steam produced per hour from firing any combination of fuels of wood waste, No. 6 fuel oil, coal, and turpentine residue.

4. The maximum fuel utilization rates, heat inputs, and their maximum % sulfur content, by weight, are:

o No. 6 Fuel Oil	3150 gals/hr	472 MMBtu/hr	2.4%
o Coal	15.8 TPH	395 MMBtu/hr	1.7%
o Wood Bark	30.0 TPH	273 MMBtu/hr	-
o Natural Gas	0.04 MMcf/hr	40 MMBtu/hr	-

5. When the TRS gases from the Nos. 1A, 2, and 3 MEE Systems and the batch digesting system are collected and transported to the No. 4 Bark Boiler for incineration, then the TRS gases shall be subjected to a minimum of 1200°F for at least 0.5 seconds.

6. A continuous temperature monitor shall be installed, calibrated, and operated in accordance with F.A.C. Rule 17-2.710. Also, a continuous recorder for the temperature shall be installed, calibrated, and properly operated.

7. The No. 4 Bark Boiler is subject to the provisions of F.A.C. Rule 17-2.600(4)(c)1.c., which includes the requirement of establishing a contingency plan.

8. The No. 4 Bark Boiler is subject to the provisions of F.A.C. Rules 17-4.130: Plant Operation-Problems; 17-2.240: Circumvention, 17-2.250: Excess Emissions; and, 17-2.710(4): Quarterly Reporting Requirements.

9. The project shall comply with all applicable provisions of F.A.C. Chapters 17-2 and 17-4 and 40 CFR (July, 1990 version).

SPECIFIC CONDITIONS:

10. The No. 4 Bark Boiler emissions shall not exceed:

a) TRS: 5 ppmvd at standard conditions, corrected to 10% O_2, 12-hr avg (4.35 lbs/hr; 19.1 TPY)
b) SO_2: 772 lbs/hr; 3381 TPY (No TRS Incineration)
781 lbs/hr; 3420 TPY (TRS Incineration)
c) PM: o carbonaceous fuel: 0.3 lbs/10^6 Btu of heat input
o fossil fuel: 0.1 lbs/10^6 Btu of heat input
(86.6 lbs/hr, 379.3 TPY: combination of fuels)
d) VE:
o carbonaceous fuel: $\leq$ 30% opacity, except $\leq$ 40% opacity for $\leq$ 2 minutes in any 1 hour
o fossil fuel only: $\leq$ 20% opacity, except $\leq$ 40% opacity for one 2-minute period per hour

Note: o Fly ash and SO_2 are controlled by a wet caustic scrubber.
o Projected SO_2 removal efficiency is 35% during operation.
o PSD pollutant evaluation will compare "actual emissions" with "future allowable/potential emissions".

11. Annual compliance tests for PM and visible emissions shall be conducted concurrently, weather permitting, using the following test methods in accordance with F.A.C. 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.

12. Initial and annual compliance tests for SO_2 shall be conducted using the following test method in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A:

a) EPA Method 6, Determination of Sulfur Dioxide Emissions from Stationary Sources.

13. Compliance tests for TRS shall be conducted using one of the following test methods in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A:

a) EPA Method 16, 16A or 16B, Determination of TRS Emissions from Stationary Sources.

14. The Department reserves the right to require testing for TRS, in accordance with No. 13 above, for operating permit renewal (see Mr. C. H. Fancy's letter dated April 5, 1990).

SPECIFIC CONDITIONS:

15. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing in accordance with F.A.C. Rule 17-2.700(3).

16. The control equipment shall be inspected regularly and maintained in good operating condition to minimize fugitive gaseous emissions.

17. Objectionable odors shall not be allowed off plant property in accordance with F.A.C. Rule 17-2.620(2).

18. The sulfur content of the No. 6 fuel oil and the coal shall be verified using ASTM D1552-83 and ASTM D3177-75, respectively; and, the lab analysis data sheet(s), which are provided by the fuel oil and coal vendors upon delivery, shall be kept on record for at least two years.

19. The Department's Northwest District office shall be notified in writing when the boiler is switched to incinerating TRS gases and/or operating at 100% fossil fuel; and, a log book shall be maintained recording, at a minimum, the date(s) and the beginning and ending "clock time(s)" of operation while incinerating TRS gases and/or firing 100% fossil fuel. Records shall be maintained for at least two years.

20. The Department's Northwest District office shall be notified in writing at least 15 days prior to source testing pursuant to F.A.C. Rule 17-2.700(2). Written reports of the tests shall be submitted to the Department's Northwest District office within 45 days of the test completion in accordance with F.A.C. Rule 17-2.700(7).

21. Any change in the method of operation, raw materials, chemicals processed, equipment, or operating hours pursuant to F.A.C. Rule 17-2.100, Definitions-Modification, shall be submitted for approval to the Department's Bureau of Air Regulation office and Northwest District office.

22. The pH of the associated venturi scrubber system shall be maintained at a minimum of 8.0 while incinerating TRS gases and/or firing fossil fuel only. A continuous pH recorder shall be installed, calibrated, and properly operated to monitor the pH of the scrubbing medium. The records shall be maintained for at least two years.

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

PERMITTEE:
Stone Container Corporation

Permit Number: AC 03-190964
Expiration Date: June 30, 1992

SPECIFIC CONDITIONS:

24. An application for an operation permit must be submitted to the Department's Northwest District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed while noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this 13th day
of December, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

STEVE SMALLWOOD, P.E., Director
Division of Air Resources
Management

ATTACHMENT A

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1.0 INTRODUCTION AND PSD APPLICABILITY

1.1 INTRODUCTION

This supplemental information report presents information requested in the Florida Department of Environmental Protection (FDEP) letter dated September 15, 1999, concerning the requested pulp production increase for Stone Container Corp's (SCC) Panama City mill. The letter states that the Department has determined that the proposed project requires prevention of significant deterioration (PSD) review. The purpose of this submittal is to present the additional information required for a PSD permit application.

SCC has previously submitted the FDEP Long Form air construction permit application form for the pulp production increase. The application form addresses the various emissions units affected by the pulp production increase. Also, a complete air quality impact analysis has been submitted which addresses compliance with ambient air quality standards (AAQS) and PSD Class II and Class I increments.

The remaining PSD new source review requirements are addressed in this document entitled "Supplemental Information for PSD Permit Application". This document includes the following information:

1. Revised application section and facility section pages of the application form.
2. A revised application form for the condensate stripper which will be installed for Cluster Rule compliance. This change is due to elimination of the stand-alone thermal oxidizer for the condensate stripper off-gases. These gases will now be destroyed in the No. 3 Combination Boiler.
3. Application forms for the No. 3 Combination Boiler and for the No. 4 Combination Boiler are included. For the No. 3 Combination Boiler, the form updates information to reflect destruction of condensate stripper off-gases, a new SO_2 emissions limit for the boiler, and to clarify maximum heat input and fuel usage rates for the boiler. For the No. 4 Combination Boiler, the form updates

information to reflect a new SO_2 emissions limit for the boiler, and to clarify maximum heat input and fuel usage rates for the boiler .

3. A revised PSD applicability determination, along with the calculations, assumptions, etc., for the current actual emissions from the Panama City mill and the future potential emissions. The baseline actual emissions are based on the 2-year period 1996 and 1997. This 2-year period was selected because the mill was shutdown for 3 months in 1998 due to economic reasons; and therefore, 1998 was not representative of normal operation.
4. A Best Available Control Technology (BACT) analysis for each emissions unit for which there is an increase in emissions due to the proposed pulp production increase. Note that SCC believes that this is not the appropriate application of the Florida PSD rules, and that BACT should only apply to those emission units which are being physically modified or for which there is a change in the method of operation (i.e., the batch digester system), per EPA PSD regulations. This issue is being addressed in a separate letter to the Department. Nevertheless, the BACT analysis addresses all emission units based on the Department's stated interpretation.
5. Additional impacts upon soils, vegetation, and visibility, including impacts upon the nearest PSD Class I areas and a regional haze analysis.

Golder will continue to pursue approval of the ISC-PRIME model with the Department and the EPA. A revised ambient impact analysis for the Panama City mill will be forthcoming shortly, which will present the necessary information for approval of the ISC-PRIME model.

The revised PSD applicability analysis is presented in Section 1.2. The BACT analysis is presented in Section 2.0, and the additional impact analysis on soils, vegetation, growth, and visibility are presented in Section 3.0.

1.2 PSD APPLICABILITY

The PSD applicability analysis for the SCC Panama City mill is presented in Tables 1-1, 1-2, and 1-3. This applicability analysis updates information presented in Golder Associates Inc. letter to the FDEP dated September 3, 1999, regarding the Panama City Mill.

The current baseline emissions for the Panama City mill are based on the 1996-1997 two year period. This time period was selected because the mill was shutdown for 3 months in 1998, and therefore 1998 is not representative of normal plant operation. The baseline emissions are presented in Table 1-1. Supportive calculations, emission factors, operating data, and assumptions for each emissions unit at the mill are presented Appendix B.

Future maximum emissions for the SCC Panama City mill, for the requested pulp production rate of 781,000 TPY, were presented in Golder Associates Inc. letter dated September 3, 1999. The future maximum emissions are shown in Table 1-2, and supportive calculations are repeated in Appendix A for convenience.

As described in the September 3, 1999 submittal, the Bark boilers at the mill (No. 3 and No. 4 Combination Boiler) are not affected by the pulp production increase itself. These boilers already are operated to the extent possible to maximize electrical generation (for internal consumption by the mill). As a result, these emission units are not considered in the PSD applicability analysis, except for NO_x and VOC emissions, due to the proposed condensate stripper being installed to meet Cluster Rule requirements. Due to the pulp production increase, stripper off-gases vented to the No. 3 Combination Boiler will increase, causing an increase in NO_x and VOC emissions. SO_2 emissions will not increase due to lower SO_2 limits proposed for the No. 3 Combination Boiler to address ambient impact concerns (refer to revised ambient impact analysis report).

The revised PSD applicability analysis is presented in Table 1-3. As shown, this analysis indicates PSD review is triggered for the following pollutants:

- Particulate matter (PM)
- PM less than or equal to 10 microns (PM_{10})
- Sulfur dioxide (SO_2)
- Nitrogen oxides (NO_x)
- Carbon monoxide (CO)
- Volatile organic compounds (VOC)
- Total reduced sulfur (TRS)
- Sulfuric acid mist (SAM)
- Beryllium (Be)

Table 1-1. 1996-1997 Baseline Emissions, Stone Container Corp., Panama City

Regulated Pollutant	No. 1 Recovery Boiler (TPY)	No. 2 Recovey Boiler (TPY)	No. 1 Smelt Dissolving Tank (TPY)	No. 2 Smelt Dissolving Tank (TPY)	Lime Kiln (TPY)	Bleach Plant (TPY)	Pulping Area (TPY)	Lime Slaker (TPY)	Woodyard (TPY)	Chemical Recovery Area (TPY)	Paper Making (TPY)	No. 3 Combination Boiler (TPY)	TOTAL BASELINE EMISSIONS (TPY)
Particulate (TSP)	185.2	160.9	69.6	97.4	98.5	--	--	1.7	41.3	--	--	--	654.6
Particulate (PM10)	143.7	124.9	62.3	87.2	96.8	--	--	1.7	15.0	--	--	--	531.5
Sulfur dioxide	490.4	497.1	3.7	3.8	16.4	--	--	--	--	--	--	--	1,011.4
Nitrogen oxides	272.4	276.2	7.7	7.8	156.0	--	--	--	--	--	--	75.25 (a)	795.4
Carbon monoxide	2,476.8	2,510.6	--	--	15.7	119.9	--	--	--	--	--	--	5,122.9
Volatile organic compds.	158.0	160.2	14.5	14.7	16.8	73.5	57.3	3.1	--	159.5	190.9	3.68 (b)	852.2
Sulfuric acid mist	30.0	14.0	0.23	0.23	1.0	--	--	--	--	--	--	--	45.5
Total Reduced Sulfur	28.4	34.6	2.6	3.1	9.4	4.7	70.0	--	--	14.4	--	--	167.3
Lead	0.020	0.020	0.0040	0.0040	0.271	--	--	--	--	--	--	--	0.32
Mercury	0.015	0.015	4.21E-05	4.26E-05	6.48E-04	--	--	--	--	--	--	--	0.0309
Beryllium	5.18E-04	5.25E-04	3.27E-05	3.32E-05	1.21E-03	--	--	--	--	--	--	--	0.0023
Fluorides	--	--	--	--	--	--	--	--	--	--	--	--	--

(a) Represents emissions due to current permitted pulp production limit of 668,850 TPY ADUP.

(b) *Represents VOC emissions due to condensate stripper off-gas at current permitted pulp production limit of 668,850 TPY.*

Table 1-2. Maximum Future Potential Emissions @ 781,000 TPY Pulp Production, Stone Container Corp., Panama City

Regulated Pollutant	No. 1 Recovery Boiler (TPY)	No. 2 Recovey Boiler (TPY)	No. 1 Smelt Dissolving Tank (TPY)	No. 2 Smelt Dissolving Tank (TPY)	Lime Kiln (TPY)	Bleach Plant (TPY)	Pulping Area (TPY)	Lime Slaker (TPY)	Woodyard (TPY)	Chemical Recovery Area (TPY)	Paper Making (TPY)	No. 3 Combination Boiler (TPY)	TOTAL FUTURE POTENTIAL (TPY)
Particulate (TSP)	492.8	492.8	130.1	124.9	130.7	--	--	17.5	44.6	--	--	--	1,433.4
Particulate (PM10)	382.4	382.4	116.5	111.8	128.4	--	--	17.5	16.4	--	--	--	1,155.4
Sulfur dioxide	568.4	568.4	4.3	4.3	20.6	--	--	--	--	--	--	--	1,166.1
Nitrogen oxides	315.8	315.8	8.9	8.9	195.7	--	--	--	--	--	--	87.86	933.0
Carbon monoxide	2,872.0	2,872.0	--	--	19.7	177.3	--	--	--	--	--	--	5,941.0
Volatile organic compds.	183.2	183.2	16.8	16.8	21.1	96.7	70.3	5.4	--	193.8	234.3	4.30 (a)	1,025.9
Sulfuric acid mist	34.8	34.8	0.27	0.27	1.3	--	--	--	--	--	--	--	71.4
Total Reduced Sulfur	75.9	75.9	13.0	13.0	31.9	6.3	85.9	--	--	16.4	--	--	318.3
Lead	0.023	0.023	0.0050	0.0050	0.34	--	--	--	--	--	--	--	0.40
Mercury	0.017	0.017	4.90E-05	4.90E-05	8.10E-04	--	--	--	--	--	--	--	0.0349
Beryllium	6.00E-04	6.00E-04	3.80E-05	3.80E-05	1.50E-03	--	--	--	--	--	--	--	0.00278
Fluorides	--	--	--	--	--	--	--	--	--	--	--	--	--

(a) Based on baseline VOC emissions (See Table 1-1) times ratio of 781,000 / 668,850 TPY ADUP.

Table 1-3. Net Change in Emissions Due to Proposed Pulp Production of 781,000 TPY
Stone Container Corp., Panama City

Regulated Pollutant	1996-1997 BASELINE EMISSIONS (TPY)	FUTURE POTENTIAL EMISSIONS (TPY)	NET CHANGE (TPY)	SIGNIFICANT EMISSION RATE (TPY)	PSD REVIEW APPLIES ?
Particulate (TSP)	654.6	1,433.4	778.8	25	Yes
Particulate (PM_{10})	531.5	1,155.4	623.9	15	Yes
Sulfur dioxide	1,011.4	1,166.1	154.6	40	Yes
Nitrogen oxides	795.4	933.0	137.6	40	Yes
Carbon monoxide	5,122.9	5,941.0	818.1	100	Yes
Volatile organic compds.	852.2	1,025.9	173.7	40	Yes
Sulfuric acid mist	45.5	71.4	26.0	7	Yes
Total Reduced Sulfur	167.3	318.3	151.0	10	Yes
Lead	0.32	0.40	0.078	0.6	No
Mercury	0.0309	0.0349	0.004	0.1	No
Beryllium	0.0023	0.00278	0.00046	0.00040	Yes
Fluorides	--	--	--	3	No

2.0 BEST AVAILABLE CONTROL TECHNOLOGY

2.1 REQUIREMENTS

The 1977 Clean Air Act Amendments established requirements for the approval of preconstruction permit applications under the PSD program. One of these requirements is that the best available control technology (BACT) be installed for applicable pollutants. BACT determinations must be made on a case-by-case basis considering technical, economic, energy, and environmental impacts for various BACT alternatives.

The first step in the BACT analysis is to determine, for each applicable pollutant, the most stringent control alternative available for a similar source or source category. If it can be shown that this level of control is not feasible on the basis of technical, economic, energy, or environmental impacts for the source in question, then the next most stringent level of control is identified and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any technical, economic, energy, or environmental consideration.

In the case of the proposed pulp production increase at SCC mill, PM, PM_{10}, SO_2, NO_x, CO, VOC, TRS, SAM and Be require BACT analysis. According to the Florida Department of Environmental Protection's (FDEP) stated interpretation of the state PSD rule, each emissions unit for which an increase in emissions results from the proposed modification is subject to BACT. For the proposed modification, this includes the noncondensable gas (NCG) system (i.e., digesters and evaporators), lime kiln, recovery boilers, smelt dissolving tanks, lime slaker, bleach plant, pulping area (brown stock washers), chemical recovery area, paper making area, and the proposed condensate stripper, and No. 3 Combination Boiler.

The following sections present the BACT analysis for each applicable pollutant and emissions unit. Information from EPA's BACT/LAER Clearinghouse is included in Appendix C.

2.2 NCG SYSTEM AND CONDENSATE STRIPPER

The digester and multiple effect evaporator (MEE) system at SCC, as at all kraft pulp mills, produces TRS emissions which must be controlled. The existing digesters were constructed in 1994 and therefore must meet federal new source performance standards (NSPS). The NSPS require that non-condensable TRS gases be combusted in a recovery boiler or lime kiln meeting the NSPS for TRS emissions, or other combustion device designed to achieve 1,200°F for at least 0.5 seconds residence time. As an alternative, a TRS scrubbing device may be selected if it achieves an outlet TRS concentration of 5 ppmvd. Florida's TRS rules impose similar requirements on MEE systems. The condensate stripper being installed for Cluster Rule compliance is subject to the same requirements.

SCC uses the Lime Kiln to incinerator NCGs on the existing digester and MEE system, and uses the No. 4 Combination Boiler as the backup incineration device, both of which are designed to combust the TRS gases from the system at 1,200°F for at least 0.5 seconds. Therefore, the existing digesters meet the NSPS requirement. In addition, the MEE system complies with the State of Florida TRS rule.

SCC will use the No. 3 Combination Boiler to incinerate condensate stripper off-gases. This boiler is designed to meet the Cluster Rule requirements of introduction of the gases into the primary flame zone. Since by definition MACT exceeds BACT requirements, SCC's proposed incineration in the No. 3 Combination boiler satisfies BACT.

The recently promulgated maximum achievable control technology (MACT) standards for pulp and paper mills (40 CFR 63, Subpart S) also requires that NCGs from digesters and MEE systems be incinerated, or an equivalent alternative technology employed. Since by definition MACT exceeds BACT requirements, SCC's current systems satisfy BACT.

2.3 RECOVERY BOILERS

2.3.1 PARTICULATE MATTER AND BERYLLIUM

The two recovery boilers at SCC Panama City are currently equipped with a high-efficiency electrostatic precipitators (ESPs) for PM/PM_{10} control. ESPs have been demonstrated in practice to be the best and most appropriate control device for PM/PM_{10} emissions. Beryllium in the exhaust gases of a recovery boiler will be in the form of particulate matter. In this context, control of PM/PM_{10} emissions will also control Be emissions. Therefore, this discussion for PM/PM_{10} also applies to Be emissions.

Previous BACT determinations for PM emissions from kraft recovery boilers shows that all previous BACT determinations have been based on ESP control (see Appendix C). The proposed BACT for PM/PM_{10} emissions is the existing ESP, which has been determined to represent MACT in the recently proposed MACT II rule for combustion sources in the pulp and paper industry. The MACT II standards, if promulgated as proposed, will also impose a PM emissions limit on the recovery boilers (the currently proposed MACT standard for existing recovery boilers is 0.044 gr/dscf at 8-percent O_2).

Since by definition MACT II is more stringent than BACT, the proposed PM/PM_{10} BACT emissions limit is the promulgated MACT PM emission limit, when such a limit is finalized. Implementation of the limit will be according to the MACT rule schedule (Federal Register, Vol. 63, No. 72, April 15, 1998). Based on these considerations, the existing ESP control technology is considered as BACT for PM/PM_{10} emissions.

2.3.2 NITROGEN OXIDES

Pollutant Formation

NO_x is formed in the recovery boiler during the combustion process. Nitrogen is present in both the fuel and in the combustion air and combines with oxygen in the combustion air to form primarily nitric oxide (NO). A small fraction of the NO is further oxidized to form nitrogen dioxide (NO_2). NO_x formed from the fuel nitrogen is termed "fuel" NO_x, and that formed from the nitrogen in the combustion air is termed "thermal" NO_x.

Black liquor fired in recovery boilers has low nitrogen content, typically less than 0.1 percent. As a result, fuel NO_x is minimal from recovery boilers. Thermal NO_x is the primary mechanism for formation of NO_x emissions in a recovery boiler.

In general, kraft recovery boilers have relatively low NO_x emissions. Low combustion temperatures and staged combustion (creating a reducing atmosphere in the lower portion of the boiler) inhibit the formation of NO_x. The combustion temperature above the primary air injection is approximately 1,800°F. This relatively low combustion temperature is maintained by adjusting the furnace bed height and decreasing the primary air temperature. Emission rates from different recovery boilers vary because of manufacturer differences, differences in firing configurations, and also because of different black liquor fuel qualities.

Alternative NO_x Control Technologies

Combustion control is the only control technology used on recovery boilers to date. Review of BACT/LAER determinations issued within the past 5 years for NO_x shows that all determinations have been based on combustion control and boiler design and operation (see Appendix C).

A potentially applicable combustion technique for recovery boilers is flue gas recirculation (FGR). In FGR, a portion of the combustion gases is recirculated back to the furnace burners or windbox. This has the effect of reducing available oxygen, thereby reducing the amount of oxygen that can combine with nitrogen to form NO_x. It also results in reducing the peak flame temperature by absorption of combustion heat by the essentially inert combustion gases.

FGR has not been applied to recovery boilers because of the high particulate loading in the combustion gases, which presents technical problems associated with erosion of fan blades and ductwork required with the FGR system. Based on these technical problems, and no

demonstrated operating experience of FGR on a recovery boiler, this alternative was not considered further.

In addition to combustion controls, NO_x emissions potentially can be controlled by a post-combustion NO_x reduction system. This includes both selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR).

Performance of an SCR system downstream of a kraft recovery boiler is difficult to predict. Such a system is not known to have been applied to a recovery boiler. This NO_x reduction system uses a vanadium pentoxide catalyst to promote the reaction of ammonia with the NO_x. The presence of sodium compounds in the gas stream, however, is likely to cause catalyst fouling and plugging problems. In addition, the formation of ammonia bisulfate as a result of sulfur compounds in the gas stream would lead to corrosion and plugging of downstream components, compounding the uncertainty associated with this NO_x reduction system.

An SNCR system does not rely on the use of a catalyst but relies mainly on the chemical/temperature reaction between ammonia and NO_x. However, a large amount of uncertainty is associated with the use of this NO_x reduction technology downstream of a recovery boiler. Ammonia bisulfate deposits downstream of the boiler still are likely with SNCR and would present operational and maintenance problems. In addition, there is serious concern that the catalytic effects in the presence of sodium compounds might have an adverse effect on the reaction efficiency of the chemical reduction process.

SCR and SNCR have not been applied to recovery boilers and are considered technically unproven and infeasible at this time. In addition, applying these technologies to the existing SCC recovery boiler would require extensive and costly retrofitting. NO_x emissions from recovery boilers generally are low. Based on these considerations, post-combustion control techniques for NO_x were not considered further.

Proposed BACT for NO_x

Combustion control is the only feasible NO_x control technique applicable to the existing SCC recovery boiler.

2.3.3 CO AND VOC

CO and VOC emissions are formed in a recovery boiler by incomplete combustion of the black liquor fuel. The black liquor is about 25 percent carbon. Organics in the black liquor that do not completely combust are emitted out the stack as VOC. Increasing combustion temperatures, increasing excess air and oxygen, and better fuel/air mixing during combustion reduce CO and VOC emissions.

Because of the mutually dependent formation characteristics of NO_x and CO/VOC emissions from recovery boilers, it is not possible to consider BACT for these emissions independently. Nitrogen oxides are formed by the oxidation of nitrogen contained in the fuel and in the combustion air. Nitrogen oxide emissions are reduced by lowering combustion temperatures, minimizing excess combustion air and excess oxygen, and by staging the combustion process. Therefore, limiting NO_x emissions by lowering combustion temperatures and excess combustion air are counterproductive relative to control of CO/VOC emissions.

The only feasible control of CO and VOC emissions from kraft recovery furnaces is through good combustion practices. These practices generally are geared towards control of NO_x, SO_2, and TRS, which are the primary pollutants emitted from recovery boilers. The proposed BACT for SCC's recovery boilers is good combustion practices to minimize CO and VOC, while emphasizing control of NO_x, SO_2, and TRS. See Section 2.3.4 for further VOC BACT discussion.

2.3.4 TRS, SO_2 AND SAM

The TRS and SO_2 generated in recovery furnaces are dependent on several variables. These include the amount and distribution of combustion air, black liquor solids feed rate, sulfidity and heating value, spray pattern and droplet size of the black liquor nozzles, turbulence in the oxidation zone, and smelt bed disturbance. TRS and SO_2 control are dependent upon

optimizing these parameters. Generally, TRS and SO_2 emissions act opposite to each other. Operating to minimize TRS may create higher SO_2 emissions. However, emphasis is on TRS control in order to meet the existing TRS standard on the recovery boilers. SAM emissions are a function of the SO_2 emissions.

SCC's recovery boilers are of the direct contact evaporator type, in which the combustion gases from the recovery boiler are used to evaporate water from black liquor prior to the gases being discharged through the ESP and to the atmosphere. In regards to BACT for TRS emissions, the proposed MACT rule can also be examined. In the preamble to the proposed MACT, the EPA evaluated the conversion of direct contact evaporator (DCE) recovery furnaces to low odor non-direct contact evaporator (NDCE) design with a dry ESP for PM control as a means of controlling gaseous organic HAP emissions. The low odor design would also control TRS emissions and VOCs, as well as dictate achievable levels of SO_2, NO_x, and CO. However, EPA ruled out the low odor NDCE design as MACT based on too high capital costs compared to the small additional environmental benefit. Therefore, a low odor furnace design can be ruled out as BACT for TRS, SO_2, NO_x, VOC, and CO.

The proposed BACT for TRS, SO_2 and SAM emissions is continuing to operate the two recovery boilers to minimize TRS emissions to the extent practical to meet the current TRS standard.

2.4 LIME KILN

2.4.1 PARTICULATE MATTER AND BERYLLIUM

The lime kiln at SCC Panama City is currently equipped with a high-efficiency venturi scrubber for PM/PM_{10} control. Wet scrubbers have been in use for many years in the pulp and paper industry and are demonstrated in practice to be an appropriate control device for PM/PM_{10} emissions. Beryllium in the exhaust gases of a lime kiln will be in the form of particulate matter. In this context, control of PM/PM_{10} emissions will also control Be emissions. Therefore, this discussion for PM/PM_{10} also applies to Be emissions.

Previous BACT determinations for PM emissions from kraft recovery boilers, based on the BACT/LAER Clearinghouse, show that all previous BACT determinations have been based on the existing technology (wet scrubber or ESP). Wet scrubbers have been designated as BACT where an existing wet scrubber was employed and it was proposed to retain the wet scrubber. In addition, either a wet scrubber or an ESP have been determined to represent MACT for lime kilns in the recently proposed MACT standards for chemical recovery combustion sources (Federal Register, Vol. 63, No. 72, April 15, 1998).

The proposed BACT for PM/PM_{10} emissions for the lime kiln at SCC is the existing wet scrubber, which has been determined to represent MACT in the recently proposed MACT II rule for combustion sources in the pulp and paper industry. The MACT II standards will, if promulgated as proposed, impose a 0.067 gr/dscf at 10-percent O_2 particulate emission limitation on existing lime kilns. Since (by definition) MACT is more stringent than BACT, the proposed PM/PM_{10} BACT emissions limit is the promulgated MACT PM emission limit, when such a limit is finalized. Implementation of the limit will be according to the MACT rule schedule. Based on this information, the existing wet scrubber control technology is considered as BACT for PM/PM_{10} and beryllium emissions.

2.4.2 NO_x, CO AND VOC

NO_x, CO and VOC are formed in the lime kiln during the combustion process. Nitrogen is present in both the fuel and in the combustion air and combines with oxygen in the combustion air to form primarily nitric oxide (NO). A small fraction of the NO is further oxidized to form nitrogen dioxide (NO_2). NO_x formed from the fuel nitrogen is termed "fuel" NO_x, and that formed from the nitrogen in the combustion air is termed "thermal" NO_x. Both fuel NO_x and thermal NO_x are formed in lime kilns, although the primary formation is thermal NO_x. CO and VOC emissions generally increase as NO_x emissions decrease, and vice versa.

Combustion control is the only known control technology used on lime kilns. All BACT/LAER determinations issued within the past 5 years for NO_x, CO and VOC been based on combustion

control and good combustion practices. As a result, good combustion practices are proposed as BACT for the SCC lime kiln. See Section 2.4.3 for further VOC BACT discussion.

2.4.3 TRS AND SO_2

The TRS generated in lime kilns is dependent on several variables. These include the amount and distribution of combustion air, lime mud feed rate, lime mud washing and sulfidity, and control system. TRS control is dependent upon optimizing these parameters. Generally, SO_2 emissions from lime kilns are very low, due to the alkaline nature of the lime, which absorbs SO_2. As a result, NCG burning in a lime kiln has little effect on SO_2 emissions. Therefore, emphasis is on TRS control in order to meet the existing TRS standard on the lime kiln.

SCC's lime kiln is equipped with an existing wet scrubber to control PM emissions. NCGs are combusted in the lime kiln, and therefore TRS is generated from this source as well. Previous BACT determinations for lime kilns have been based on efficient lime mud washing and efficient kiln operation. In regards to BACT for TRS and VOC, the proposed MACT rule can also be examined.

In the preamble to the proposed MACT, EPA states that gaseous organic HAP emissions are primarily attributable to the use of HAP-contaminated process waters in the lime mud washers and lime kiln scrubbers. Therefore, these emissions can be minimized by reducing the HAP content of the process waters used in the washers and scrubbers. As the Panama City mill uses uncontaminated waters for the mud washers and kiln scrubber, BACT and MACT are already practiced. The proposed BACT for the lime kiln for TRS and VOC emissions is continue the current practice of using uncontaminated waters in the mud washer and kiln scrubber, to meet the current TRS standard.

2.5 SMELT DISSOLVING TANKS

2.5.1 PARTICULATE MATTER AND BERYLLIUM

The smelt dissolving tanks at SCC Panama City are currently equipped with wet scrubbers for PM/PM_{10} control. Wet scrubbers have been in use for many years in the pulp and paper

industry and are demonstrated in practice to be an appropriate control device for PM/PM_{10} emissions. Beryllium in the exhaust gases of a smelt dissolving tank will be in the form of particulate matter. Control of PM/PM_{10} emissions will also control Be emissions. Therefore, this discussion for PM/PM_{10} also applies to Be emissions.

Previous BACT determinations for PM emissions from smelt dissolving tanks, based on the BACT/LAER Clearinghouse, show that all previous BACT determinations have been based on the wet scrubber technology. The proposed BACT for PM/PM_{10} emissions for the smelt dissolving tanks (SDTs) at SCC is a wet scrubber, meeting the MACT II requirements, when promulgated. The proposed MACT II standards, if promulgated as proposed, will impose a PM emissions limit on the existing SDTs of 0.20 lb/ton of black liquor solids fired in the recovery boiler. Since by definition MACT is more stringent than BACT, the proposed PM/PM_{10} BACT emissions limit is the promulgated MACT II PM emission limit, when such a limit is finalized. Implementation of the limit will be according to the MACT rule schedule.

2.5.2 TRS AND SO_2

The TRS and SO_2 generated in smelt dissolving tanks are dependent on several variables. These are the smelt production rate, sulfidity of the smelt, and control system. TRS is typically controlled by caustic wet scrubbing. Generally, both TRS and SO_2 emissions from smelt tanks are very low.

SCC's smelt dissolving tanks are equipped with an existing wet scrubber to control TRS emissions. SO_2 emissions are also controlled as a result. Previous BACT determinations for smelt tanks have been based on wet scrubber technology. In regards to BACT for TRS and VOC emissions from SDTs, the proposed MACT rule can also be examined. In the preamble to the proposed MACT, EPA states that gaseous organic HAP emissions are primarily attributable to the use of HAP-contaminated process waters (i.e., weak wash) in the SDT wet scrubber. Therefore, these emissions can be minimized by reducing the HAP content of the process waters (weak wash) used in the scrubber. The Panama City Mill already uses uncontaminated weak

wash in the existing SDT scrubbers. Therefore, the proposed BACT for the SCC SDTs for TRS and VOC emissions is using uncontaminated weak wash in the scrubbers. Implementation of BACT will be according to the MACT II rule schedule, which requires compliance within 3 years of promulgation.

2.6 BLEACH PLANTS

SCC operates an existing bleach plant, with wet scrubber controls for chlorinated compound emissions. PSD regulated pollutants emitted from the bleach plant consist of CO, VOC and TRS. The wet scrubber system also minimizes emissions of VOC and TRS. CO emissions are a function of the reaction between chlorine or chlorine dioxide and lignin in the pulp.

MACT standards promulgated for the pulp and paper industry will require elimination of elemental chlorine and control of chlorine emissions by wet scrubber technology no later than April 16, 2001. Since the MACT is based on wet scrubber technology, BACT for TRS and VOC are also based on wet scrubber technology.

CO emissions are minimized through efficient bleaching operations. No other control technologies for CO control have been applied to bleach plants. Therefore, efficient bleaching operations is proposed as BACT for the SCC bleach plant.

2.7 LIME SLAKER

The lime slaker at SCC is controlled by an existing wet scrubber system which reduces PM/PM_{10} emissions to 4 lb/hr or less. Based on this low emission rate, BACT for PM/PM_{10} emissions, as well as for VOC emissions, is the existing wet scrubber system.

2.8 PULPING AREA, CHEMICAL RECOVERY AREA, AND PAPER MAKING

The pulping area (brown stock washing), chemical recovery area (black liquor oxidation towers, causticizers, lime mud filter and tanks), and the paper making process area (paper machines) at SCC have the potential to emit VOC and TRS. These sources have not been traditionally

controlled through add-on control equipment, but by efficient operations. Also, the MACT standards will require control of brown stock washing systems, as well as require clean condensates to be utilized throughout the mill. Therefore, BACT for VOC and TRS from brown stock washer systems is compliance with the MACT standards for the pulp and paper industry. BACT for the chemical recovery area and paper machines is efficient operations.

2.9 WOODYARD

Emissions from the woodyard include PM/PM_{10} and VOC emissions. The PM/PM_{10} emissions result from material transfer and screening operations, and are fugitive in nature. Some cyclones are employed, generally as material conveyance devices. Much of the material is wet and PM/PM_{10} emissions are minimal. SCC proposes good housekeeping practices and covered conveyors where practical, as BACT for the woodyard.

2.10 NO. 3 COMBINATION BOILER

The pulp production increase will result in an estimated 12.6 TPY increase in NO_x emissions, due to increased condensate stripper off-gases being vented to the No. 3 Combination Boiler. This small increase does not warrant further control or evaluation.

3.0 ADDITIONAL IMPACT ANALYSIS

3.1 VICINITY OF SCC PANAMA CITY MILL

3.1.1 IMPACTS TO VEGETATION AND SOILS

The area in the vicinity of the SCC Panama City mill is developed and cleared of native vegetation, with the exception of the approximately 10-acre western parcel on SCC property, which is vegetated with a mixture of native trees and shrubs typical of the Gulf coast.

According to the USDA Soil Survey of Bay County, three soil types are found in the vicinity of the plant: Osier fine sand, Foxworth sand, and urban land. Osier fine sand is poorly drained, with moderately high organic matter content in the upper 6 inches. Foxworth sand is moderately well drained soil with low organic matter content. Urban land consists of areas that are ≥75 percent covered with streets, houses, industrial parks, commercial buildings, and other developments. Soils in these areas typically are comprised of undifferentiated soil material, with inclusions of other soil series that are too small to be mapped separately.

As described in the air quality impact analysis submitted in conjunction with the pulp production increase request, the maximum predicted SO_2, NO_2, PM, and CO concentrations in the vicinity of the site as a result of the proposed project are below the AAQS. Since the AAQS are designed to protect the public welfare, including effects on soils and vegetation, no detrimental effects on soils or vegetation should occur in this area due to the proposed project.

3.1.2 GROWTH IMPACTS

Pulp production may increase by a maximum of about 20 percent due to the proposed project, resulting in some increases in truck, train and marine vessel traffic. Although total pulp production at the Panama City mill is expected to increase after approval of the pulp production increase, no new facilities, infrastructure, or support services are expected to be needed. No actual physical construction will be associated with the project, and no new employees are anticipated to be required. As a result, no significant impacts due to associated growth are expected due to the proposed project.

The potential impacts of SO_2, NO_2, PM, and CO on soils, vegetation, and visibility in the Bradwell Bay and St. Marks PSD Class I areas are addressed in the following sections.

3.2 PSD CLASS I AREA

This section focuses on the ecological effects of the proposed facility's impacts on Air Quality Related Values (AQRV), as defined under PSD regulations, in the St. Marks National Wildlife Refuge and Bradwell Bay Wilderness Area. The location of these two Class I areas in relation to the Panama City mill is shown in Figure 3-1.

The AQRVs are defined as being:

> "All those values possessed by an area except those that are not affected by changes in air quality and include all those assets of an area whose vitality, significance, or integrity is dependent in some way on the air environment. These values include visibility and those scenic, cultural, biological, and recreational resources of an area that are affected by air quality. Important attributes of an area are those values or assets that make an area significant as a monument, preserve, or primitive area. They are the assets that are to be preserved if the area is to achieve the purposes for which it was set aside" (Federal Register, 1978).

The AQRVs include freshwater and coastal wetlands, dominant plant communities, unique and rare plant communities, soils and associated periphyton, and the wildlife dependent on these communities for habitat. Rare, endemic, threatened, and endangered species of the wilderness areas and bioindicators of air pollution (e.g., lichens) are also evaluated.

The predicted increase in ambient concentrations due to the proposed project are presented in Table 3-1. The increase in emissions used in the modeling analysis are shown in Tables 3-2 and 3-3. Note that there is no increase in short term emission rates due to the proposed project, except for particulate matter (PM) emissions. Annual emission rates increase as a result of the

project, as shown in Table 3-2. These increases were modeled according to the same methodology as presented in the ambient impact analysis report for the Panama City Mill.

3.2.1 IMPACTS TO SOILS

For soils, the potential and hypothesized effects of atmospheric deposition include:

- Increased soil acidification,
- Alteration in cation exchange,
- Loss of base cations, and
- Mobilization of trace metals.

The potential sensitivity of specific soils to atmospheric inputs is related to two factors. First, the physical ability of a soil to conduct water vertically through the soil profile is important in influencing the interaction with deposition. Second, the ability of the soil to resist chemical changes, as measured in terms of pH and soil cation exchange capacity (CEC), is important in determining how a soil responds to atmospheric inputs.

According to the USDA Soil Survey of Wakulla County, the soils of Bradwell Bay Wilderness Area are primarily Croatan-Dorovan mucks, while the primarily soil types in the St. Marks National Wildlife Refuge are Bayvi, Isles, and Estero soils. The Croatan-Dorovan mucks are very poorly drained with very high organic matter content. The Bayvi, Isles, and Estero soils are found in tidal marsh areas, are flooded daily by high tides, and have moderate organic matter content. The soils of both Bradwell Bay and St. Marks are generally classified as histosols. Histosols (peat soils) are organic and have extremely high buffering capacities based on their CEC, base saturation, and bulk density. Therefore, they would be relatively insensitive to atmospheric inputs.

The relatively low sensitivity of the soils to atmospheric inputs coupled with the extremely low ground-level concentrations of contaminants projected for the Bradwell Bay and St. Marks areas due to the Panama City facility modification precludes any significant impact on soils.

3.2.2 IMPACTS TO VEGETATION

The maximum predicted gaseous concentrations ($\mu g/m^3$) of SO_2, NO_2, PM, and CO were used in the determination of impacts on vegetation. These compounds are believed to interact predominantly with foliage and this is considered the major route of entry into plants. In this assessment, 100 percent of the compound of interest was assumed to interact with the vegetation.

Sulfur Dioxide

Sulfur is an essential plant nutrient usually taken up as sulfate ions by the roots from the soil solution. When sulfur dioxide in the atmosphere enters the foliage through pores in the leaves, it reacts with water in the leaf interior to form sulfite ions. Sulfite ions are highly toxic. They interact with enzymes, compete with normal metabolites, and interfere with a variety of cellular functions (Horsman and Wellburn, 1976). However, within the leaf, sulfite is oxidized to sulfate ions, which can then be used by the plant as a nutrient. Small amounts of sulfite may be oxidized before they prove harmful.

SO_2 gas at elevated levels has long been known to cause injury to plants. Acute SO_2 injury usually develops within a few hours or days of exposure, and symptoms include marginal, flecked, and/or intercostal necrotic areas that appear water-soaked and dullish green initially. This injury generally occurs to younger leaves. Chronic injury usually is evident by signs of chlorosis, bronzing, premature senescence, reduced growth, and possible tissue necrosis (EPA, 1982). Background levels of SO_2 range from 2.5 to 25 $\mu g/m^3$. Observed SO_2 effect levels for several plant species and plant sensitivity groupings are presented in Tables 3-4 and 3-5, respectively.

Many studies have been conducted to determine the effects of high-concentration, short-term SO_2 exposure on natural community vegetation. Sensitive plants include ragweed, legumes, blackberry, southern pine, and red and black oak. These species are injured by exposure to 3-hour SO_2 concentrations of 790 to 1,570 $\mu g/m^3$. Intermediate plants include locust and sweetgum. These species are injured by exposure to 3-hour SO_2 concentrations of 1,570 to

2,100 $\mu g/m^3$. Resistant species (injured at concentrations above 2,100 $\mu g/m^3$ for 3 hours) include white oak and dogwood (EPA, 1982).

A study of native Floridian species (Woltz and Howe, 1981) demonstrated that cypress, slash pine, live oak, and mangrove exposed to 1,300 $\mu g/m^3$ SO_2 for 8 hours were not visibly damaged. This finding support the levels cited by other researchers on the effects of SO_2 on vegetation. A corroborative study (McLaughlin and Lee, 1974) demonstrated that approximately 20 percent of a cross-section of plants ranging from sensitive to tolerant was visibly injured at 3-hour SO_2 concentrations of 920 $\mu g/m^3$.

Two lichen species indigenous to Florida exhibited signs of SO_2 damage in the form of decreased biomass gain and photosynthetic rate as well as membrane leakage when exposed to concentrations of 200 to 400 $\mu g/m^3$ for 6 hours/week for 10 weeks (Hart et al., 1988).

No short-term increase in SO_2 emissions are expected as a result of the project, therefore the maximum predicted SO_2 concentrations were modeled using only the annual averaging time. The maximum increase in annual SO_2 concentrations predicted within the Class I areas due to the project is only 0.006 $\mu g/m^3$. Regardless of the existing concentrations within the Class I areas, the predicted additional impacts caused by the proposed modification are predicted to be insignificant for SO_2. The modeled annual incremental increase in SO_2 (0.006 $\mu g/m^3$) adds only slightly to background levels of this gas and poses no threat to area vegetation.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) in the atmosphere can injure plant tissue, with symptoms usually appearing as irregular white to brown collapsed lesions between the leaf veins and near the margins. Conversely, non-injurious levels of NO_2 can be absorbed by plants, enzymatically transformed into ammonia, and incorporated into plant constituents such as amino acids (Matsumaru et al., 1979).

Plant damage can occur through either acute (short-term, high concentration) or chronic (long-term, relatively low concentration) exposure. For plants that have been determined to be more sensitive to NO_2 exposure than others, acute (1, 4, 8 hours) exposure caused 5 percent predicted foliar injury at concentrations ranging from 3,800 to 15,000 $\mu g/m^3$ (Heck and Tingey, 1979). Chronic exposure of selected plants (some considered NO_2-sensitive) to NO_2 concentrations of 2,000 to 4,000 $\mu g/m^3$ for 213 to 1,900 hours caused reductions in yield of up to 37 percent and some chlorosis (Zahn, 1975).

No short-term increases in NO_2 emissions are expected due to the project, therefore only annual averaging times were modeled. By comparison of published toxicity values for NO_2 exposure to long-term (annual averaging time) modeled concentrations, the possibility of plant damage in the Class I areas can be examined for chronic exposure situations. For a chronic exposure, the annual estimated NO_2 concentration due to the project only at the point of maximum impact in the Class I areas (0.0044 $\mu g/m^3$) is 0.00011 to 0.00022 percent of the levels that caused minimal yield loss and chlorosis in plant tissue.

Although it has been shown that simultaneous exposure to SO_2 and NO_2 results in synergistic plant injury (Ashenden and Williams, 1980), the magnitude of this response is generally only 3 to 4 times greater than either gas alone and usually occurs at unnaturally high levels of each gas. Therefore, the predicted increase in concentrations within the Class I areas are still far below the levels that potentially cause plant injury for either acute or chronic exposure.

Particulate Matter

Although information pertaining to the effects of PM on plants is scarce, baseline concentrations are available (Mandoli and Dubey, 1988). Ten species of native Indian plants were exposed to levels of PM that ranged from 210 to 366 $\mu g/m^3$ for an 8-hour averaging period. Damage in the form of a higher leaf area/dry weight ratio was observed at varying degrees for most plants tested. Concentrations of PM lower than 163 $\mu g/m^3$ did not appear to be injurious to the tested plants.

The predicted increase in maximum 1-hour, 3-hour, 8-hour, 24-hour, and annual PM_{10} concentrations in the Class I areas due to the proposed project are 1.7, 1.1, 0.7, 0.34, and 0.03 $\mu g/m^3$, respectively (see Table 3-1). By comparison of published toxicity values for PM exposure (i.e., 8-hour averaging time) concentrations, the possibility of plant damage in the PSD Class I areas due to the project can be estimated. The increase in the estimated 8-hour PM concentrations due to the project only at the point of maximum impact in the PSD Class I areas (0.7 $\mu g/m^3$) is less than 0.5 percent of the values that affected plant foliage. Therefore, no adverse affects upon vegetation in the Class I areas due to the additional PM emissions is predicted.

Carbon Monoxide

As with PM, information pertaining to the effects of CO on plants is scarce. The main effect of high concentrations of CO is the inhibition of cytochrome *c* oxidase, the terminal oxidase in the mitochondrial electron transfer chain. Inhibition of cytochrome *c* oxidase depletes the supply of ATP, the principal donor of free energy required for cell functions. However, this inhibition only occurs at extremely high concentrations of CO. Pollok et al. (1989) reported that exposure to $CO:O_2$ ratio of 25 (equivalent to an ambient CO concentration of $6.85 \times 10^6 \mu g/m^3$) resulted in stomatal closure in the leaves of the sunflower (*Helianthus annuus*). Naik et al. (1992) reported cytochrome *c* oxidase inhibition in corn, sorghum, millet, and Guinea grass at $CO:O_2$ ratios of 2.5 (equivalent to an ambient CO concentration of 6.85×10^5 $\mu g/m^3$). These plants were considered the species most sensitive to CO-induced inhibition of cytochrome *c* oxidase.

By comparison of published effect values for CO exposure, the possibility of plant damage in the Class I areas can be determined. No short term increase in CO emissions will occur as a result of the proposed project. The predicted maximum increase in annual concentration due to the project only in the Class I area is 0.041 $\mu g/m^3$. This concentration is less than 0.0002 percent of the value that caused inhibition in laboratory studies. Therefore, no adverse impacts due to the increase in CO emissions are expected.

Summary

In summary, the phytotoxic effects from the increase in emissions due to the proposed project are predicted to be minimal. It is important to note that the concentrations were conservatively modeled with the assumption that 100 percent was available for plant uptake. This is rarely the case in a natural ecosystem.

3.2.3 IMPACTS TO WILDLIFE

A wide range of physiological and ecological effects to fauna has been reported for gaseous and particulate pollutants (Newman, 1981; Newman and Schreiber, 1988). The most severe of these effects have been observed at concentrations above the secondary ambient air quality standards. Physiological and behavioral effects have been observed in experimental animals at or below these standards. No observable effects to fauna are expected at concentrations below the values reported in Table 3-6.

The major air quality risk to wildlife in the United States is from continuous exposure to pollutants above the National Ambient Air Quality Standards. This occurs in non-attainment areas, e.g., Los Angeles Basin. Risks to wildlife also may occur for wildlife living in the vicinity of an emission source that experiences frequent upsets or episodic conditions resulting from malfunctioning equipment, unique meteorological conditions, or startup operations (Newman and Schreiber, 1988). Under these conditions, chronic effects (e.g., particulate contamination) and acute effects (e.g., injury to health) have been observed (Newman, 1981).

For impacts on wildlife, the lowest threshold values of SO_2, NO_x, and particulates which are reported to cause physiological changes are shown in Table 3-6. These values are up to orders of magnitude larger than the maximum predicted increase in concentrations for the Class I area. No effects on wildlife AQRVs from SO_2, NO_x, CO and particulates are expected. These results are considered indications of the risk of other air pollutant emissions predicted from the facility.

3.2.4 IMPACTS ON VISIBILITY

Introduction

A change in visibility is characterized by either a change in the visual range, defined as the greatest distance that a large dark object can be seen, or by a change in the light-extinction coefficient (b_{ext}). The b_{ext} is the attenuation of light per unit distance due to the scattering and absorption by gases and particles in the atmosphere. A change in the extinction coefficient produces a perceived visual change that is measured by a visibility index called the deciview. The deciview (dv) is defined as:

$$dv = 10 \ln (1 + b_{exts} / b_{extb})$$

where b_{exts} is the extinction coefficient calculated for the source, and

b_{extb} is the background extinction coefficient

The source extinction coefficient is determined from NO_x, SO_2, and PM_{10} emission increases from the proposed project. The background extinction coefficient s for each area evaluated are based on existing ambient monitoring data. Based on predicted short-term increases in SO_4, NO_3, and PM_{10} concentrations, the increase in the project's emissions were compared with a 5 percent change in light extinction of the background levels.

The modeling analysis determined the deciview change along a circle of radius of 95.4 km. This is the closest distance to either the Bradwell Bay or St. Marks PSD Class I areas from the SCC Panama City Mill.

Analysis Methodology

Following the recommendations of the Interagency Workgroup on Air Quality Modeling (IWAQM) Phase II report, a level II screening analysis was performed using the California Puff (CALPUFF) long-range transport model, along with an enhanced ISC meteorological data record. The CALPUFF postprocessor model CALPOST was used to summarize the maximum concentrations of SO_4, NO_3, and PM_{10} that were predicted with the CALPUFF model.

CALPUFF was used in a manner recommended by the IWAQM Phase 2 Summary Report (EPA, 12/98). A summary of the parameter settings that were used in the CALPUFF model is presented in Table D-1 along with the IWAQM Phase 2 recommended parameter settings. The recommended parameter settings are presented in Appendix B of the IWAQM Phase II Summary Report. The CALPUFF model was used in an ISC screening mode with an "enhanced" ISCST3 meteorological data set.

The following CALPUFF settings/values were implemented in the Level II screening analysis:

- Use of six pollutant species of SO_2, SO_4, NO_x, HNO_3, NO_3, and PM_{10};
- Use of MESOPUFF II scheme for chemical transformation with CALPUFF default background concentrations;
- Include both dry and wet deposition and plume depletion;
- Use agricultural, unirrigated land use; minimum mixing height of 50 m;
- Use transitional plume rise, stack-tip downwash, and partial plume penetration;
- Use puff plume element dispersion, PG/MP coefficients, rural mode, and ISC building downwash scheme;
- Use of partial plume path adjustment terrain effects; and
- Use highest predicted concentration 5 years for comparison to percent degradation criteria.

Emission Inventory

Based on recommendations of the IWAQM Phase II Report, the regional haze analysis considered only the maximum 24-hour increase in emissions due to the SCC Mill's proposed project. Only PM_{10} emissions will increase on a short-term basis. Emissions of both SO_2 and NO_x will increase only on an annual basis. Therefore, only the short-term increase in PM10 emissions was included in the regional haze analysis. A summary of the PM_{10} emission increase for each source is presented in Table 3-3.

Building Wake Effects

The air modeling analysis included the SCC Mill's building dimensions to account for the effects of building-induced downwash on the emission sources. Dimensions for all significant building structures were processed with the Building Profile Input Program (BPIP), Version 95086, and were included in the CALPUFF model.

Receptor Locations

Receptors were located along a circle that was centered over the SCC Mill and with a radius equal to the minimum distance between the Mill and Bradwell Bay PSD Class I Area (i.e., 95.4 km). The circle was comprised of 180 polar receptors, spaced at 2-degree intervals. Because the area's terrain is flat, all receptors were assumed to be at zero elevation.

Background Visual Ranges And Relative Humidity Factors

Because PM_{10} is the only pollutant and is non-hydroscopic, relative humidity factors were not required to calculate the change in visibility due to the proposed project. The background extinction coefficient was based on data representative of the mean of the top 20-percentile air quality days. For Bradwell Bay and St. Marks NWR, a background extinction coefficient of 0.0602 km^{-1} was used, equating to a background visual range of 65 km.

Meteorological Data

A 5-year data record was used from 1986 through 1991. The data for years 1986 and 1987 consisted of hourly surface observations from Pensacola and twice-daily mixing height data obtained from Apalachicola National Weather Service (NWS) offices. The data for years 1988, 1989 and 1990 consisted of hourly surface observations and twice-daily mixing height data obtained from Apalachicola. The surface and upper data were preprocessed into an ASCII modeling format by EPA 's PCRAMMET meteorological preprocessing program. Anemometer heights of 22 and 30 ft were used for the Pensacola and Apalachicola surface data, respectively.

Additional meteorological parameters were added to the meteorological data records for use with the CALPUFF model. The addition parameters include friction velocity, Monin-Obukhov

length, and surface roughness used for calculating dry deposition; precipitation type code and precipitation rate used for calculating wet deposition, and short-wave solar radiation and relative humidity use for calculating chemical transformation rates. The dry deposition parameters were added to the meteorological data records using the PCRAMMET model in dry deposition mode. Using the guidance provided in Section 3.1 of the PCRAMMET User's Manual (8/98), the following input values were selected:

1. Surface roughness at both application and measurement sites: 0.15 m
2. Noontime Albedo: 0.14
3. Bowen Ratio: 0.8
4. Anthropogenic Heat flux: 0
5. Minimum Monin-Obukhov Length: 2 m
6. Fraction of Net Radiation Absorbed by Ground: 0.15

Hourly precipitation amounts, relative humidity and short-wave radiation values were added separately to the meteorological data set. These parameters were obtained from Mobile, Alabama surface data available from Solar and Meteorological Surface Observation Network (SAMSON) data.

Based on the precipitation classification scheme provided in the CALPUFF Users Manual (Table 2-11) (7/95), each hour's precipitation code was set to 0 or 2. An hour in which no precipitation occurred received a code of 0. If precipitation occurred the code was set to 2. All precipitation was assumed to be in the form of rain.

Chemical Transformation

As emissions of hydroscopic species SO_2 and NO_x were not included in the visibility modeling analysis, chemical transformation of these compounds was not evaluated.

Results

The results of the Level II screening analysis are summarized in Table 3-7. The predicted change in visibility is 1.68 percent. This change is below the criteria of 5 percent. Therefore, it

is concluded that the proposed project will not pose a significant impact on the visibility at the Bradwell Bay or St. Marks NWR PSD Class I areas.

Table 3-1. Maximum Predicted Concentrations Due to the Proposed Project Only at St. Marks and Bradwell Bay Class I Areas

Pollutant	Maximum Concentration[a] ($\mu g/m^3$)				
	Annual	24-Hour	8-Hour	3-Hour	1-Hour
Sulfur Dioxide (SO_2)	0.006	NA	NA	NA	NA
Nitrogen Dioxide (NO_2)	0.0033	NA	NA	NA	NA
Particulates (PM_{10})	0.0296	0.34	0.69	1.07	1.74
Carbon Monoxide (CO)	0.041	NA	NA	NA	NA

[a] Highest predicted concentration from the CALPUFF model Level 2 Screening analysis with 5-years of hourly ISC meteorological data from Pensacola/Apalachicola, 1986 - 1990. NA = Not applicable - No short-term increase in emissions.

Table 3-2. Annual Average Emissions Increase for the Class I Impact Analysis

Regulated Pollutant	Net Increase in Emissions (TPY)												TOTAL NET CHANGE IN EMISSIONS (TPY)
	No. 1 Recovery Boiler	No. 2 Recovey Boiler	No. 1 Smelt Dissolving Tank	No. 2 Smelt Dissolving Tank	Lime Kiln	Bleach Plant	Pulping Area	Lime Slaker	Woodyard	Chemical Recovery Area	Paper Making	No. 3 Combination Boiler	
Particulate (TSP)	307.6	331.9	60.5	27.5	32.2	–	–	15.8	3.3	–	–	–	778.8
Particulate (PM_{10})	238.7	257.5	54.2	24.6	31.6	–	–	15.8	1.4	–	–	–	623.9
Sulfur dioxide	78.0	71.3	0.6	0.5	4.2	–	–	–	–	–	–	–	154.6
Nitrogen oxides	43.4	39.6	1.2	1.1	39.7	–	–	–	–	–	–	12.6	137.6
Carbon monoxide	395.2	361.4	–	–	4.0	57.4	–	–	–	–	–	–	818.1

Note: Refer to Tables 1-1 through 1-3 for emission rates.

Table 3-3. Short-term PM_{10} Emission Increase for the Class I Impact Analysis

		Short-Term Emissions (lb/hr)		
Source	Model ID	Current	Future	Change
No. 1 Recovery Boiler	RB1	45.8	87.3	41.5
No. 2 Recovery Boiler	RB2	39.1	87.3	48.2
No. 1 Smelt Tank	SDT1	17.5	29.7	12.2
No. 2 Smelt Tank	SDT2	23.6	28.5	4.9
Lime Kiln	LK	24.1	29.8	5.7
Slaker	Slaker	0.5	4.0	3.6

Note: There is no increase in short-term emissions of SO_2 or NO_x due to the proposed project.

Table 3-4. SO_2 Effects Levels for Various Plant Species

Plant Species	Observed Effect Level ($\mu g/m^3$)	Exposure (Time)	Reference
Sensitive to tolerant	920 (20 percent displayed visible injury)	3 hours	McLaughlin and Lee, 1974
Lichens	200-400	6 hr/wk for 10 weeks	Hart *et al.*, 1988
Cypress, slash pine, live oak, mangrove	1,300	8 hours	Woltz and Howe, 1981
Jack pine seedlings	470-520	24 hours	Malhotra and Kahn, 1978
Black oak	1,310	Continuously for 1 week	Carlson, 1979

Table 3-5. Sensitivity Groupings of Vegetation Based on Visible Injury at Different SO_2 Exposures[a]

Sensitivity Grouping	SO_2 Concentration		Plants
	1-Hour	3-Hour	
Sensitive	1,310 - 2,620 $\mu g/m^3$ (0.5 - 1.0 ppm)	790 - 1,570 $\mu g/m^3$ (0.3 - 0.6 ppm)	Ragweeds Legumes Blackberry Southern pines Red and black oaks White ash Sumacs
Intermediate	2,620 - 5,240 $\mu g/m^3$ (1.0 - 2.0 ppm)	1,570 - 2,100 $\mu g/m^3$ (0.6 - 0.8 ppm)	Maples Locust Sweetgum Cherry Elms Tuliptree Many crop and garden species
Resistant	>5,240 $\mu g/m^3$ (>2.0 ppm)	>2,100 $\mu g/m^3$ (>0.8 ppm)	White oaks Potato Upland cotton Corn Dogwood Peach

[a] Based on observations over a 20-year period of visible injury occurring on over 120 species growing in the vicinities of coal-fired power plants in the southeastern United States.

Source: EPA, 1982a.

Table 3-6. Examples of Reported Effects of Air Pollutants at Concentrations Below National Secondary Ambient Air Quality Standards

Pollutant	Reported Effect	Concentration ($\mu g/m^3$)	Exposure
Sulfur Dioxide[1]	Respiratory stress in guinea pigs	427 to 854	1 hour
	Respiratory stress in rats	267	7 hours/day; 5 day/week for 10 weeks
	Decreased abundance in deer mice	13 to 157	continually for 5 months
Nitrogen Dioxide[2,3]	Respiratory stress in mice	1,917	3 hours
	Respiratory stress in guinea pigs	96 to 958	8 hours/day for 122 days
Particulates[1]	Respiratory stress, reduced respiratory disease defenses	120 PbO_3	continually for 2 months
	Decreased respiratory disease defenses in rats, same with hamsters	100 $NiCl_2$	2 hours

Source: [1]Newman and Schreiber, 1988.
[2]Gardner and Graham, 1976.
[3]Trzeciak et al., 1977.

Table 3-7. Level II Screening Regional Haze Analyses Results, Stone Container PC Mill

Item	Units	Values
Maximum Predicted Concentration[a]	ug/m^3	
PM_{10}		0.3409
SO_4[b]		0.0000
NO_3[b]		0.0000
Computed Concentrations	ug/m^3	
$(NH_4)_2SO_4$		0.000000
NH_4NO_3		0.0000
Average Relative Humidity Factor		0.00
Background Visual Range[c], Vr		65
Background Extinction Coeff.(bext)	km^{-1}	0.0602
Source Extinction Coeff (bexts)	km^{-1}	
$(NH_4)_2SO_4$		0.000000
NH_4NO_3		0.000000
PM10		0.001023
Total bexts	km^{-1}	0.001023
Percent Change (%)		1.68

[a] Highest predicted with Calpuff model and 5-year meteorological data from Pensacola and Apalachicola for 1986 - 1990

[b] Pollutant species do not increase short-term

[c] Provided by U.S. Fish and Wildlife Service

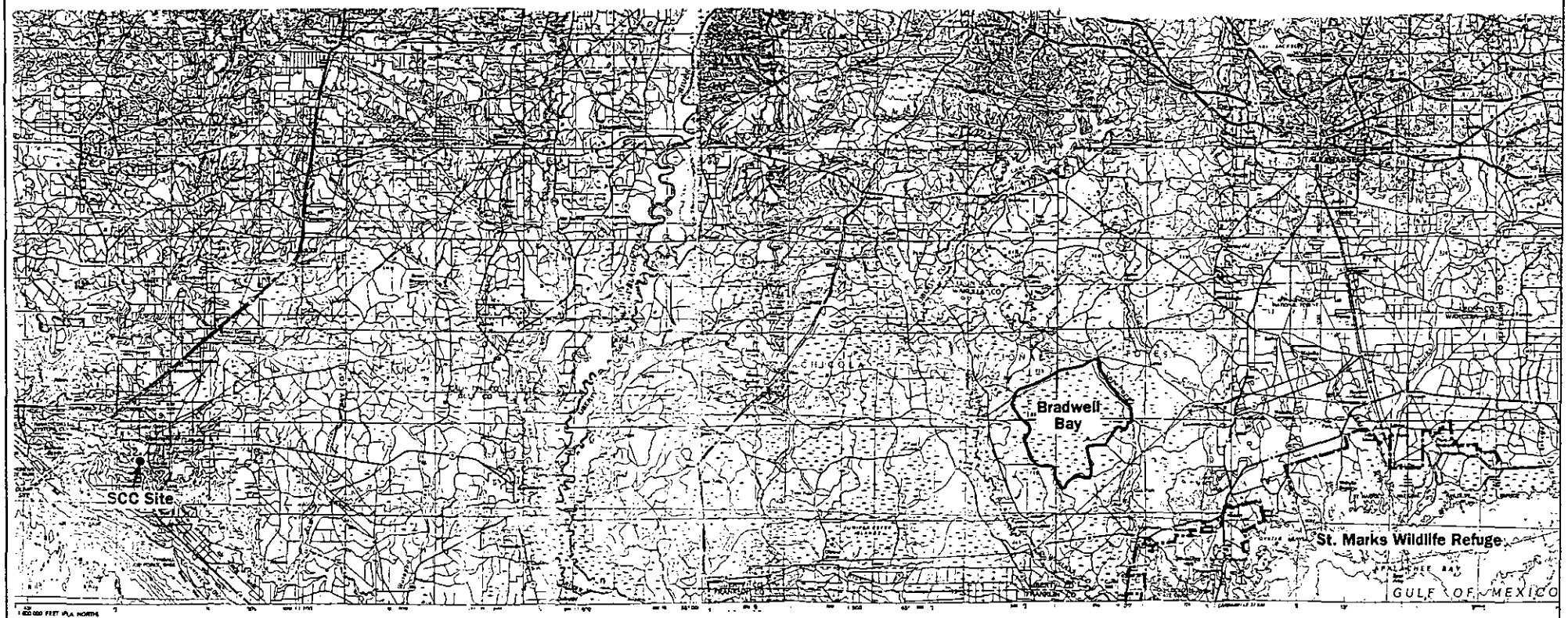

Figure 3-1
Class I Areas in Relation to Panama City Mill

Sources: USGS, 1998; Golder Associates Inc., 1999.

Golder Associates

APPENDIX A

MAXIMUM FUTURE EMISSIONS @ 781,000 TPY ADUP

STONE CONTAINER CORPORATION

PANAMA CITY MILL

Table A-1. Maximum Emissions from Each Recovery Boiler Nos. 1 and 2 , Stone Container Corporation, Panama City

Regulated Pollutant	Each Recovery Boiler: Emission Factor	Reference	Activity Factor (a)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	112.5 lb/hr	1	8,760 hr/yr	112.5	492.8
Particulate (PM10)	77.6 % of PM	6	--	87.30	382.4
Sulfur dioxide	0.18 lb/MMBtu	3	721 MMBtu/hr	129.78	568.4
Nitrogen oxides	0.10 lb/MMBtu	3	721 MMBtu/hr	72.10	315.8
Carbon monoxide	20 lb/1,000 lb BLS	7	123.7 1,000 lb BLS/hr	2,474	2,872
VOC	0.058 lb C /MMBtu	3	721 MMBtu/hr	41.82	183.2
Sulfuric acid mist	0.011 lb/MMBtu	5	721 MMBtu/hr	7.95	34.8
Total reduced sulfur	17.5 ppmvd	1	187,100 dscfm (g)	17.3	75.9
Lead	7.2E-06 lb/MMBtu	2	721 MMBtu/hr	5.2E-03	2.3E-02
Mercury	5.5E-06 lb/MMBtu	2	721 MMBtu/hr	4.0E-03	1.7E-02
Beryllium	1.9E-07 lb/MMBtu	2	721 MMBtu/hr	1.4E-04	6.0E-04
Fluorides	ND	4	--	--	--

note:
(a) Based on currently permitted maximum operating rate of 123,700 lb virgin BLS/hr, 5,830 Btu/lb BLS, and 8,760 hr/yr.
(b) Based on currentlt permitted maximum heat input of 721 MMBtu/hr, average No. 6 Fuel Oil heat content of 150,000 Btu/gal, and 8,760 hr/yr.
(c) Maximum S = 2.5%.
(d) Based on maximum heat input of 721 MMBtu/hr, average natural gas heat content of 1,000 Btu/scf, and 8,760 hr/yr.
(e) Based on 3,570,000 gallons of No. 6 Fuel Oil per year.
(f) Based on 535 MMscf of natural gas per year.
(g) Based on firing with No. 6 Fuel Oil (only) for 742 hr/yr and BLS for the remaining 8,018 hr/yr.
(h) Based on firing with No. 6 Fuel Oil for 742 hr/yr (only), natural gas for 742 hr/yr, and BLS for the remaining 7,276 hr/yr.
(g) Based on 1997 compliance testing and 8% salt cake content of BLS throughput, ie. 92% virgin BLS.

References:
1. Currently permitted emission limit.
2. Emission factor based on NCASI Bulletin No. 650, Table 11D, direct contact evaporator, average factor used.
3. Emission factor based on NCASI Bulletin No. 646, Tables 8-11, direct contact evaporator with ESP, average factor used.
4. From "Application of Combustion Modifications to Industrial Combustion Equipment" EPA-600/7-79-015a. one test from recovery boiler.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. 5% of SO2 becomes SO3 then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).
6. Based on AP-42 Tables 10.2-1, 10.2-2, and Figure 10.2-2 for Kraft pulping sources.
7. Based on NCASI Bulletin No. 416, Table 5 and Figure 17 (20 lb/1,000 lb BLS for hourly emissions and 5.3 lb/1,000 lb BLS for annual average).

Table A-2. Maximum Emissions From the Existing Bleach Plant, Smurfit-Stone Container, Panama City, Florida

Pollutant Name	Average Emission Factor (lb/tons ADBP)		Activity Factor (a) (tons ADBP/yr)	Annual Emissions (TPY)
Carbon Monoxide				
Hardwood	0.72	(b)	402,960	--
Softwood	0.88	(b)	402,960	177.30
Volatile Organic Compounds (measured as total hydrocarbons)	4.80E-01	(c)	402,960	96.71
Total Reduced Sulfur	3.10E-02	(d)	402,960	6.25

Notes:
ADBP = Air Dried Bleached Pulp
lb/hr = pounds per hour
TPY = tons per year
Footnotes:
(a) Based on the maximum rate of 1,104 tons ADBP/day and 365 days/yr of operation.
(b) Emission factors based on data in NCASI Technical Bulletin No. 760, Carbon Monoxide Emissions from Oxygen Delignification and Chlorine Dioxide Bleaching of Wood Pulp, July 1998.
Bleaching Stages:
Hardwood: Existing bleach plant design is 25.78 lb ClO2/ODTUBP / 0.94 = 27.4 lb ClO2/ODTBP = 1.4%
Using NCASI equation for hardwood (Figure 11): CO = (-0.03 x %ClO2) + 0.69 lb/ODTBP
CO = 0.65 lb/ODTBP x 0.90 = 0.72 lb/ADTBP
Softwood: Existing bleach plant design is 35.5 lb ClO2/ODTUBP / 0.94 = 37.8 lb ClO2/ODTBP = 1.9%
Using NCASI equation for softwood (Figure 9): CO = (0.27 x %ClO2) + 0.38 lb/ODTBP
CO = 0.79 lb/ODTBP x 0.90 = 0.88 lb/ADTBP
Maximum emissions based on 100% softwood.
(c) NCASI Technical Bulletin No. 701, Compilation of Air Toxic and Total Hydrocarbon Emissions Data for Sources at Chemical Wood Pulp Mills, Volume 1, October 1995, Table 3, for Mill BPII2.
(d) NCASI Technical Bulletin No. 701, Compilation of Air Toxic and Total Hydrocarbon Emissions Data for Sources at Chemical Wood Pulp Mills, Volume 1, October 1995, Table 3, for Mill BPIF2.

Table A-3. Maximum Emissions from Pulping Area (Brown Stock Washing) at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor	Annual Emissions (TPY)
VOC	0.18 lb C/ton ADUP	2	781,000 ton ADUP/yr	70.3
Total reduced sulfur	0.22 lb/ton ADUP	1	781,000 ton ADUP/yr	85.9

References

1. Based on NCASI Technical Bulletin No. 701, page 77, 79, and 81 (Table 5).
2. Based on NCASI Technical Bulletin No. 701, page 89 (Table 5).

Table A-4. Maximum Emissions from No. 1 Smelt Dissolving Tank at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	29.71 lb/hr	1	8,760 hr/yr	29.7	130.1
Particulate (PM10)	89.5 % of PM	2	--	26.6	116.5
Sulfur dioxide	0.016 lb/ton BLS	3	61.85 tons BLS/hr	0.99	4.33
Nitrogen oxides	0.033 lb/ton BLS	3	61.85 tons BLS/hr	2.04	8.94
Carbon monoxide	--		--	--	--
VOC	0.062 lb/ton BLS	3	61.85 tons BLS/hr	3.83	16.8
Sulfuric acid mist	5 % of SO2	5	--	0.061	0.27
Total reduced sulfur	0.048 lb/ton BLS	6	61.85 tons BLS/hr	3.0	13.0
Lead	1.7E-05 lb/ton BLS	4	61.85 tons BLS/hr	0.001	0.005
Mercury	1.8E-07 lb/ton BLS	4	61.85 tons BLS/hr	1.1E-05	4.9E-05
Beryllium	1.4E-07 lb/ton BLS	4	61.85 tons BLS/hr	8.7E-06	3.8E-05
Fluorides	--		--	--	--

note:
(a) Based on the currently permitted maximum allowable operating rate of 123,700 lb virgin BLS/hr and 8,760 hr/yr.

References:
1. Currently permitted emission limit.
2. AP-42, Table 10.2-7.
3. Data is averages from NCASI Bulletin No. 646, Tables 16-18, for smelt dissolving tanks with scrubbers.
4. Data is averages from NCASI Bulletin No. 650, Tables 14A and 14B, for smelt dissolving tanks with scrubbers.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. 5% of SO2 becomes SO3 then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).
6. Based on Rule 62-296.404(3)(d)1., F.A.C

Table A-5. Maximum Emissions from No. 2 Smelt Dissolving Tank at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	28.5 lb/hr	1	8,760 hr/yr	28.5	124.9
Particulate (PM10)	89.5 % of PM	2	--	25.5	111.8
Sulfur dioxide	0.016 lb/ton BLS	3	61.85 tons BLS/hr	0.99	4.33
Nitrogen oxides	0.033 lb/ton BLS	3	61.85 tons BLS/hr	2.04	8.94
Carbon monoxide	--		--	--	--
VOC	0.062 lb/ton BLS	3	61.85 tons BLS/hr	3.83	16.8
Sulfuric acid mist	5 % of SO2	5	--	0.061	0.27
Total reduced sulfur	0.048 lb/ton BLS	1	61.85 tons BLS/hr	3.0	13.0
Lead	1.7E-05 lb/ton BLS	4	61.85 tons BLS/hr	0.001	0.005
Mercury	1.8E-07 lb/ton BLS	4	61.85 tons BLS/hr	1.1E-05	4.9E-05
Beryllium	1.4E-07 lb/ton BLS	4	61.85 tons BLS/hr	8.7E-06	3.8E-05
Fluorides	--		--	--	--

note:
(a) Based on the currently permitted maximum allowable operating rate of 123,700 lb virgin BLS/hr and 8,760 hr/yr.

References:
1. Currently permitted emission limit.
2. AP-42, Table 10.2-7.
3. Data is averages from NCASI Bulletin No. 646, Tables 16-18, for smelt dissolving tanks with scrubbers.
4. Data is averages from NCASI Bulletin No. 650, Tables 14A and 14B, for smelt dissolving tanks with scrubbers.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. 5% of SO2 becomes SO3 then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).

Table A-6. Maximum Emissions from the Woodyard at Stone Container, Panama City

SOURCE	Type of Operation (a)	M Moisture Content (%)	U Wind Speed (MPH)	Uncontrolled Emission Factor	Type of Control	Control Efficiency (%)	Controlled Emission Factor	Activity Factor	Maximum Annual PM Emissions (tons/yr)	PM10 Size Multiplier (c)	Maximum Annual PM10 Emissions (tons/yr)
ROUNDWOOD HANDLING											
Debarker	Debarking	--	--	0.024 lbs/ton (d)	Enclosure	80	0.00480 lbs/ton	1,946,934 TPY (e)	4.673	0.35	1.635
Chipper	Continuous Drop	30	7.8	0.00013 lbs/ton	None	0	0.00013 lbs/ton	1,946,934 TPY (e)	0.125	0.35	0.044
Chip Surge Bin to Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	1,946,934 TPY (e)	0.025	0.35	0.0088
Conveyor to Tower No. 1 Chip Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	1,946,934 TPY (e)	0.025	0.35	0.0088
BARK HANDLING											
Debarker to Bark Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	155,755 TPY (f)	0.0020	0.35	0.00070
Bark Conveyor to No. 1 Bark Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	155,755 TPY (f)	0.0020	0.35	0.00070
No. 1 Bark Diverter to Emergency Bark Storage Pile	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	0 TPY (f)	0.0000	0.35	0.00000
Emergency Bark Storage Pile	Wind Erosion	--	--	--	None	0	--	--	0.0094	1.0	0.0094
Unhogged Bark Storage Pile	Wind Erosion	--	--	--	None	0	--	--	0.0094	1.0	0.0094
Trucked Bark to Purchased Unhogged Bark Storage Pile	Batch Drop	30	7.8	0.00013 lbs/ton	None	0	0.00013 lbs/ton	316,098 TPY (g)	0.0203	0.35	0.00712
Front End Loaded to Bark Hopper	Batch Drop	30	7.8	0.00013 lbs/ton	None	0	0.00013 lbs/ton	316,098 TPY (g)	0.0203	0.35	0.00712
Wastewood Conveyor to No. 1 Bark Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	316,098 TPY (g)	0.0041	0.35	0.00142
No. 1 Bark Diverter to Disc Screen	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	471,853 TPY (h)	0.0061	0.35	0.00213
Bark Hog	Hammermill	--	--	0.024 lbs/ton (d)	Enclosed	80	0.00480 lbs/ton	471,853 TPY (h)	1.132	1.0	1.132
Bark Hog to Hogged Bark Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	471,853 TPY (h)	0.0061	0.35	0.00213
Hogged Bark Conveyor to Hogged Bark Pile	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	471,853 TPY (h)	0.0061	0.35	0.00213
Hogged Bark Pile	Wind Erosion	--	--	--	None	0	--	--	0.0023	1.0	0.0023
Bark Bin Cyclone	Cyclone Vent	--	--	2.0 lb/hr	Cyclone	0	2.0 lb/hr	8,760 hr/yr	8.76	0.35	3.07
Bark Bin Cyclone to Small Bark Bin and Screw	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	471,853 TPY (h)	0.0061	0.35	0.00213
Small Bark Bin and Screw to Bark Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	471,853 TPY (h)	0.0061	0.35	0.00213
Bark Conveyor to No. 2 Bark Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	471,853 TPY (h)	0.0061	0.35	0.00213
Bark Storage Pile Maintenance	Vehicular Traffic	--	--	0.74 lbs/VMT	None	0	0.74 lbs/VMT	21,900 VMT (i)	8.103	0.35	2.836
PURCHASED CHIP HANDLING											
Truck Unloading (Chip Van Hopper)	Batch Drop	30	7.8	0.00013 lbs/ton	Covered	80	0.000051 lbs/ton	762,300 TPY (j)	0.020	0.35	0.0069
Railcar Unloading (Chip Van Hopper)	Batch Drop	30	7.8	0.00013 lbs/ton	Covered	80	0.000051 lbs/ton	762,300 TPY (j)	0.020	0.35	0.0069
Truck Unloading Conveyor to Tower No. 1 Chip Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	762,300 TPY (j)	0.010	0.35	0.0034
Railcar Unloading Conveyor to Tower No. 1 Chip Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	762,300 TPY (j)	0.010	0.35	0.0034
MANUFACTURED AND PURCHASED CHIP PROCESSING											
Tower No. 1 Diverter to Chip Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Chip Conveyor to Tower No. 2 Diverter (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Tower No. 2 Diverter to Chip Reclaim Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Chip Reclaim Coveyor to Radial Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Radial Conveyor to Chip Reclaimer Storage Pile (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Chip Reclaimer Storage Pile (2)	Wind Erosion	--	--	--	None	0	--	--	0.048	1.0	0.048
Chip Reclaimer Storage Pile to Chip Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Chip Conveyor to Tower No. 2 Diverter (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Tower No. 2 Diverter to Chip Screw (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Chip Screw to Primary Screen (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Chip Screens	Screening										
Softwood Primary Screen Cyclone	Cyclone Vent	--	--	2.0 lb/hr	Cyclone, Enclosure	80	0.40 lb/hr	8,760 hr/yr	1.752	0.35	0.613
Hardwood Primary Screen Cyclone	Cyclone Vent	--	--	2.0 lb/hr	Enclosure	80	0.40 lb/hr	8,760 hr/yr	1.752	0.35	0.613
Primary Screen to Secondary Screen (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,315,779 TPY (k)	0.043	0.35	0.015
Secondary Screen to Chip Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,321,045 TPY (l)	0.030	0.35	0.010
Screen Building Rejects Cyclone	Cyclone Vent	--	--	2.0 lb/hr	None	0	2.0 lb/hr	8,760 hr/yr	8.760	0.35	3.066
Screen Building Rejects Cyclone to Chip Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Covered	80	0.000051 lbs/ton	994,734 TPY (m)	0.026	0.35	0.009
Fines Blowline Emergency Storage Pile	Wind Erosion	--	--	--	None	0	--	--	0.00017	1.0	0.00017
Fines Blowline Cyclone	Cyclone Vent	--	--	2.0 lb/hr	None	0	2.0 lb/hr	8,760 hr/yr	8.760	0.35	3.07
Fines Blowline Cyclone to Wastewood/Sludge Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Covered	80	0.000051 lbs/ton	9,847 TPY (n)	0.000	0.35	0.000
Chip Conveyor to No. 5 Transfer Tower (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	3,305,772 TPY (o)	0.043	0.35	0.015
TOTAL									44.61		16.39

Notes:

(a) Batch Drop and Continuous Drop Emission Factors are computed from AP-42 (US EPA, 1995) Section 13.2.4-3(1). E = 0.0032 x (U/5)^1.3 / (M/2)^1.4 lb/ton

(b) Wind Erosion Emissions based on AP-42 (US EPA, 1995) Section 13.2.5. Refer to Attachment A for derivation.

(c) PM10 Size Multplier is based on particles < 10 micrometers.

(d) Debarker emissions are based on Table 28 of NCASI Technical Bulletin No. 424 (March 1984), Fugitive Dust Emission Factors and Control Methods Important to Forest Products Industry Manufacturing Operations.

(e) Roundwood throughput is based on 466,800 cords/yr (softwood) @ 2.7 tons/cord and 176,600 cords/yr (hardwood) @ 2.65 tons/cord, plus 10 percent.

(f) Bark throughput is based on 8 percent of roundwood.

(g) Based on purchased bark.

(h) Total bark throughput is sum of manufactured bark and purchased bark.

(i) Vehicle miles traveled (VMT) was calculated assuming front end loader operating 12 hrs/day, 365 days/yr in the woodyard.

(j) Purchased chip throughput is based on 142,800 cords/yr (softwood) and 411,600 cords/yr (hardwood) @ 2.5 tons/cord, plus 10 percent.

(k) Total chip throughput is based on 92 percent of roundwood throughput plus purchased chip throughput.

(l) Based on 70% of total chip throughput.

(m) Based on 30% of total chip throughput.

(n) Fines seperated from wood chip stream.

(o) Total chips minus fines.

Table A-7. Maximum Emissions from Lime Kiln (No. 6 Fuel Oil Fired) at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	29.83 lb/hr	1	8,760 hr/yr	29.83	130.7
Particulate (PM10)	98.3 % of PM	2	--	29.32	128.4
Sulfur dioxide	0.23 lb/ton CaO	4	20.4 ton CaO/hr	4.69	20.6
Nitrogen oxides	2.19 lb/ton CaO	4	20.4 ton CaO/hr	44.68	195.7
Carbon monoxide	0.22 lb/ton CaO	6	20.4 ton CaO/hr	4.49	19.7
VOC	0.24 lb C/ton CaO	4	20.4 ton CaO/hr	4.81	21.1
Sulfuric acid mist	0.014 lb/ton CaO	5	20.4 ton CaO/hr	0.29	1.3
Total reduced sulfur	20 ppmvd (b)	1	68,000 dscfm	7.27	31.9
Lead	3.8E-03 lb/ton CaO	3	20.4 ton CaO/hr	7.8E-02	3.4E-01
Mercury	9.1E-06 lb/ton CaO	3	20.4 ton CaO/hr	1.9E-04	8.1E-04
Beryllium	1.7E-05 lb/ton CaO	3	20.4 ton CaO/hr	3.5E-04	1.5E-03
Fluorides	--		--	--	--

Footnotes
(a) Based on currently permitted operating limit of 18.35 tons CaO/hr plus 10% impurities (20.4 tons/hr), 8,760 hr/yr.
(b) TRS Emission Factor as H2S corrected to 10% O2 as a 12-hour average.

References
1. Currently permitted emission limit.
2. Based on AP-42 Section 10.2 and Tables 10.2-1 and 10.2-4.
3. Based on NCASI Technical Bulletin No. 650, Table 13C.
4. Based on NCASI Technical Bulletin No. 646, Tables 12-14.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. 5% of SO2 becomes SO3 then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).
6. Based on NCASI Technical Bulletin No. 416, Table 6.

Table A-8. Maximum Emissions from Lime Slaker at Stone Container, Panama City

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Hourly Emissions (lb/hr)	Annual Emissions (TPY)
Particulate (PM)	4.0 lb/hr	1	8,760 hr/yr	4.0	17.5
Particulate (PM10)	100 % of PM	3	--	4.0	17.5
VOC	4.4E-02 lb/ton CaO	2	28.1 ton CaO/hr (b)	1.24	5.4
Total reduced sulfur	ND	2	--	--	--

ND = Non-detectable

Footnotes

(a) Based on ratio of 1997 CaO production and pulp production to proposed pulp production plus 10% (purchased lime) and 8,760 hr/yr.

(b) 10% impurities included

References

1. Currently permitted emission limit.
2. Based on NCASI Technical Bulletin No. 701,page 237 and Table 17.
3. No data found, assume 100%.

Table A-9. Maximum Emissions from Chemical Recovery Area at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
VOC				
Black Liquor Oxidation Towers	0.34 lb C/ton ADUP	1	781,000 ton ADUP/hr	132.8
Causticizers	0.044 lb C/ton CaO	4	246,156 ton CaO/yr	5.4
Lime Mud Filters/Associated Equipment	0.0041 lb C/ton CaO	4	246,156 ton CaO/yr	0.5
Black Liquor Tanks (2)	0.091 lb/tank/hr	2	2 tanks	0.8
Black Liquor Oxidation Tank	0.1 lb/ton BLS	3	1,083,612 ton BLS/yr	54.2
Green Liquor Clarifiers and Tanks	0.0014 lb C/ton CaO	4	246,156 ton CaO/yr	0.2
			TOTAL VOC's	193.8
Total Reduced Sulfur				
Black Liquor Oxidation Towers	ND	1	--	--
Causticizers	ND	4	--	--
Lime Mud Filters/Associated Equipment	0.0005 lb /ton CaO	4	246,156 ton CaO/yr	0.1
Black Liquor Tanks (2)	0.18 lb/tank/hr	2	2 tanks	1.6
Black Liquor Oxidation Tank	0.0271 lb/ton BLS	3	1,083,612 ton BLS/yr	14.7
Green Liquor Clarifiers and Tanks	7.011E-04 lb C/ton CaO	4	246,156 ton CaO/yr	0.1
			TOTAL TRS	16.4

ND = Non-detectable

Footnotes

(a) Based on proposed maximum hourly lime slaker rate (28.1 tons/hr CaO), proposed pulp production rate, and currently permitted recovery boiler rates.

References

1. Based on NCASI Technical Bulletin No. 646, pages 27 and 28.
2. Based on NCASI Technical Bulletin No. 701, pages 111-115 (Table 7).
3. Based on NCASI Technical Bulletin No. 701, pages 145-154 (Table 11).
4. Based on NCASI Technical Bulletin No. 701, pages 237-240 (Table 17).

Table A-10. Maximum Emissions from Paper Making Area at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor	Annual Emissions (TPY)
VOC	0.60 lb C/ton ADUP	1	781,000 ton ADUP/yr	234.3
Total reduced sulfur	ND	1	--	--

ND = Non-detectable

References

1. Based on NCASI Technical Bulletin No. 701,page 3, Table 18 (pages 243 and 244).

APPENDIX B

BASELINE 1996-1997 EMISSIONS
STONE CONTAINER CORPORATION
PANAMA CITY MILL

Table B-1. 1996-1997 Baseline Emissions from No. 1 Recovery Boiler at Stone Container Corporation, Panama City

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
Particulate (PM)	46.1 lb/hr	1	8,045 hr/yr	185.2
Particulate (PM10)	77.6 % of PM	6	--	143.7
Sulfur dioxide	0.18 lb/MMBtu	3	5.45E+06 MMBtu/yr	490.4
Nitrogen oxides	0.10 lb/MMBtu	3	5.45E+06 MMBtu/yr	272.4
Carbon monoxide	5.3 lb/1,000 lb BLS	7	934,633 1,000 lb BLS/yr	2,476.8
VOC	0.058 lb C/MMBtu	3	5.45E+06 MMBtu/yr	158.0
Sulfuric acid mist	0.011 lb/MMBtu	5	5.45E+06 MMBtu/yr	30.0
Total reduced sulfur	9.4 ppmvd	1	142,000 dscfm	28.42
Lead	7.2E-06 lb/MMBtu	2	5.45E+06 MMBtu/yr	2.0E-02
Mercury	5.5E-06 lb/MMBtu	2	5.45E+06 MMBtu/yr	1.5E-02
Beryllium	1.9E-07 lb/MMBtu	2	5.45E+06 MMBtu/yr	5.2E-04
Fluorides	ND	4	--	--

ND = Non-detectable
ton = 2000 lb.
note:
(a) Heat input rate based on 1996 and 1997 BLS burned and 5,830 Btu/lb BLS
1996: 438,755 tons burned
1997: 495,878 tons burned

References:

1. Based on the average of the 1997 and 1999 compliance tests and operating data:
   1996 = 51.3 lb PM/hr; 10.6 ppmvd TRS at 142,000 dscfm for 7,573 hr/yr
   1997 = 40.8 lb PM/hr; 8.2 ppmvd TRS at 142,000 dscfm for 8,516 hr/yr
2. Emission factor based on NCASI Bulletin No. 650, Table 11D, direct contact evaporator, average factor used.
3. Emission factor based on NCASI Bulletin No. 646, page 16 and Tables 10 and 11, direct contact evaporator with ESP, average factor used.
4. From "Application of Combustion Modifications to Industrial Combustion Equipment" EPA-600/7-79-015a. one test from recovery boiler.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. Five percent (5%) of SO2 becomes SO3, then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).
6. Based on AP-42 Table 10.2-2, and Figure 10.2-2 for Kraft pulping sources.
7. Based on NCASI Bulletin No. 416, Table 5.

Table B-2. 1996-1997 Baseline Emissions from No. 2 Recovery Boiler at Stone Container Corporation, Panama City

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
Particulate (PM)	39.1 lb/hr	1	8,230 hr/yr	160.9
Particulate (PM10)	77.6 % of PM	6	--	124.9
Sulfur dioxide	0.18 lb/MMBtu	3	5.52E+06 MMBtu/yr	497.1
Nitrogen oxides	0.10 lb/MMBtu	3	5.52E+06 MMBtu/yr	276.2
Carbon monoxide	5.3 lb/1,000 lb BLS	7	947,387 1,000 lb BLS/yr	2,510.6
VOC	0.058 lb C/MMBtu	3	5.52E+06 MMBtu/yr	160.2
Sulfuric acid mist	0.005 lb/MMBtu	5	5.52E+06 MMBtu/yr	14.0
Total reduced sulfur	11.2 ppmvd	1	142,000 dscfm	34.64
Lead	7.2E-06 lb/MMBtu	2	5.52E+06 MMBtu/yr	2.0E-02
Mercury	5.5E-06 lb/MMBtu	2	5.52E+06 MMBtu/yr	1.5E-02
Beryllium	1.9E-07 lb/MMBtu	2	5.52E+06 MMBtu/yr	5.2E-04
Fluorides	ND	4	--	--

ND = Non-detectable
ton = 2000 lb.
note:
(a) Heat input rate based on 1996 and 1997 BLS burned and 5,830 Btu/lb BLS:
1996: 460,334 tons burned
1997: 487,053 tons burned

References:
1. Based on the average of the 1997 and 1999 compliance tests and operating data:
1996 = 37.2 lb PM/hr; 12.0 ppmvd TRS at 142,000 dscfm for 8,010 hr/yr
1997 = 40.9 lb PM/hr; 10.4 ppmvd TRS at 142,000 dscfm for 8,449 hr/yr
2. Emission factor based on NCASI Bulletin No. 650, Table 11D, direct contact evaporator, average factor used.
3. Emission factor based on NCASI Bulletin No. 646, page 16 and Tables 10 and 11, direct contact evaporator with ESP, average factor used.
4. From "Application of Combustion Modifications to Industrial Combustion Equipment" EPA-600/7-79-015a. one test from recovery boiler.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. Five percent (5%) of SO2 becomes SO3 then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).
6. Based on AP-42 Table 10.2-2, and Figure 10.2-2 for Kraft pulping sources.
7. Based on NCASI Bulletin No. 416, Table 5.

Table B-3. 1996-1997 Baseline Emissions from Lime Kiln at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
Particulate (PM)	24.1 lb/hr	1	8,175 hr/yr	98.5
Particulate (PM10)	98.3 % of PM	2	--	96.8
Sulfur dioxide	0.23 lb/ton CaO	4	142,503 ton CaO/yr	16.4
Nitrogen oxides	2.19 lb/ton CaO	4	142,503 ton CaO/yr	156.0
Carbon monoxide	0.22 lb/ton CaO	6	142,503 ton CaO/yr	15.7
VOC	0.24 lb C/ton CaO	4	142,503 ton CaO/yr	16.8
Sulfuric acid mist	0.014 lb/ton CaO	5	142,503 ton CaO/yr	1.0
Total reduced sulfur	9.64 ppmvd (b)	1	45,000 dscfm	9.39
Lead	3.8E-03 lb/ton CaO	3	142,503 ton CaO/yr	0.27
Mercury	9.1E-06 lb/ton CaO	3	142,503 ton CaO/yr	6.5E-04
Beryllium	1.7E-05 lb/ton CaO	3	142,503 ton CaO/yr	1.2E-03
Fluorides	--		--	--

Footnotes

(a) 1996 and 1997 CaO production and pulp production:

1996 = 606,445 ton ADUP; 148,220 tons CaO (10% impurities)

1997 = 666,002 ton ADUP; 168,454 tons CaO (10% Impurities)

(b) TRS Emission Factor as H2S corrected to 10% O2 as a 12-hour average.

References

1. Compliance testing and operating rates:
   1996: 26.7 lb PM/hr, 8.7 ppmvd TRS, and 7,961 hr/yr
   1997: 21.6 lb PM/hr, 10.6 ppmvd TRS, and 8,388 hr/yr
2. Based on AP-42 Section 10.2 and Tables 10.2-1 and 10.2-4.
3. Based on NCASI Technical Bulletin No. 650, Table 13C.
4. Based on NCASI Technical Bulletin No. 646, Tables 12-14.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. Five percent (5%) of SO2 becomes SO3, then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).
6. Based on NCASI Technical Bulletin No. 416, Table 6.

Table B-4. 1996-1997 Baseline Emissions From the Existing Bleach Plant, Smurfit-Stone Container, Panama City

Pollutant Name	Average Emission Factor (lb/ADTBP)	1996/1997 Average Process Rate (a) (ADTBP/yr)	Emission Rate (TPY)
Carbon Monoxide			
Hardwood	0.72 (b)	186,931	67.30
Softwood	0.88 (b)	119,513	52.59
TOTAL		306,444	119.88
Volatile Organic Compounds (measured as total hydrocarbons)	0.48 (c)	306,444	73.55
Total Reduced Sulfur	0.031 (d)	306,444	4.75

Notes:
ADTUBP = Air Dried Tons of Unbleached Bleached Pulp
ODTUBP = Oven Dried Tons of Unbleached Bleached Pulp
ADTBP = Air Dried Tons of Bleached Pulp
ODTBP = Oven Dried Tons of Bleached Pulp
lb/hr = pounds per hour
TPY = tons per year
Footnotes:
(a) Based on the average of 1996 (278,091 ADTBP) and 1997 (334,797 ADTBP) annual production and a hardwood/softwood split of 61%/39%.
(b) Emission factors based on data in NCASI Technical Bulletin No. 760, Carbon Monoxide Emissions from Oxygen Delignification and Chlorine Dioxide Bleaching of Wood Pulp, July 1998.
Bleaching Stages:
Hardwood: Existing bleach plant design is 25.78 lb ClO2/ODTUBP / 0.94 = 27.4 lb ClO2/ODTBP = 1.4%
Using NCASI equation for hardwood (Figure 11): CO = (-0.03 x %ClO2) + 0.69 lb/ODTBP
CO = 0.65 lb/ODTBP x 0.90 = 0.72 lb/ADTBP
Softwood: Existing bleach plant design is 35.5 lb ClO2/ODTUBP / 0.94 = 37.8 lb ClO2/ODTBP = 1.9%
Using NCASI equation for softwood (Figure 9): CO = (0.27 x %ClO2) + 0.38 lb/ODTBP
CO = 0.79 lb/ODTBP x 0.90 = 0.88 lb/ADTBP
(c) NCASI Technical Bulletin No. 701, Compilation of Air Toxic and Total Hydrocarbon Emissions Data for Sources at Chemical Wood Pulp Mills, Volume 1, October 1995, Table 3, for Mill BPII2.
(d) NCASI Technical Bulletin No. 701, Compilation of Air Toxic and Total Hydrocarbon Emissions Data for Sources at Chemical Wood Pulp Mills, Volume 1, October 1995, Table 3, for Mill BPIF2.

Table B-5. 1996-1997 Baseline Emissions from Pulping Area (Brown Stock Washing) at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
VOC	0.18 lb C/ton ADUP	1	636,224 ton ADUP/yr	57.3
Total reduced sulfur	0.22 lb/ton ADUP	2	636,224 ton ADUP/yr	70.0

Footnotes
(a) 1997 and 1996 average pulp production:
1996 = 606,445 ton ADUP
1997 = 666,002 ton ADUP
References:
1. Based on NCASI Technical Bulletin No. 701, page 89 (Table 5).
2. Based on NCASI Technical Bulletin No. 701, page 77, 79, and 81 (Table 5).

Table B-6. 1996-1997 Baseline Emissions from Lime Slaker at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
Particulate (PM)	0.41 lb/hr	1	8,177 hr/yr	1.7
Particulate (PM10)	100 % of PM	2	--	1.7
VOC	0.044 lb /ton CaO	3	142,503 ton CaO/yr	3.1
Total reduced sulfur	ND	3	--	--

ND = Non-detectable

Footnotes

(a) 1997 and 1996 CaO production:

1996 = 148,220 tons CaO (10% impurities)

1997 = 168,454 tons CaO (10% impurities)

References

1. Compliance testing and operating hours:
   1996: 0.44 lb PM/hr and 7,961 hr/yr
   1997: 0.37 lb PM/hr and 8,392 hr/yr
2. No data found, assume 100% of PM.
3. Based on NCASI Technical Bulletin No. 701,page 237 and Table 17.

Table B-7. 1996-1997 Baseline Emissions from the Woodyard at Stone Container, Panama City

SOURCE	Type of Operation (a)	M Moisture Content (%)	U Wind Speed (MPH)	Uncontrolled Emission Factor	Type of Control	Control Efficiency (%)	Controlled Emission Factor	Activity Factor	Maximum Annual PM Emissions (tons/yr)	PM10 Size Multiplier (c)	Maximum Annual PM10 Emissions (tons/yr)
ROUNDWOOD HANDLING											
Debarker	Debarking	--	--	0.024 lbs/ton (d)	Enclosure	80	0.00480 lbs/ton	1,243,926 TPY (e)	2.985	0.35	1.045
Chipper	Continuous Drop	30	7.8	0.00013 lbs/ton	None	0	0.00013 lbs/ton	1,243,926 TPY (e)	0.080	0.35	0.028
Chip Surge Bin to Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	1,243,926 TPY (e)	0.016	0.35	0.0056
Conveyor to Tower No. 1 Chip Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	1,243,926 TPY (e)	0.016	0.35	0.0056
BARK HANDLING											
Debarker to Bark Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	99,514 TPY (f)	0.0013	0.35	0.00045
Bark Conveyor to No. 1 Bark Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	99,514 TPY (f)	0.0013	0.35	0.00045
No. 1 Bark Diverter to Emergency Bark Storage Pile	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.00003 lbs/ton	0 TPY (f)	0.0000	0.35	0.00000
Emergency Bark Storage Pile	Wind Erosion	--	--	--	None	0	--	--	0.0094	1.0	0.0094
Unhogged Bark Storage Pile	Wind Erosion	--	--	--	None	0	--	--	0.0094	1.0	0.0094
Trucked Bark to Purchased Unhogged Bark Storage Pile	Batch Drop	30	7.8	0.00013 lbs/ton	None	0	0.00013 lbs/ton	221,087 TPY (g) (r)	0.0142	0.35	0.00498
Front End Loaded to Bark Hopper	Batch Drop	30	7.8	0.00013 lbs/ton	None	0	0.00013 lbs/ton	221,087 TPY (g) (r)	0.0142	0.35	0.00498
Wastewood Conveyor to No. 1 Bark Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	221,087 TPY (g) (r)	0.0026	0.35	0.00100
No. 1 Bark Diverter to Disc Screen	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	320,601 TPY (h)	0.0041	0.35	0.00144
Bark Hog	Hammermill	--	--	0.024 lbs/ton (d)	Enclosed	80	0.00480 lbs/ton	320,601 TPY (h)	0.769	1.0	0.769
Bark Hog to Hogged Bark Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	320,601 TPY (h)	0.0041	0.35	0.00144
Hogged Bark Conveyor to Hogged Bark Pile	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	320,601 TPY (h)	0.0041	0.35	0.00144
Hogged Bark Pile	Wind Erosion	--	--	--	None	0	--	--	0.0023	1.0	0.0023
Bark Bin Cyclone	Cyclone Vent	--	--	2.0 lb/hr	Cyclone	0	2.0 lb/hr	8,485 hr/yr	8.49	0.35	2.97
Bark Bin Cyclone to Small Bark Bin and Screw	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	320,601 TPY (h)	0.0041	0.35	0.00144
Small Bark Bin and Screw to Bark Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	320,601 TPY (h)	0.0041	0.35	0.00144
Bark Conveyor to No. 2 Bark Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	320,601 TPY (h)	0.0041	0.35	0.00144
Bark Storage Pile Maintenance	Vehicular Traffic	--	--	0.74 lbs/VMT	None	0	0.74 lbs/VMT	21,900 VMT (i)	8.103	0.35	2.836
PURCHASED CHIP HANDLING											
Truck Unloading (Chip Van Hopper)	Batch Drop	30	7.8	0.00013 lbs/ton	Covered	60	0.000051 lbs/ton	529,214 TPY (j) (p)	0.014	0.35	0.0048
Railcar Unloading (Chip Van Hopper)	Batch Drop	30	7.8	0.00013 lbs/ton	Covered	60	0.000051 lbs/ton	529,214 TPY (j) (p)	0.014	0.35	0.0048
Truck Unloading Conveyor to Tower No. 1 Chip Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	529,214 TPY (j)	0.007	0.35	0.0024
Railcar Unloading Conveyor to Tower No. 1 Chip Diverter	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	529,214 TPY (j)	0.007	0.35	0.0024
MANUFACTURED AND PURCHASED CHIP PROCESSING											
Tower No. 1 Diverter to Chip Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Chip Conveyor to Tower No. 2 Diverter (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Tower No. 2 Diverter to Chip Reclaim Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Chip Reclaim Coveyor to Radial Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Radial Conveyor to Chip Reclaimer Storage Pile (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Chip Reclaimer Storage Pile (2)	Wind Erosion	--	--	--	None	0	--	--	0.048	1.0	0.048
Chip Reclaimer Storage Pile to Chip Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Chip Conveyor to Tower No. 2 Diverter (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Tower No. 2 Diverter to Chip Screw (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Chip Screw to Primary Screen (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Chip Screens	Screening										
Softwood Primary Screen Cyclone	Cyclone Vent	--	--	2.0 lb/hr	Cyclone, Enclosure	80	0.40 lb/hr	8,485 hr/yr	1.697	0.35	0.594
Hardwood Primary Screen Cyclone	Cyclone Vent	--	--	2.0 lb/hr	Enclosure	80	0.40 lb/hr	8,485 hr/yr	1.697	0.35	0.594
Primary Screen to Secondary Screen (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,202,841 TPY (k)	0.026	0.35	0.010
Secondary Screen to Chip Conveyor (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	1,541,989 TPY (l)	0.020	0.35	0.007
Screen Building Rejects Cyclone	Cyclone Vent	--	--	2.0 lb/hr	None	0	2.0 lb/hr	8,485 hr/yr	8.485	0.35	2.970
Screen Building Rejects Cyclone to Chip Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Covered	60	0.000051 lbs/ton	660,852 TPY (m)	0.017	0.35	0.006
Fines Blowline Emergency Storage Pile	Wind Erosion	--	--	--	None	0	--	--	0.00017	1.0	0.00017
Fines Blowline Cyclone	Cyclone Vent	--	--	2.0 lb/hr	None	0	2.0 lb/hr	8,485 hr/yr	8.485	0.35	2.97
Fines Blowline Cyclone to Wastewood/Sludge Conveyor	Continuous Drop	30	7.8	0.00013 lbs/ton	Covered	60	0.000051 lbs/ton	44,057 TPY (n) (q)	0.001	0.35	0.000
Chip Conveyor to No. 5 Transfer Tower (2)	Continuous Drop	30	7.8	0.00013 lbs/ton	Enclosed	80	0.000026 lbs/ton	2,158,784 TPY (o)	0.028	0.35	0.010
TOTAL									41.34		15.01

Notes:

(a) Batch Drop and Continuous Drop Emission Factors are computed from AP-42 (US EPA, 1995) Section 13.2.4-3(1). $E = 0.0032 \times (U/5)^{1.3} / (M/2)^{1.4}$ lb/ton

(b) Wind Erosion Emissions based on AP-42 (US EPA, 1995) Section 13.2.5. Refer to Attachment A for derivation.

(c) PM10 Size Multiplier is based on particles < 10 micrometers.

(d) Debarker emissions are based on Table 28 of NCASI Technical Bulletin No. 424 (March 1984), Fugitive Dust Emission Factors and Control Methods Important to Forest Products Industry Manufacturing Operations.

(e) Average roundwood throughput is based on 2.7 tons/cord for softwood and 2.85 tons/cord hardwood.
1997: 337,335 cords/yr (softwood) and 126,410 cords/yr (hardwood)
1996: 321,192 cords/yr (softwood) and 122,653 cords/yr (hardwood)

(f) Bark throughput is based on 8 percent of roundwood.

(g) Based on purchased bark.

(h) Total bark throughput is sum of manufactured and purchased bark.

(i) Vehicle miles traveled (VMT) was calculated assuming front end loader operating 12 hrs/day, 365 days/yr in the woodyard.

(j) Purchased chip throughput is based on 2.5 tons/cord.
1997: 94,746 cords/yr (softwood) and 370,474 cords/yr (hardwood)
1996: 98,124 cords/yr (softwood) and 283,399 cords/yr (hardwood)

(k) Total chip throughput is based on 92 percent of roundwood throughput plus purchased chip throughput.

(l) Based on 70% of total chip throughput.

(m) Based on 30% of total chip throughput.

(n) Fines separated from wood chip stream.

(o) Total chips minus fines.

(p) Assume 50% of chips transported by railcar and 50% by truck.

(q) Assume 2% fines.

(r) Bark burned in Nos. 3 and 4 Bark Boilers minus bark from roundwood.

Table B-8. 1996-1997 Baseline Emissions from Chemical Recovery Area at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor	Annual Emissions (TPY)
VOC				
Black Liquor Oxidation Towers	0.34 lb C/ton ADUP	1	636,224 ton ADUP/yr (a)	108.2
Causticizers	0.044 lb C/ton CaO	4	142,503 ton CaO/yr (b)	3.1
Lime Mud Filters/Associated Equipment	0.0041 lb C/ton CaO	4	142,503 ton CaO/yr (b)	0.3
Black Liquor Tanks (2)	0.091 lb/tank/hr	2	8,760 hr/yr (d)	0.8
Black Liquor Oxidation Tank	0.1 lb/ton BLS	3	941,010 ton BLS/yr (c)	47.1
Green Liquor Clarifiers and Tanks	0.0014 lb C/ton CaO	4	142,503 ton CaO/yr (b)	0.1
			TOTAL VOC's	159.5
Total Reduced Sulfur				
Black Liquor Oxidation Towers	ND	1	--	--
Causticizers	ND	4	--	--
Lime Mud Filters/Associated Equipment	0.0005 lb /ton CaO	4	142,503 ton CaO/yr (b)	0.036
Black Liquor Tanks (2)	0.18 lb/tank/hr	2	8,760 hr/yr (d)	1.6
Black Liquor Oxidation Tank	0.0271 lb/ton BLS	3	941,010 ton BLS/yr (c)	12.8
Green Liquor Clarifiers and Tanks	7.01E-04 lb C/ton CaO	4	142,503 ton CaO/yr (b)	0.050
			TOTAL TRS	14.4

ND = Non-detectable

Footnotes

(a) 1996-1997 pulp production:
1996 = 606,445 ton ADUP
1997 = 666,002 ton ADUP

(b) 1996-1997 CaO production:
1996 = 148,220 tons CaO (10% impurities)
1997 = 168,454 tons CaO (10% impurities)

(c) Based on 1996-1997 BLS processed:
1996: 899,089 tons burned
1997: 982,931 tons burned

(d) Two tanks operating 8,760 hr/yr.

References

1. Based on NCASI Technical Bulletin No. 646, pages 27 and 28.
2. Based on NCASI Technical Bulletin No. 701, pages 111-115 (Table 7).
3. Based on NCASI Technical Bulletin No. 701, pages 145-154 (Table 11).
4. Based on NCASI Technical Bulletin No. 701, pages 237-240 (Table 17).

Table B-9. 1996-1997 Baseline Emissions from Paper Making Area at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
VOC	0.60 lb C/ton ADUP	1	636,224 ton ADUP/yr	190.9
Total reduced sulfur	ND	1	--	--

Footnotes
(a) 1996-1997 pulp production:
1996 = 606,445 ton ADUP
1997 = 666,002 ton ADUP

References
1. Based on NCASI Technical Bulletin No. 701,page 3 and Table 18.

Table B-10. 1996-1997 Baseline Emissions from No. 1 Smelt Dissolving Tank at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
Particulate (PM)	17.31 lb/hr	1	8,044 hr/yr	69.6
Particulate (PM10)	89.5 % of PM	2	--	62.3
Sulfur dioxide	0.016 lb/ton BLS	3	467,317 tons BLS/yr	3.74
Nitrogen oxides	0.033 lb/ton BLS	3	467,317 tons BLS/yr	7.71
Carbon monoxide	--		--	--
VOC	0.062 lb/ton BLS	3	467,317 tons BLS/yr	14.5
Sulfuric acid mist	5 % of SO2	5	--	0.23
Total reduced sulfur	0.65 lb/hr	1	8,044 hr/yr	2.61
Lead	1.7E-05 lb/ton BLS	4	467,317 tons BLS/yr	4.0E-03
Mercury	1.8E-07 lb/ton BLS	4	467,317 tons BLS/yr	4.2E-05
Beryllium	1.4E-07 lb/ton BLS	4	467,317 tons BLS/yr	3.3E-05
Fluorides	--		--	--

ton = 2000 lb.

note:

(a) BLS input rate based on 1997 and1996 BLS burned in No. 1 Recovery Boiler:
1996: 438,755 tons burned
1997: 495,878 tons burned

References:

1. Based on the 1996 and 1997 compliance tests and operating data:
1996 = 14.79 lb PM/hr and 0.5 lbTRS/hr; for 7,573 hr/yr
1997 = 19.82 lb PM/hr and 0.8 lbTRS/hr; for 8,515 hr/yr
2. AP-42, Table 10.2-7.
3. Data is averages from NCASI Bulletin No. 646, Tables 16-18, for smelt dissolving tanks with scrubbers.
4. Data is averages from NCASI Bulletin No. 650, Tables 14A and 14B, for smelt dissolving tanks with scrubbers.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. Five percent (5%) of SO2 becomes SO3, then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).

Table B-11. 1996-1997 Baseline Emissions from No. 2 Smelt Dissolving Tank at Stone Container, Panama City.

Regulated Pollutant	Emission Factor	Reference	Activity Factor (a)	Annual Emissions (TPY)
Particulate (PM)	23.7 lb/hr	1	8,230 hr/yr	97.4
Particulate (PM10)	89.5 % of PM	2	--	87.2
Sulfur dioxide	0.016 lb/ton BLS	3	473,694 tons BLS/yr	3.79
Nitrogen oxides	0.033 lb/ton BLS	3	473,694 tons BLS/yr	7.82
Carbon monoxide	--		--	--
VOC	0.062 lb/ton BLS	3	473,694 tons BLS/yr	14.68
Sulfuric acid mist	5 % of SO2	5	--	0.23
Total reduced sulfur	0.76 lb/hr	1	8,230 hr/yr	3.13
Lead	1.7E-05 lb/ton BLS	4	473,694 tons BLS/yr	4.0E-03
Mercury	1.8E-07 lb/ton BLS	4	473,694 tons BLS/yr	4.3E-05
Beryllium	1.4E-07 lb/ton BLS	4	473,694 tons BLS/yr	3.3E-05
Fluorides	--		--	--

ton = 2000 lb.
note:
(a) BLS input rate based on 1996-1997 BLS burned in No. 2 Recovery Boiler:
1996: 460,334 tons burned
1997: 487,053 tons burned

References:
1. Based on the 1997 and 1996 compliance tests and operating data:
1996 = 26.04 lb PM/hr and 0.62 lb TRS/hr; for 8,010 hr/yr
1997 = 21.3 lb PM/hr and 0.9 lb TRS/hr; for 8,449 hr/yr
2. AP-42, Table 10.2-7.
3. Data is averages from NCASI Bulletin No. 646, Tables 16-18, for smelt dissolving tanks with scrubbers.
4. Data is averages from NCASI Bulletin No. 650, Tables 14A and 14B, for smelt dissolving tanks with scrubbers.
5. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil. Five precent (5%) of SO2 becomes SO3, then take into account the ratio of sulfuric acid mist and gaseous sulfate molecular weights (98/80).

APPENDIX C

BACT/LAER CLEARINGHOUSE INFORMATION

DIGESTER SYSTEMS

Summary of BACT Determinations for TRS Emissions From Digester Systems in Pulp Mills

Company	State	Permit Issue date	Throughput	Emission Limit	Control Equipment
Georgia-Pacific	FL	9/21/95	1,850 TPD ADUP(mth avg.)	5 ppmvd @ 8% O2	Incineration
Alabama River Pulp	AL	1/22/90	5.5 MM lb BLS/day	None	Incineration
Union Camp	SC	5/1/89	1,463 ADTP/day	None	Incineration
Mead Coated Board	AL	10/1/88	--	None	Incineration

Source: BACT/RACT/LAER Clearinghouse Database, July 1999

Summary of BACT Determinations for VOC Emissions From Digester Systems in Pulp Mills

Company	State	Permit Issue date	Throughput	Emission Limit	Control Equipment
RIVERWOOD INTERNATIONAL CORP	GA	7/11/96	1,000 TPD PULP	--	INCINERATOR

Source: BACT/RACT/LAER Clearinghouse Database, July 1999

RECOVERY BOILERS

Summary of BACT Determinations for PM/PM10 Emissions from Recovery Boilers

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Percent Control
GULF STATES PAPER CORP	AL	12/10/1997	3.94 MM lb BLS/day	0.021 gr/dscf @ 8% O2	ESP	99.700
MEAD COATED BOARD, INC.	AL	10/9/1996	2.7 MM lb BLS/day	0.036 gr/dscf @ 8% O2	ESP	99.450
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lb BLS/day	0.023 gr/dscf @ 8% O2	ESP	99.750
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	4 MM lb BLS/day	0.021 gr/dscf	ESP	--
GEORGIA-PACIFIC CORP	FL	9/21/1995	5.04 MM lb BLS/day	0.030 gr/dscf @ 8% O2	ESP	--
PENNTECH PAPERS INC.	PA	12/9/1992	630 ADT/day	0.027 gr/dscf @ 8% O2	ESP	99.700
Leaf River Forest	MS	7/14/1992	6.4 MM lb BLS/day	0.040 gr/dscf @ 8% O2	--	--
BOISE CASCADE CORP	AL	4/1/1992	32,600 MM lb BLS/hr	0.021 gr/dscf @ 8% O2	ESP	99.700
James River Corp	WA	9/26/1991	523 MMBtu/hr	0.033 gr/dscf @ 8% O2	ESP + H/R scrubber	99.5
GEORGIA-PACIFIC CORP	FL	6/12/1991	5.04 MM lb BLS/day	0.033 gr/dscf @ 8% O2	ESP	--
Gulf States Paper	AL	3/12/1991	3.3 MM lb BLS/day	0.025 gr/dscf @ 8% O2	ESP	99.7
Chesapeake Corp	VA	3/1/1991	3.0 MM lb BLS/day	0.030 gr/dscf @ 8% O2	ESP	99.8
Riverwood International	GA	12/21/1990	3.5 MM lb BLS/day	0.027 gr/dscf @ 8% O2	ESP	99.9
Longview Fibre	WA	7/27/1990	1,100 ADP t/day	0.027 gr/dscf @ 8% O2	ESP	99.8
Alabama River Pulp	AL	1/22/1990	5.5 MM lb BLS/day	0.025 gr/dscf @ 8% O2	ESP	99.6
Great Southern Paper	GA	12/8/1989	3.05 MM lb BLS/day	46.000 lb/hr	ESP	99.6

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for SO2 Emissions from Recovery Boilers

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GULF STATES PAPER CORPORATION	AL	12/10/1997	3.94 MM lb BLS/day	100 ppmvd @ 8% O2	PROPER DESIGN/OPERATON
MEAD COATED BOARD, INC.	AL	10/9/1996	2.7 MM lb BLS/day	144 ppmvd @ 8% O2	BOILER DESIGN/COMBUSTION CONTROL
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lb BLS/day	220 ppmvd @ 8% O2	FURNACE DESIGN/EFFICIENT OPERATION
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	4 MM lb BLS/day	75 ppm	GOOD COMBUSTION CONTROL
PENNTECH PAPERS INC.	PA	12/9/1992	630 ADT/day	110 ppm @ 8% O2	PROPER DESIGN
Leaf River Forest	MS	7/14/1992	6.4 MM lb BLS/day	300 ppm @ 8% O2	Combustion Control
Potlatch Corporation	ID	12/3/1984	--	79 lb/hr	--

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for NOx Emissions from Recovery Boilers

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GULF STATES PAPER CORP.	AL	12/10/1997	3.94 MM lb BLS/day	90 ppmvd @ 8% O2	PROPER DESIGN AND OPERATION
MEAD COATED BOARD, INC.	AL	10/9/1996	2.7 MM lb BLS/day	112 ppmvd @ 8% O2	COMBUSTION CONTROL
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lb BLS/day	80 ppmvd @ 8% O2	STAGED COMBUSTION
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	4 MM lb BLS/day	100 ppm	GOOD COMBUSTION CONTROL
GEORGIA-PACIFIC CORP.	FL	9/21/1995	5.04 MM lb BLS/day	80 ppmvd @ 8% O2	COMBUSTION CONTROL TECHNOLOGY
PENNTECH PAPERS INC.	PA	12/9/1992	630 ADTP/day	110 ppm AT 8% O2	GOOD DESIGN AND OPERATION
Leaf River Forest	MS	7/14/1992	6.4 MM lb BLS/day	110 ppmvd @ 8% O2	Combustion Control
BOISE CASCADE CORP.	AL	4/1/1992	32,600 lb BLS/day	115 ppmvd @ 8% O2	NOT DESIGNED
James River Corp	WA	9/26/1991	523 MMBtu/hr	2 lb/ ADUT	--
GEORGIA-PACIFIC CORP.	FL	6/12/1991	5.04 MM lb BLS/day	100 ppmvd @ 8% O2	COMBUSTION CONTROL
Leaf River Forest	MS	4/9/1991	6.0 MM lb BLS/day	80 ppmvd @ 8% O2	--
Gulf States Paper	AL	3/12/1991	3.3 MM lb BLS/day	90 ppmvd @ 8% O2	--
Chesapeake Corp	VA	3/1/1991	3.0 MM lb BLS/day	112 ppmvd @ 8% O2	--
International Paper	LA	2/24/1991	1,117 ADP tons/day	100 ppmvd @ 8% O2	--
Williamette Industries	LA	2/4/1991	1,400 ADP tons/day	206 lb/hr	--
Riverwood International	GA	12/21/1990	3.5 MM lb BLS/day	120 ppm	--
James River Pennington	AL	8/16/1990	5.4 MM lb BLS/day	115 ppmvd @ 8% O2	--
Longview Fibre	WA	7/27/1990	1,100 ADP tons/day	95 ppmvd @ 8% O2	--
Alabama River Pulp	AL	1/22/1990	5.5 MM lb BLS/day	75 ppmvd @ 8% O2	--
Great Southern Paper	GA	12/9/1989	3.05 MM lb BLS/day	120 lb/MMBtu	--
Consolidated Papers, Inc	WI	1/1/1987	1.4 MM lb BLS/day	80 ppmvd	Proper Combustion

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for CO Emissions from Recovery Boilers

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
U S ALLIANCE	AL	9/25/1998	–	200 ppm	–
GULF STATES PAPER CORP	AL	12/10/1997	3.94 MM lb BLS/day	250 ppmvd @ 8% O2	PROPER DESIGN AND OPERATION
MEAD COATED BOARD, INC.	AL	10/9/1996	2.7 MM lb BLS/day	300 ppmvd @ 8% O2	BOILER DESIGN/COMBUSTION CONTROL
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lb BLS/day	300 ppmvd @ 8% O2	EFFICIENT OPERATION
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	4 MM lb BLS/day	200 ppm	GOOD COMBUSTION CONTROL
GEORGIA-PACIFIC CORP	FL	9/21/1995	5.04 MM lb BLS/day	800 ppm @ 8% O2 (3-hr) 400 ppm @ 8% O2 (24-hr)	GOOD COMBUSTION/COMBUSTION CONTROL
PENNTECH PAPERS INC.	PA	12/9/1992	630 ADT/day	300 ppm @ 8% O2	GOOD COMBUSTION
Leaf River Forest	MS	7/14/1992	6.4 MM lb BLS/day	300 ppmvd @ 8% O2	Combustion Control
James River Corp	WA	9/26/1991	523 MMBtu/hr	2755 TPY	–
GEORGIA-PACIFIC CORP	FL	6/12/1991	5.04 MM lb BLS/day	400 ppmvd @ 8% O2	COMBUSTION CONTROL
Leaf River Forest	MS	4/9/1991	6.0 MM lb BLS/day	300 ppmvd @ 8% O2	–
Gulf States Paper	AL	3/12/1991	3.3 MM lb BLS/day	300 ppmvd @ 8% O2	–
Chesapeake Corp	VA	3/1/1991	3.0 MM lb BLS/day	250 ppmvd @ 8% O2	–
International Paper	LA	2/24/1991	1,117 ADP tons/day	250 ppmvd	–
Williamette Industries	LA	2/4/1991	1,400 ADP tons/day	350 lb/hr	–
Riverwood International	GA	12/21/1990	3.5 MM lb BLS/day	146.5 lb/hr	–
Longview Fibre	WA	7/27/1990	1,100 ADP tons/day	300 ppmvd @ 8% O2	–
Alabama River Pulp	AL	1/22/1990	5.5 MM lb BLS/day	200 ppmvd @ 8% O2	–
Great Southern Paper	GA	12/8/1989	3.05 MM lb BLS/day	11 lb/ton ADP	–

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for TRS Emissions from Recovery Boilers

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GULF STATES PAPER CORP	AL	12/10/1997	3.94 MM lb BLS/day	5 ppmvd @ 8% O2	PROPER DESIGN AND OPERATION
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lb BLS/day	5 ppmvd @ 8% O2	EFFECTIVE OPERATION
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	4 MM lb BLS/day	5 ppmvd @ 8% O2	GOOD COMBUSTION CONTROL
Georgia-Pacific	FL	9/21/1995	5.04 MM lb BLS/day	7 ppmvd @ 8% O2 (annual) 11.2 ppmvd @ 8% O2 (12 hour)	GOOD COMBUSTION CONTROL GOOD COMBUSTION CONTROL
Louisiana-Pacific	CA	10/18/1993	--	5.0 ppm	Process Design
PENNTECH PAPERS INC.	PA	12/9/1992	630 ADT/day	5 ppmvd @ 8% O2	CONTROLLED BY DESIGN
Leaf River Forest	MS	7/14/1992	6 MM lb BLS/day	5.0 ppm @ 8% O2	Combustion Control
James River Corp	WA	9/26/1991	523 MMBtu/hr	5.0 ppm @ 8% O2	Caustic Liqour Scrubber
Gulf States Paper	AL	3/12/1991	3 MM lb BLS/day	5.0 ppm @ 8% O2	--
Chesapeake Corp	VA	3/1/1991	3 MM lb BLS/day	5.0 ppm @ 8% O2	--
International Paper	LA	2/24/1991	1,117 ADP t/day	5.0 ppm @ 8% O2	--
Riverwood International	GA	12/21/1990	3.5 MM lb BLS/day	5.0 ppm	--
Longview Fibre	WA	7/27/1990	1,100 ADP t/day	3.0 ppm @ 8% O2	--
Alabama River Pulp	AL	1/22/1990	5.5 MM lb BLS/day	5.0 ppm @ 8% O2	--
Great Southern Paper	GA	12/8/1989	3.05 MM lb BLS/day	4.74 lb/hr	--

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for VOC Emissions from Recovery Boilers

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GULF STATES PAPER CORP	AL	12/10/1997	3.94 MM lbs BLS/day	0.03 lbs/MMBTU	PROPER DESIGN AND OPERATION
MEAD COATED BOARD, INC.	AL	10/9/1996	2.7 MM lbs BLS/day	0.048 lbs/MMBTU	BOILER DESIGN/COMBUSTION CONTROL
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lbs/DAY	0.60 lbs/short ton BLS	EFFICIENT OPERATION
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	4 MM lbs BLS/day	40 ppm	GOOD COMBUSTION CONTROL
GEORGIA-PACIFIC CORP	FL	9/21/1995	5.04 MM lbs BLS/day	0.30 lbs/ton BLS	GOOD COMBUSTION/COMBUSTION CONTROL
BOISE CASCADE CORP.	MN	6/30/1994	571 MMBTU/hr	0.60 lbs/BDT of BLS	COMBUSTION CONTROL
Penntech Papers Inc.	PA	12/9/1992	630 ADP tons/day	18.2 lb/hr	--
James River Corp	WA	9/26/1991	523 MMBtu/hr	219 TPY	--
GEORGIA-PACIFIC CORP	FL	6/12/1991	5.04 MM lbs BLS/day	0.52 lbs/ton BLS	COMBUSTION CONTROL
Gulf States Paper	AL	3/12/1991	3.3 MM lb BLS/day	0.048 lb/MMBtu	--
Chesapeake Corp	VA	3/1/1991	3.0 MM lb BLS/day	0.048 lb/MMBtu	--
International Paper	LA	2/24/1991	1,117 ADP tons/day	50.0 ppmv	--
Williamette Industries	LA	2/4/1991	1,400 ADP tons/day	116.6 lb/hr	--
Longview Fibre	WA	7/27/1990	1,100 ADP tons/day	1 tons/day	--
Alabama River Pulp	AL	1/22/1990	5.5 MM lb BLS/day	0.048 lb/MMBtu	--

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for Sulfuric Acid Mist Emissions from Recovery Boilers

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GULF STATES PAPER CORP	AL	12/10/1997	3.94 MM lbs BLS/day	0.04 lb/ton BLS	--
MEAD COATED BOARD, INC.	AL	10/9/1996	2.7 MM lbs BLS/day	12.20 lbs/hr	BOILER DESIGN
GEORGIA-PACIFIC	FL	9/21/1995	5.04 MM lbs BLS/day	0.81 ppmvd	ESP

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

SMELT DISSOLVING TANKS

Summary of BACT Determinations for PM/PM10 Emissions from Smelt Dissolving Tanks

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Percent Control
GULF STATES PAPER CORPORATION	AL	12/10/1997	3.94 MM lbs BLS/day	0.12 lb/ton BLS	WET SCRUBBER	98.0
PENNTECH PAPERS INC.	PA	12/9/1992	630 ADT/day	0.20 lb/ton BLS	VENTURI SCRUBBER	92.9
GEORGIA-PACIFIC CORPORATION	FL	6/12/1991	70 TPY	0.12 lb/ton BLS	WET SCRUBBER	95.0
BOISE CASCADE CORPORATION	AL	4/1/1992	32,600 lbs BLS/hr	0.12 lb/ton BLS	WET SCRUBBER	97.6
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lbs BLS/day	0.12 lb/ short ton BLS	WET SCRUBBER	100.0

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for TRS Emissions from Smelt Dissolving Tanks

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Percent Control
INTERNATIONAL PAPER CO. - RIVERDALE	AL	4/15/1997	- -	0.033 lb/ton BLS	--	--
GULF STATES PAPER CORPORATION	AL	12/10/1997	3.94 MM lbs BLS/day	0.033 lb/ton BLS	--	85
PENNTECH PAPERS INC.	PA	12/9/1992	630 ADT/DAY	18.5 ppmvd AT 10% O2	--	--
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lbs BLS/day	0.033 lb/ton BLS	OPERATIONAL CONTROL	--

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for SO2 Emissions from Smelt Dissolving Tanks

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Percent Control
GULF STATES PAPER CORPORATION	AL	12/10/1997	3.94 MM lbs BLS/day	0.05 lb/ton BLS	WET SCRUBBER AND LOW SULFIDE WATER	70
PENNTECH PAPERS INC.	PA	12/9/1992	630 ADT/day	61 ppmvd AT 8% O2	FUEL SPEC: LOW SULFUR COAL	--
WEYERHAEUSER COMPANY	MS	9/10/1996	7 MM lbs BLS/day	0.1 lb/ton BLS	WET SCRUBBER	--

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

LIME KILNS

Summary of BACT Determinations for PM/PM10 Emissions from Lime Kilns

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Percent Control
GEORGIA-PACIFIC CORPORATION	FL	6/12/1991	750 tons CaO/day	0.081 GR/DSCF AT 10% O2	WET SCRUBBER	99
RIVERWOOD INTERNATIONAL CORPORATION	GA	7/11/1996	8.4 tons CaO/day/kiln	0.13 GR/DSCF	VENTURI SCRUBBER	--
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	450 tons CaO/day	0.033 GR/DSCF	ESP	99
WEYERHAEUSER COMPANY	MS	9/10/1996	504 tons CaO/day	0.033 GR/DSCF @10% O2	ESP	--
BUCKEYE FLORIDA, L.P.	FL	8/13/1996	750 tons CaO/day	20 lb/hr	ESP	--

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for SO2 Emissions from Lime Kilns

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
WEYERHAEUSER COMPANY	MS	9/10/1996	504 tons CaO/day	50 ppmvd @10% O2	CONTINUED USE OF LOW-SULFUR FUELS
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	450 tons CaO/day	30 ppm	KILN OPERATION

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for NOx Emissions from Lime Kilns

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GEORGIA-PACIFIC CORPORATION	FL	6/12/1991	750 tons CaO/day	290 ppmvd AT 10% O2	COMBUSTION CONTROL
RIVERWOOD INTERNATIONAL CORP	GA	7/11/1996	8.4 tons CaO/day/kiln	3.5 lb/ton CaO	LOW NOX BURNERS
WEYERHAEUSER COMPANY	MS	9/10/1996	504 tons CaO/day	300 ppmvd @3.6% O2	EFFECTIVE OPERATION OF THE KILN
CHAMPION INTERNATIONAL CORP	FL	3/25/1994	--	200 ppm	GOOD COMBUSTION
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	450 tons CaO/day	175 ppm	GOOD COMBUSTION CONTROL
BUCKEYE FLORIDA, L.P.	FL	8/13/1996	750 tons CaO/day	68.44 lb/hr	GOOD COMBUSTION/BURNER MODIFICATIONS

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for CO Emissions from Lime Kilns

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GEORGIA-PACIFIC CORPORATION	FL	6/12/1991	750 tons CaO/day	69 ppmvd AT 10% O2	COMBUSTION CONTROL
WEYERHAEUSER COMPANY	MS	9/10/1996	504 tons CaO/day	50 lbs/hr	EFFICIENT OPERATION OF THE KILN
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	450 tons CaO/day	75 ppm	GOOD COMBUSTION CONTROL

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for VOC Emissions from Lime Kilns

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GEORGIA-PACIFIC CORPORATION	FL	6/12/1991	750 tons CaO/day	185 ppmvd AT 10% O2	COMBUSTION CONTROL
WEYERHAEUSER COMPANY	MS	9/10/1996	504 tons CaO/day	1 lbs/ton of CAO	EFFICIENT OPERATION OF KILN
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	450 tons CaO/day	50 ppm	GOOD COMBUSTION CONTROL

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for TRS Emissions from Lime Kilns

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
WEYERHAEUSER COMPANY	MS	9/10/1996	504 tons CaO/day	8 ppmvd @10% O2	EFFICIENT LIME MUD WASHING AND EFFICIENT KILN OPERATION
WILLAMETTE INDUSTRIES - MARLBORO MILL	SC	4/17/1996	450 tons CaO/day	8 ppm @ 8% O2	--

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

BLEACH PLANTS

Summary of BACT Determinations for from Bleach Plants

Company/Pollutant	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Percent Control
PM/PM10						
WEYERHAEUSER COMPANY	MS	9/10/1996	--	0.55 lbs/hr	VENTURI SCRUBBER	--
CO						
WEYERHAEUSER COMPANY	MS	9/10/1996	--	69 lbs/hr	EFFICIENT OPERATION	--
GEORGIA-PACIFIC	FL	6/20/1999	1,350 TPD ADBP	46 lb/hr; 201 TPY		
VOC						
WEYERHAEUSER COMPANY	MS	9/10/1996	--	--	--	--
CHLOROFORM						
JAMES RIVER PAPER CO., INC.	NH	5/18/1993	750 ADT/day	30.25 lbs/hr	--	--
CL						
JAMES RIVER PAPER CO., INC.	NH	5/18/1993	750 ADT/day	2.5 lbs/hr	SCRUBBER	93.9
CL2						
JAMES RIVER PAPER CO., INC.	NH	5/18/1993	750 ADT/day	0.73 lbs/hr	SCRUBBER	99

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

PAPER MACHINES

Summary of BACT Determinations for NOx Emissions from Paper Machines

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GULF STATES PAPER CORPORATION	AL	12/10/97	–	--	LOW NOX BURNERS ON DRYERS

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

Summary of BACT Determinations for VOC Emissions from Paper Machines

Company	State	Permit Issue Date	Throughput	Emission Limit	Control Equipment
MEAD COATED BOARD, INC.	AL	10/9/96	150,000 MDTPD	--	USE OF MILL SUPPLY WATER, NON-DIRECT CONTACT CONDENSATES, CLEAN CONDENSATES, WELL WATER, OR WHITE WATER
MEAD COATED BOARD, INC.	AL	10/9/96	150,000 MDTPD	--	USE OF MILL SUPPLY WATER, NON-DIRECT CONTACT CONDENSATES, CLEAN CONDENSATES, WELL WATER, OR WHITE WATER
GULF STATES PAPER CORPORATION	AL	12/10/97	--	--	WATERBORNE COATING TECHNOLOGY

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

MISCELLANEOUS SOURCES

Summary of BACT Determinations from Miscellaneous Paper Mill Sources

Company/Pollutant	State	Source	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Percent Control
CO							
WEYERHAEUSER COMPANY	MS	OXYGEN DELIGNIFICATION	9/10/96	--	0.5 lbs/BDMT	EFFICIENT OPERATION	--
PM							
RIVERWOOD INTERNATIONAL CORP	GA	WOOD CHIP HANDLING SYSTEM	7/11/96	--	--	--	--
SO2							
LOUISIANA PACIFIC	CA	FOUL CONDENSATE STRIPPER	10/18/93	--	12.3 lbs/hr	CAUSTIC SCRUBBING	99
TRS							
LOUISIANA PACIFIC	CA	FOUL CONDENSATE STRIPPER	10/18/93	--	< 5 ppm	INCINERATOR	--
VOC							
RIVERWOOD INTERNATIONAL CORP	GA	BROWNSTOCK WASHING	7/11/96	1,000 TPD PULP	--	MACT	--
LEAF RIVER FOREST PRODUCTS	MS	ATMOSPHERIC DIFFUSION WASHER	9/26/95	--	8.1 lbs/hr	--	--
LEAF RIVER FOREST PRODUCTS	MS	OXYGEN REACTOR BLOWTUBE	9/26/95	--	37.8 lbs/hr	--	--
INTERNATIONAL PAPER	LA	REPULPERS	2/24/94	1,810 BDT PULP/DAY	4.6 lbs/hr CONTINUOUS	--	--
INTERNATIONAL PAPER CO	MS	PRESS SECTION	12/17/96	--	--		--

Source: EPA's RACT/BACT/LAER Clearinghouse, July 1999

APPENDIX D

IWAQM PHASE II CALPUFF PARAMETER SETTINGS

Table D-1. IWAQM Phase II Calpuff Parameter Settings Used in the CALPUFF- Lite Regional Haze Analysis						
	SSC Panama City Mill,					
	Input Group					Modeled
Number	Description	Variable	Seq	Description	Default Value	Value
1	Run Control	METRUN	1	Do we run all periods (1) or a subset (0)?	0	0
1		IBYR	2	Beginning year	User Defined	90
1		IBMO	3	Beginning month	User Defined	1
1		IBDY	4	Beginning day	User Defined	6
1		IBHR	5	Beginning hour	User Defined	0
1		IRLG	5	Length of run (hours)	User Defined	8760
1		NSPEC	6	Number of species modeled (for MESOPUFF II chemistry)	5	6
1		NSE	7	Number of species emitted	3	3
1		ITEST	8		2	2
1		MRESTART	9	Restart options (0 = no restart) allows splitting runs into smaller segments	0	0
1		NRESPD	10		0	0
1		METFM	11	Format of input meteorology (1 = CALMET, 2 = ISC)	1	1
1		AVET	12	Averaging time lateral dispersion parameters (minutes)	60	60
2	Tech Options	MGAUSS	1	Near-field vertical distribution (1 = Gaussian)	1	1
2		MCTADJ	2	Terrain adjustments to plume path (3 = Plume path)	3	3
2		MCTSG	3	Do we have subgrid hills? (0 = No) allows CTDM-like treatment for subgrid scale hills	0	0
2		MSLUG	4	Near-field puff treatment (0 = No slugs)	0	0
2		MTRANS	5	Model transitional plume rise? (1 = Yes)	1	1
2		MTIP	6	Treat stack tip downwash? (1 = Yes)	1	1
2		MSHEAR	7	Treat vertical wind shear? (0 = No)	0	1
2		MSPLIT	8	Allow puffs to split? (0 = No)	0	0
2		MCHEM	9	MESOPUFF-II Chemistry? (1 = Yes)	1	1
2		MWET	10	Model wet deposition? (1 = Yes)	1	1
2		MDRY	11	Model dry deposition? (1 = Yes)	1	1
2		MDISP	12	Method for dispersion coefficients (3 = PG & MP)	3	3
2		MTURBVW	13	Turbulence characterization? (Only if MDISP = 1 or 5)	3	0
2		MDISP2	14	Backup coefficients (Only if MDISP = 1 or 5)	3	4
2		MROUGH	15	Adjust PG for surface roughness? (0 = No)	0	0
2		MPARTL	16	Model partial plume penetration? (0 = No)	1	1
2		MTINV	17	Elevated inversion strength (0 = compute from data)	0	0
2		MPDF	18	Use PDF for convective dispersion? (0 = No)	0	0
2		MSGTIBL	19	Use TIBL module? (0 = No) allows treatment of subgrid scale coastal areas	0	0
2		MREG	20	Regulatory default checks? (1 = Yes)	1	0
3	Species List	CSPECn		Names of species modeled (for MESOPUFF II must be SO2-SO4-NOX-HNO3-NO3, PM10	User Defined	ALL 6
3		Specie Groups		Grouping of species if any	User Defined	NA
3		Specie Names		Manner species will be modeled	User Defined	
4	Grid Control	NX	1	Number of east-west grids of input meteorology	User Defined	2
4		NY	2	Number of north-south grids of input meteorology	User Defined	2
4		NZ	3	Number of vertical layers of input meteorology	User Defined	1

Table D-1. IWAQM Phase II Calpuff Parameter Settings Used in the CALPUFF- Lite Regional Haze Analysis						
	SSC Panama City Mill,					
Number	Input Group Description	Variable	Seq	Description	Default Value	Modeled Value
4		DGRIDKM	4	Meteorology grid spacing (km)	User Defined	175
4		ZFACE	5	Vertical cell face heights of input meteorology	User Defined	0., 5000
4		XORIGKM	6	Southwest corner (east-west) of input User	Defined meteorology	-175
4		YORIGIM	7	Southwest corner (north-south) of input User	Defined meteorology	-175
4		IUTMZN	8	UTM zone	User Defined	na
4		XLAT	9	Latitude of center of meteorology domain	User Defined	30.14
4		XLONG	10	Longitude of center of meteorology domain	User Defined	85.62
4		XTZ	11	Base time zone of input meteorology	User Defined	6
4		IBCOMP	12	Southwest X-index of computational domain	User Defined	1
4		JBCOMP	13	Southwest Y-index of computational domain	User Defined	1
4		IECOMP	14	Northeast X-index of computational domain	User Defined	2
4		JECOMP	15	Northeast Y-index of computational domain	User Defined	2
4		LSAMP	16	Use gridded receptors? (T = Yes)	F	F
4		IBSAMP	17	Southwest X-index of receptor grid	User Defined	0
4		JBSAMP	18	Southwest Y-index of receptor grid	User Defined	0
4		IESAMP	19	Northeast X-index of receptor grid	User Defined	0
4		JESAMP	20	Northeast Y-index of receptor grid	User Defined	0
4		MESHDN	21	Gridded recpetor spacing = DGRIDKM/MESHDN	1	1
5	Output Options	ICON	1	Output concentrations? (1 = Yes)	1	1
5		IDRY	2	Output dry deposition flux? (1 = Yes)	1	0
5		IWET	3	Output west deposition flux? (1 = Yes)	1	0
5		IVIS	4	Output RH for visibility calculations (1 = Yes)	1	0
5		LCOMPRS	5	Use compression option in output? (T = Yes)	T	T
5		ICPRT	6	Print concentrations? (0 = No)	0	0
5		IDPRT	7	Print dry deposition fluxes (0 = No)	0	0
5		IWPRT	8	Print wet deposition fluxes (0 = No)	0	0
5		ICFRQ	9	Concentration print interval (1 = hourly)	1	24
5		IDFRQ	10	Dry deposition flux print interval (1 = hourly)	1	1
5		IWFRQ	11	West deposition flux print interval (1 = hourly)	1	1
5		IPRTU	12	Print output units (1 = g/m**3; g/m**2/s; 3 = ug/m3, ug/m2/s)	1	3
5		IMESG	13	Status messages to screen? (1 = Yes)	1	1
5		LDEBUG	14	Turn on debug tracking? (F = No)	F	F
5		NPFDEB	15	(Number of puffs to track)	(1)	1
5		NN1	16	(Met. Period to start output)	(1)	1
5		NN2	17	(Met. Period to end output)	(10)	10
7	Dry Dep Chem	Dry Gas Dep		Chemical parameters of gaseous deposition species	User Defined	NOX,HNO3
						SO4,NO3
8	Dry Dep Size	Dry Part. Dep		Chemical parameters of particulate deposition species	User Defined	PM10
9	Dry Dep Misc	RCUTR	1	Reference cuticle resistance (s/cm)	30	30

Table D-1. IWAQM Phase II Calpuff Parameter Settings Used in the CALPUFF- Lite Regional Haze Analysis						
	SSC Panama City Mill,					
Number	Input Group Description	Variable	Seq	Description	Default Value	Modeled Value
9		RGR	2	Reference ground resistance (s/cm)	10	10
9		REACTR	3	Reference reactivity	8	8
9		NINT	4	Number of particle-size intervals	9	9
9		IVEG	5	Vegetative state (1 = active and unstressed)	1	1
10	Wet Dep	Wet Dep		Wet deposition parameters	User Defined	Var
11	Chemistry	MOZ	1	Ozone background? (0 = constant background value; 1 = read from ozone.dat)	1	0
11		BCKO3	2	Ozone default (ppb) (Use only for missing data)	80	80
11		BCKNH3	3	Ammonia background (ppb)	10	10
11		RNITE1	4	Nighttime SO2 loss rate (%/hr)	0.2	0.2
11		RNITE2	5	Nighttime NOx loss rate (%/hr)	2	2
11		RNITE3	6	Nighttime HNO3 loss rate (%/hr)	2	2
12	Dispersion	SYTDEP	1	Horizontal size (m) to switch to time dependence	550	550
12		MHFTSZ	2	Use Heffter for vertical dispersion? (0 = No)	0	0
12		JSUP	3	PG Stability class above mixed layer	5	5
12		CONK1	4	Stable dispersion constant (Eq 2.7-3)	0.01	0.01
12		CONK2	5	Neutral dispersion constant (Eq 2.7-4)	0.1	0.1
12		TBD	6	Transition for downwash algorithms (0.5 = ISC)	0.5	0.5
12		IURB1	7	Beginning urban landuse type	10	10
12		IURB2	8	Ending urban landuse type	19	19
12		ILANDUIN	9	Land use type (20 = Unirrigated agricultural land)	(20)	20
12		ZOIN	10	Roughness length (m)	(0.25)	0.25
12		XLAIIN	11	Leaf area index	(3)	3
12		ELEVIN	12	Met. Station elevation (m above MSL)	(0)	0
12		XLATIN	13	Met. Station North latitude (degrees)	(-999)	-999
12		XLONIN	14	Met. Station West longitude (degrees)	(-999)	-999
12		ANEMHT	15	Anemometer height of ISC meteorological data (m)	(10)	6.7/10.1
12		ISIGMAV	16	Lateral turbulence (Not used with ISC meteorology)	(1)	NA
12		IMIXCTDM	17	Mixing heights (Not used with ISC meteorology)	(1)	NA
12		XMXLEN	18	Maximum slug length in units of DGRIDKM	1	1
12		XSAMLEN	19	Maximum puff travel distance per sampling step (units of DGRIDKM)	1	1
12		MXNEW	20	Maximum number of puffs per hour	99	99
12		MXSAM	21	Maximum sampling steps per hour	99	99
12		NCOUNT	22	Iterations when computing Transport Wind (Calmet & Profile Winds)	(2)	2
12		SYMIN	23	Minimum lateral dispersion of new puff (m)	1	1
12		SZMIN	24	Minimum vertical dispersion of new puff (m)	1	1
12		SVMIN	25	Array of minimum lateral turbulence (m/s)	6 * 0.50	6*0.50
12		SWMIN	26	Array of minimum vertical turbulence (m/s)	0.20,0.12,0.08,0.06,0.03,0.016	SAME
12		CDIV (1), (2)	27	Divergence criterion for dw/dz (1/s)	0.01 (0.0,0.0)	0.0,0.0
12		WSCALM	28	Minimum non-calm wind speed (m/s)	0.5	0.5

Table D-1. IWAQM Phase II Calpuff Parameter Settings Used in the CALPUFF- Lite Regional Haze Analysis						
	SSC Panama City Mill,					
Number	Input Group Description	Variable	Seq	Description	Default Value	Modeled Value
12		XMAXZI	29	Maximum mixing height (m)	3000	3000
12		XMINZI	30	Minimum mixing height (m)	50	50
12		WSCAT	31	Upper bounds 1st 5 wind speed classes (m/s)	1.54,3.09,5.14,8. 23,10.8	SAME
12		PLX0	32	Wind speed power-law exponents	0.07,0.07,0.10,0.15,0.35,0.55	SAME
12		PTGO	33	Potential temperature gradients PG E and F (deg/km)	0.020,0.035	SAME
12		PPC	34	Plume path coefficients (only if MCTADJ = 3)	0.5,0.5,0.5,0.5,0.35,0.35	SAME
12		SL2PF	35	Maximum Sy/puff length	10	10
12		NSPLIT	36	Number of puffs when puffs split	3	3
12		IRESPLIT	37	Hours when puff are eligible to split	User Defined	HR 17=1
12		ZISPLIT	38	Previous hour's mixing height(minimum)(m)	100	100
12		ROLDMAX	39	Previous Max mix ht/current mix ht ratio must be less then this value for puff to split	0.25	0.25
12		EPSSLUG	40	Convergence criterion for slug sampling integration	1.00E-04	1.0E-04
12		EPSAREA	41	Convergence criterion for area source integration	1.00E-06	1.0E-06
13	Point Source	NPT1	1	Number of point sources	User Defined	6
13		IPTU	2	Units of emission rates (1 = g/s)	1	1
13		NSPT1	3	Number of point source-species combinations	0	0
13		NPT2	4	Number of point sources with fully variable emission rates	0	0
13		Point Sources		Point sources characteristics	User Defined	VAR
14	Area Source	Area Sources		Area sources characteristics	User Defined	NA
15	Volume Source	Volume		Volume sources characteristics	User Defined Sources	NA
16	Line Source	Line Sources		Buoyant lines source characteristics	User Defined	NA
17	Receptors	NREC		Number of user defined receptors	User Defined	180
17		Receptor Data		Location and elevation (MSL) of receptors	User Defined	VAR
Legend						
	DEPOS.	With Deposition				
	DEFAULT	Uses defaults				
	VAR	Variable Input				
	NA	Not Applicable				
	SAME	Same as recommended				