



Georgia-Pacific Corporation

Palatka Operations  
Packaged Products Division  
P.O. Box 919  
Palatka, Florida 32178-0919  
Telephone (904) 325-2001

March 8, 1995

Mr. Al Linero  
Administrator  
New Source Review Section  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

RE: Georgia-Pacific Corporation  
Pulp and Paper Mill  
Putnam County  
PSD Permit Application  
DEP ID No. 548515762

Dear Mr. Linero:

Enclosed are 7 copies of the PSD Permit Application for a project in which we plan to replace two existing digesters with digesters of slightly larger size. During this same time we plan to install screen tube modules to our No. 4 Recovery Boiler. Also enclosed is a check for \$7500 to cover the application fee.

After your office has had a couple of weeks to become familiar with the project, we would like to schedule a meeting to discuss the conceptual issues of the permit application. We hope to address any preliminary questions you may have at that time. Dave Buff of KBN Engineering (our permitting consultant) will be contacting you to schedule the meeting at your earliest convenience.

Please call me if I can be of further assistance.

Sincerely,

Myra Carpenter  
Environmental Superintendent

cc: Ernie Frey - FDEP, N.E. District (w/o enclosures)  
Bob Leetch - "  
Bill Baxter - (w/o enclosures)  
Henry Hirschman - "  
John McKinley - "  
David Buff - KBN Engineering

**DIGESTER SYSTEM/RECOVERY  
BOILER MODIFICATION  
PSD PERMIT APPLICATION**

**Georgia-Pacific Cororation  
Palatka, Florida  
March 1995**

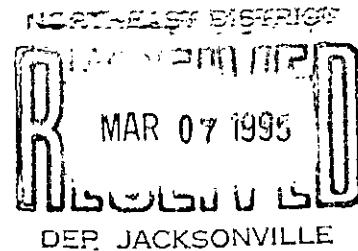
**Prepared For:**

**Georgia-Pacific Corporation  
P.O. Box 919  
Palatka, Florida 32078**

**Prepared By:**

**KBN Engineering and Applied Sciences, Inc.  
6241 NW 23rd Street  
Gainesville, Florida 32653-1500**

**March 1995  
14379C**



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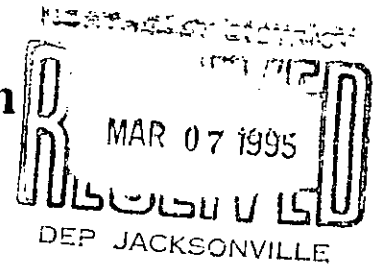
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- ATTACHMENT A: CURRENT ACTUAL AND FUTURE MAXIMUM EMISSIONS
- ATTACHMENT B: DESIGN INFORMATION FOR NEW TRS SCRUBBER
- ATTACHMENT C: EMISSION UNIT FLOW DIAGRAMS
- ATTACHMENT D: PARTICLE SIZE DISTRIBUTIONS USED IN DEPOSITION MODELING

**PART A**  
**PERMIT APPLICATION FORMS**

# Department of Environmental Protection



## DIVISION OF AIR RESOURCES MANAGEMENT APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

### I. APPLICATION INFORMATION

This section of the Application for Air Permit form provides general information on the scope of this application, the purpose for which this application is being submitted, and the nature of any construction or modification activities proposed as a part of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department on diskette, this section of the Application for Air Permit must also be submitted in hard-copy.

#### Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility name, if any; and a brief reference to the facility's physical location. If known, also enter the ARMS or AIRS facility identification number. This information is intended to give a quick reference, on the first page of the application form, to the facility addressed in this application. Elsewhere in the form, numbered data fields are provided for entry of the facility data in computer-input format.

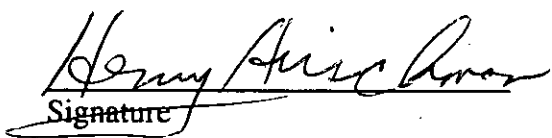
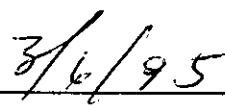
Georgia-Pacific Corporation Palatka Mill
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#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3/9/95
2. Permit Number:	AC 54 - 266676
3. PSD Number (if applicable):	PSD-FL-226
4. Siting Number (if applicable):	



**Owner/Authorized Representative or Responsible Official**

1.	Name and Title of Owner/Authorized Representative or Responsible Official: Henry Hirschman - General Manager
2.	Owner/Authorized Representative or Responsible Official Mailing Address:  Organization/Firm: Georgia-Pacific Corporation Street Address: P.O. Box 919 City: Palatka State: FL Zip Code: 32178-0919
3.	Owner/Authorized Representative or Responsible Official Telephone Numbers:  Telephone: ( 904 ) 325-2001 Fax: ( 904 ) 328-0014
4.	Owner/Authorized Representative or Responsible Official Statement:  <i>I, the undersigned, am the owner or authorized representative* of the facility (non-Title V source) addressed in this Application for Air Permit or the responsible official, as defined in Chapter 62-213, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this application so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. If the purpose of this application is to obtain an air operation permit or operation permit revision for one or more emissions units which have undergone construction or modification, I 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. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>   Signature  Date

\* Attach letter of authorization if not currently on file.

**Scope of Application**

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

Emissions Unit Id	Description of Emissions Unit
31JAX54000532	Digester System
31JAX54000532	Multiple Effect Evaporator System
31JAX54000532	Condensate Stripper System
31JAX54000532	TRS Scrubber and Incinerator
31JAX54000518	No. 4 Recovery Boiler
31JAX54000519	No. 4 Smelt Dissolving Tanks
31JAX54000517	No. 4 Lime Kiln
31JAX54000531	Tall Oil Plant

**Purpose of Application and Category**

Check one (except as otherwise indicated):

**Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.
- Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: \_\_\_\_\_

- Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit to be revised: \_\_\_\_\_

- Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: \_\_\_\_\_

\_\_\_\_\_

- Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

\_\_\_\_\_

**Category II: All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): \_\_\_\_\_  
\_\_\_\_\_

- Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_  
\_\_\_\_\_

**Category III: All Air Construction Permit Applications for All Facilities and Emissions Units**

This Application for Air Permit is submitted to obtain:

- Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: see attached listing

- Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): \_\_\_\_\_

- Air construction permit for one or more existing, but unpermitted, emissions units.

**Application Processing Fee**

Check one:

Attached - Amount: \$ 7,500.00

Not Applicable.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations: Replace two digesters with digesters of slightly larger size. Add screen tubes to No. 4 Recovery Boiler. Refer to PSD report for further information.
2. Projected or Actual Date of Commencement of Construction (DD-MON-YYYY): 01-08-1995
3. Projected Date of Completion of Construction (DD-MON-YYYY): 01-06-1996

**Professional Engineer Certification**

1. Professional Engineer Name: <b>David A. Buff</b> Registration Number: <b>19011</b>
2. Professional Engineer Mailing Address: Organization/Firm: <b>KBN Engineering and Applied Sciences, Inc.</b> Street Address: <b>6241 NW 23rd Street, Suite 500</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32653-1500</b>
3. Professional Engineer Telephone Numbers: Telephone: <b>( 904 ) 336-5600</b> Fax: <b>( 904 ) 336-6603</b>

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 (a) 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; or (b) for any application for a Title V source air operation permit, 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;*

*(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; and*

*(3) For any application for an air construction permit for one or more proposed new or modified emissions units, 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.*

*David A. Buff* \_\_\_\_\_ *March 6, 1995* \_\_\_\_\_  
Signature Date

(seal)

\* Attach any exception to certification statement.

**Application Contact**

1. Name and Title of Application Contact: Myra Carpenter, Superintendent of Environmental Affairs
2. Application Contact Mailing Address:  Organization/Firm: Georgia-Pacific Corporation Street Address: P.O. Box 919 City: Palatka State:FL Zip Code: 32178-0919
3. Application Contact Telephone Numbers:  Telephone: ( 904 ) 325-2001 Fax: ( 904 ) 328-0014

**Application Comment**

--

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Name, Location, and Type

1. Facility Owner or Operator: <b>Georgia-Pacific Corporation</b>			
2. Facility Name: <b>Palatka Mill</b>			
3. Facility Identification Number: <b>31JAX540005</b>		<input type="checkbox"/> Unknown	
4. Facility Location Information: Facility Street Address: <b>North of CR 216; West of U.S. 17</b> City: <b>Palatka</b> County: <b>Putnam</b> Zip Code: <b>32177</b>			
5. Facility UTM Coordinates: Zone: <b>17</b> East (km): <b>434.0</b> North (km): <b>3283.4</b>			
6. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
7. Governmental Facility Code: <b>0</b>	8. Facility Status Code: <b>A</b>	9. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	10. Facility Major Group SIC Code: <b>26</b>
11. Facility Comment:			

#### Facility Contact

1. Name and Title of Facility Contact: <b>Myra Carpenter, Superintendent of Environmental Affairs</b>			
2. Facility Contact Mailing Address: Organization/Firm: <b>Georgia-Pacific Corporation</b> Street Address: <b>P.O. Box 919</b> City: <b>Palatka</b> State: <b>FL</b> Zip Code: <b>32178-0919</b>			
3. Facility Contact Telephone Numbers: Telephone: ( <b>904</b> ) <b>325-2001</b> Fax: ( <b>904</b> ) <b>328-0014</b>			

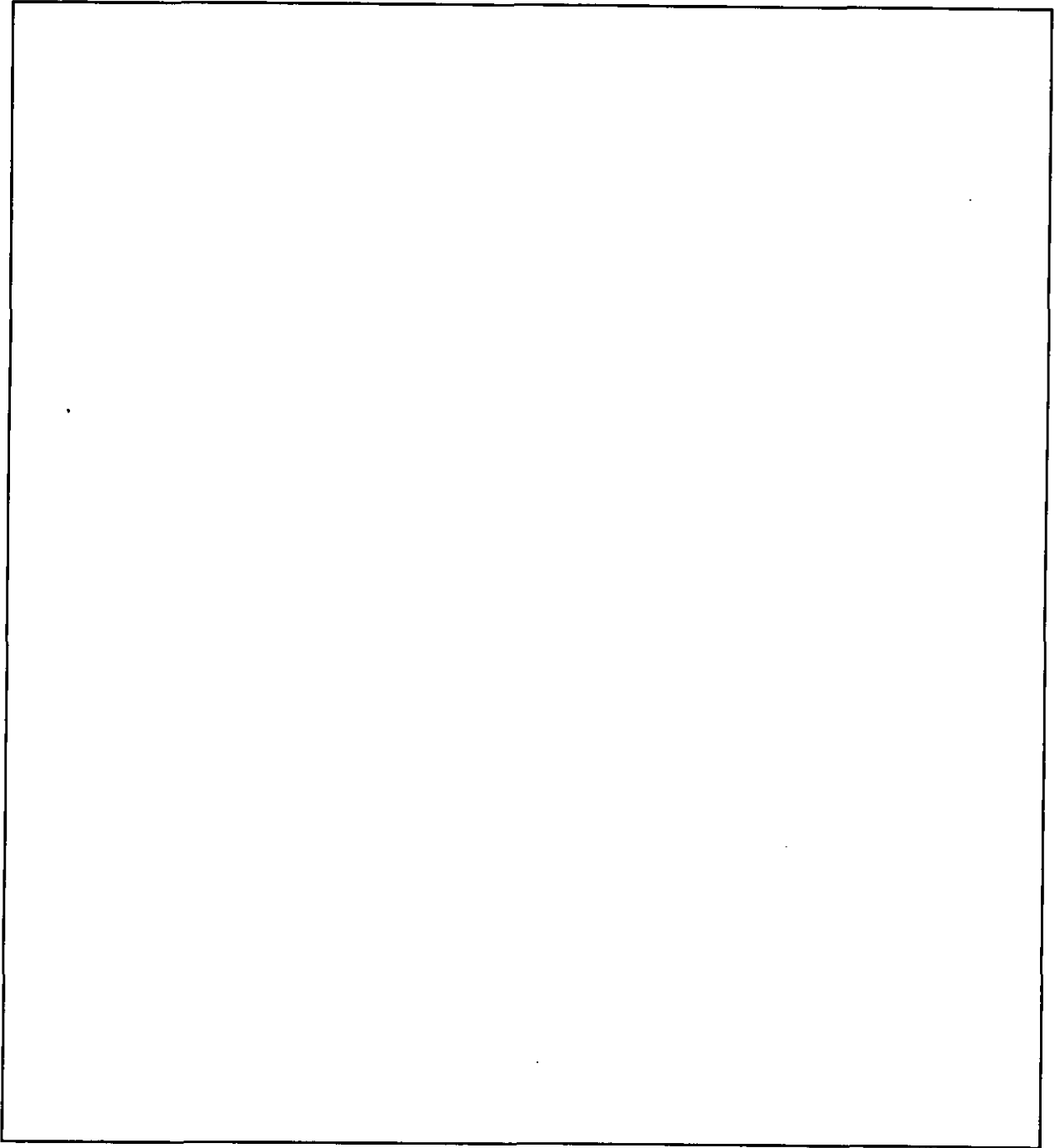




## B. FACILITY REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of federal, state, and local regulations applicable to the facility as a whole. (Regulations applicable to individual emissions units within the facility are addressed in Subsection III-B of the form.)

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-212.400 PSD Review	

### C. FACILITY POLLUTANT INFORMATION

This subsection of the Application for Air Permit form allows for the reporting of potential and estimated emissions of selected pollutants on a facility-wide basis. It must be completed for each pollutant for which the applicant proposes to establish a facility-wide emissions cap and for each pollutant for which emissions are not reported at the emissions-unit level.

**Facility Pollutant Information:** Pollutant \_\_\_\_ of \_\_\_\_

1. Pollutant Emitted:		
2. Estimated Emissions:		(tons/yr)
3. Requested Emissions Cap:	(lb/hr)	(tons/yr)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

**Facility Pollutant Information** Pollutant \_\_\_\_ of \_\_\_\_

1. Pollutant Emitted:		
2. Estimated Emissions:		(tons/yr)
3. Requested Emissions Cap:	(lb/hr)	(tons/yr)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

**Facility Pollutant Information** Pollutant \_\_\_\_ of \_\_\_\_

1. Pollutant Emitted:		
2. Estimated Emissions:		(tons/yr)
3. Requested Emissions Cap:	(lb/hr)	(tons/yr)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

**Facility Pollutant Information** Pollutant \_\_\_\_ of \_\_\_\_

1. Pollutant Emitted:		
2. Estimated Emissions:		(tons/yr)
3. Requested Emissions Cap:	(lb/hr)	(tons/yr)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

## D. FACILITY SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the facility as a whole. (Supplemental information related to individual emissions units within the facility is provided in Subsection III-I of the form.) Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

### Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report, Figure 2-1</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report, Figure 2-2</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID(s): <u>Attachment C of PSD Report</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
6. Supplemental Information for Construction Permit Application: <input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u> <input type="checkbox"/> Not Applicable

### Additional Supplemental Requirements for Category I Applications Only

7. List of Insignificant Activities: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
8. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed <input type="checkbox"/> Not Applicable

<p>9. Alternative Methods of Operation:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input type="checkbox"/> Not Applicable</p>
<p>10. Alternative Modes of Operation (Emissions Trading):</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input type="checkbox"/> Not Applicable</p>
<p>11. Enhanced Monitoring Plan:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input type="checkbox"/> Not Applicable</p>
<p>12. Risk Management Plan Verification:</p> <p><input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached Attached, Document ID: _____</p> <p><input type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date</p> <p><input type="checkbox"/> Not Applicable</p>
<p>13. Compliance Report and Plan</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input type="checkbox"/> Not Applicable</p>
<p>14. Compliance Statement (Hard-copy Required)</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input type="checkbox"/> Not Applicable</p>

Current Air Permits for Affected Sources at Georgia-Pacific Palatka Mill

Emission Unit	ARMS ID Number	Air Operating Permit Number
TRS Incinerator (Including Batch Digester System, Multiple Effect Evaporator System, and Condensate Stripper System)	31JAX54000532	AO54-166018
No. 4 Recovery Boiler	31JAX54000518	AO54-209650
No. 4 Smelt Dissolving Tanks	31JAX54000519	AO54-209650
No. 4 Lime Kiln	31JAX54000517	AO54-209858
Tall Oil Plant	31JAX54000531	AO54-209098



### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### Type of Emissions Unit Addressed in This Section

Check one:

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.



Emissions Unit Control Equipment

**A.**

1. Description: TRS scrubber using alkaline solution as scrubbing medium.
2. Control Device or Method Code: 013

**B.**

1. Description: TRS incinerator
2. Control Device or Method Code: 021

**C.**

1. Description:
2. Control Device or Method Code:

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr                      tons/day
3. Maximum Process or Throughput Rate:	
4. Maximum Production Rate:	118 tons/hr ADUP
5. Operating Capacity Comment:	Maximum 24-hour production: 1,850 TPD ADUP

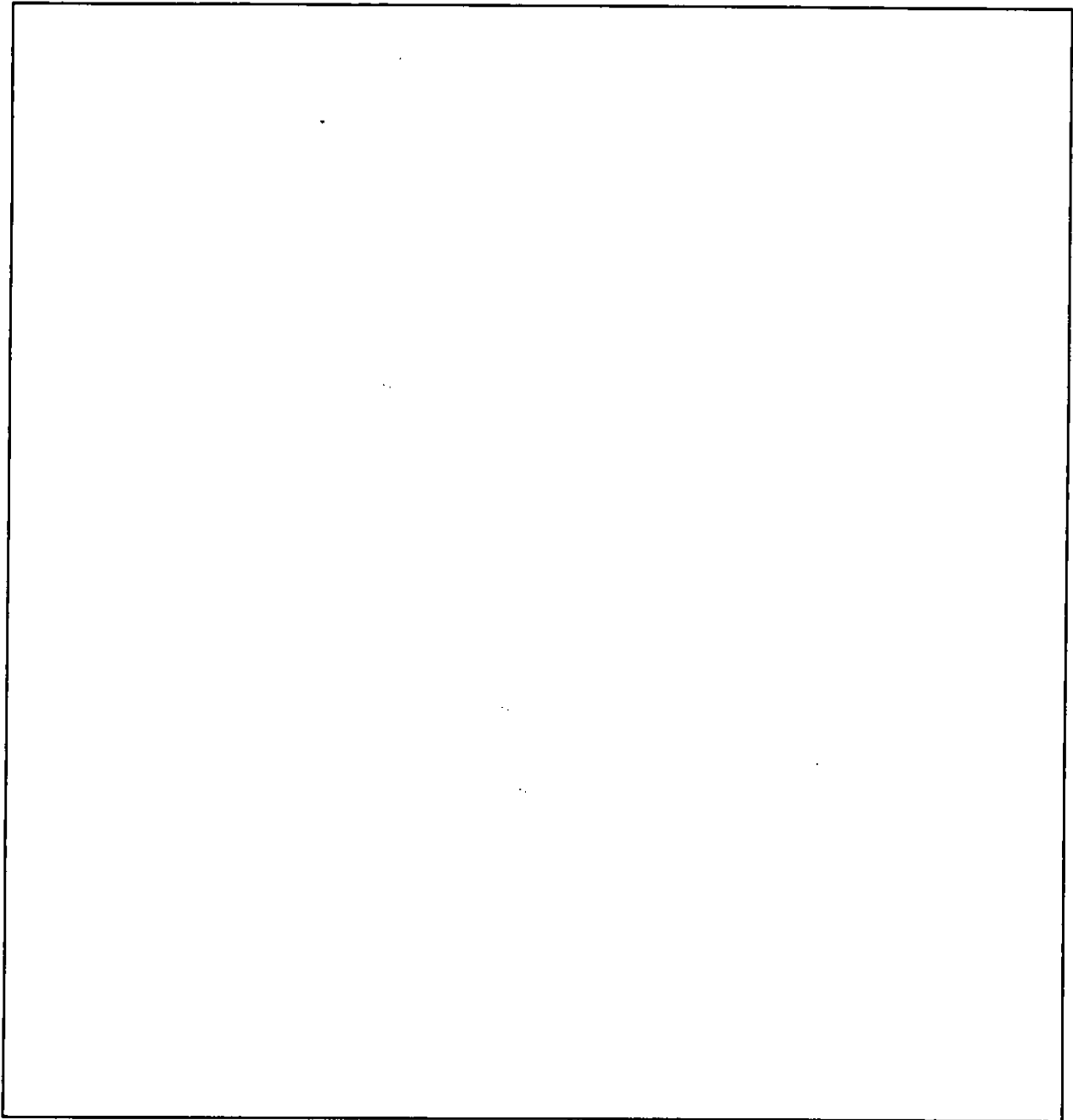
**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:			
24	hours/day	7	days/week
52	weeks/yr	8,760	hours/yr

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-2.960(1)(a)	
62-2.960(1)(b)	
62-2.960(1)(d)1.	
62-2.960(1)(g)	
62-2.960(1)(h)	
62-210.300(2)	
62-210.650	
62-210.700(1)	
62-210.700(4)	
62-210.700(6)	
62-296.320(2)	
62-296.404(3)(a)1.	
62-296.404(3)(a)3.	
62-296.404(3)(a)4.	
62-296.404(6)(a)	
62-296.404(6)(b)	
62-296.404(6)(c)3.	
62-296.404(6)(d)	
40CFR60.283(a)(1)(iii)	

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

<p>1. Identification of Point on Plot Plan or Flow Diagram:  <b>Digesters</b></p>
<p>2. Emission Point Type Code:  <input type="checkbox"/> 1                      <input type="checkbox"/> 2                      <input checked="" type="checkbox"/> 3                      <input type="checkbox"/> 4</p>
<p>3. Descriptions of Emissions Points Comprising this Emissions Unit:</p>
<p>4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  <b>Digester system, multiple effect evaporator system, and condensate stripper system all vent to TRS scrubber and incinerator (Pt. #32)</b></p>
<p>5. Discharge Type Code:  <input type="checkbox"/> D                      <input type="checkbox"/> F                      <input type="checkbox"/> H                      <input checked="" type="checkbox"/> P  <input type="checkbox"/> R                      <input type="checkbox"/> V                      <input type="checkbox"/> W</p>

Emissions Unit Information Section  1  of  8

6. Stack Height:	ft
7. Exit Diameter:	ft
8. Exit Temperature:	°F
9. Actual Volumetric Flow Rate:	acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	ft
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment: Refer to TRS scrubber and incinerator (Pt. #32) for stack parameters.	



**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate Information:** Segment  1  of  1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): <b>Digester Relief and Blow Tank</b>	
2. Source Classification Code (SCC): <b>3-07-001-01</b>	
3. SCC Units: <b>Air-Dry Tons Unbleached Pulp</b>	
4. Maximum Hourly Rate: <b>118 tons/hr ADUP</b>	5. Maximum Annual Rate: <b>675,250 tons/yr ADUP</b>
6. Estimated Annual Activity Factor: <b>1,850 tons/day ADUP</b>	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**Segment Description and Rate Information:** Segment       of      

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code:	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  1  of  1

1. Pollutant Emitted: TRS		
2. Total Percent Efficiency of Control:	99.97%	
3. Primary Control Device Code: 013		
4. Secondary Control Device Code: 021		
5. Potential Emissions:	lbs/hr	tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor:		
Reference:		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions:		
11. Pollutant Potential/Estimated Emissions Comment: Refer to Pt. #32, TRS scrubber and incinerator, for emissions.		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: Rule		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: Incinerate for 0.5 second at 1200°F		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance: Method 16 or 16A on TRS Incinerator every 5 years		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): Rule 62-296.404(3)(a)1.: Refer to TRS scrubber and incinerator for allowable emissions		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:	
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
3. Requested Allowable Opacity:	
Normal Conditions:                      %	Exceptional Conditions:                      %
Maximum Period of Excess Opacity Allowed:	min/hr
4. Method of Compliance:	
5. Visible Emissions Comment:	

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                    %                    Exceptional Conditions:                    %  Maximum Period of Excess Opacity Allowed:                    min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                    %                    Exceptional Conditions:                    %  Maximum Period of Excess Opacity Allowed:                    min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System Continuous Monitor      of    

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information:	
Manufacturer: Model Number:	Serial Number:
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Emissions Unit Information Section 1 of 8

**Continuous Monitoring System** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: _____ Model Number: _____ Serial Number: _____	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

**Continuous Monitoring System** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: _____ Model Number: _____ Serial Number: _____	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	



## H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

### PSD Increment Consumption Determination

#### 1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- 1 The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- 1 The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- 1 The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- 1 For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- 1 None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

Emissions Unit Information Section  1  of  8

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lbs/hr	tons/yr	
SO2	lbs/hr	tons/yr	
NO2		tons/yr	
5. PSD Comment:			

## I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u> Attachment C of PSD Report </u>	<input type="checkbox"/> Waiver Requested
	<input type="checkbox"/> Not Applicable	
2. Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input checked="" type="checkbox"/> Not Applicable	
3. Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u> Attachment B of PSD Report </u>	<input type="checkbox"/> Waiver Requested
	<input type="checkbox"/> Not Applicable	
4. Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input checked="" type="checkbox"/> Not Applicable	
5. Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
	<input type="checkbox"/> Previously Submitted, Date: _____	
6. Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application	<input checked="" type="checkbox"/> Attached, Document ID: <u> PSD Report </u>	<input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute	<input checked="" type="checkbox"/> Attached, Document ID: <u> PSD Report </u>	<input type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Permit Application
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- [ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section: <b>Multiple Effect Evaporator (MEE) System consisting of 4 MEEs and associated equipment</b>								
2. ARMS Identification Number: <input checked="" type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown								
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>26</b>						
6. Initial Startup Date (DD-MON-YYYY):								
7. Long-term Reserve Shutdown Date (DD-MON-YYYY):								
8. Package Unit: Manufacturer: _____ Model Number: _____								
9. Generator Nameplate Rating: _____ MW								
10. Incinerator Information: <table style="width: 100%; margin-top: 10px;"> <tr> <td style="text-align: right;">Dwell Temperature:</td> <td style="text-align: right;">°F</td> </tr> <tr> <td style="text-align: right;">Dwell Time:</td> <td style="text-align: right;">seconds</td> </tr> <tr> <td style="text-align: right;">Incinerator Afterburner Temperature:</td> <td style="text-align: right;">°F</td> </tr> </table>			Dwell Temperature:	°F	Dwell Time:	seconds	Incinerator Afterburner Temperature:	°F
Dwell Temperature:	°F							
Dwell Time:	seconds							
Incinerator Afterburner Temperature:	°F							
11. Emissions Unit Comment: <b>Emissions vented to TRS scrubber and incinerator.</b>								

Emissions Unit Control Equipment

**A.**

<p>1. Description: TRS scrubber using alkaline solution as the scrubbing media</p> <p>2. Control Device or Method Code: 013</p>
---

**B.**

<p>1. Description: TRS incinerator</p> <p>2. Control Device or Method Code 021</p>
--

**C.**

<p>1. Description:</p> <p>2. Control Device or Method Code:</p>
---

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:	mmBtu/hr	
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	259,161 lb/hr black liquor solids	
4. Maximum Production Rate:	118 tons/hr ADUP	
5. Operating Capacity Comment:	Maximum 24-hour production: 1,850 TPD ADUP	

**Emissions Unit Operating Schedule**

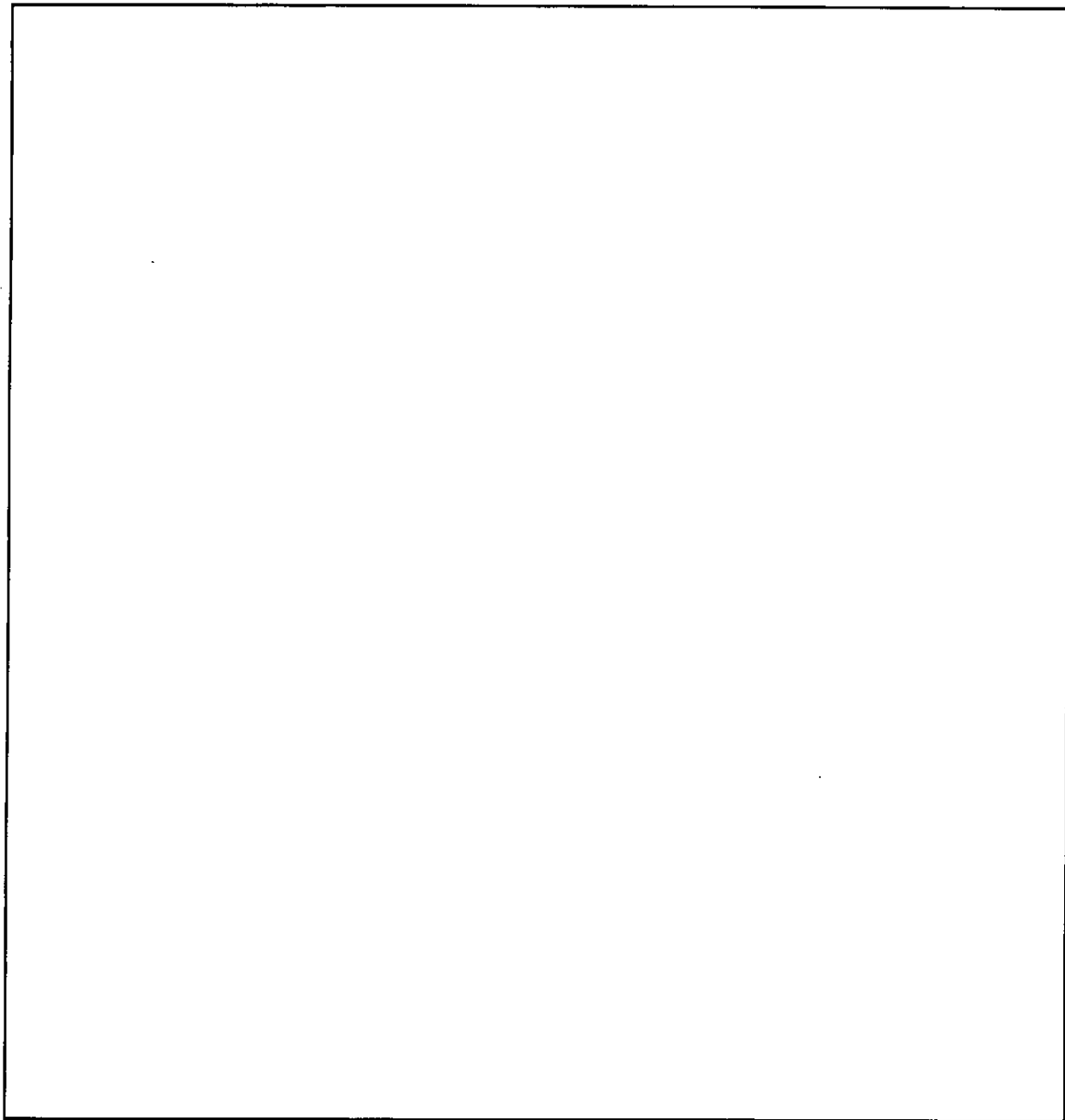
Requested Maximum Operating Schedule:		
24 hours/day	7 days/week	
52 weeks/yr	8,760 hours/yr	



**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



Emissions Unit Information Section  2  of  8

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-2.960(1)(a)	
62-2.960(1)(b)	
62-2.960(1)(d)1.	
62-2.960(1)(g)	
62-2.960(1)(h)	
62-210.300(2)	
62-210.650	
62-210.700(1)	
62-210.700(4)	
62-210.700(6)	
62-296.320(2)	
62-296.404(3)(a)1.	
62-296.404(3)(a)3.	
62-296.404(3)(a)4.	
62-296.404(6)(a)	
62-296.404(6)(b)	
62-296.404(6)(c)3.	
62-296.404(6)(d)	

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

<p>1. Identification of Point on Plot Plan or Flow Diagram: MEE 1, MEE 2, MEE 3, MEE 4</p>
<p>2. Emission Point Type Code:  <input type="checkbox"/> 1                    <input checked="" type="checkbox"/> 2                    <input type="checkbox"/> 3                    <input type="checkbox"/> 4</p>
<p>3. Descriptions of Emissions Points Comprising this Emissions Unit:</p>
<p>4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:                  Digester system, MEE system, and condensate stripper system all vent to TRS scrubber and incinerator (Pt. #32)</p>
<p>5. Discharge Type Code:  <input type="checkbox"/> D                    <input type="checkbox"/> F                    <input type="checkbox"/> H                    <input checked="" type="checkbox"/> P  <input type="checkbox"/> R                    <input type="checkbox"/> V                    <input type="checkbox"/> W</p>

Emissions Unit Information Section  2  of  8

6. Stack Height:	ft
7. Exit Diameter:	ft
8. Exit Temperature:	°F
9. Actual Volumetric Flow Rate:	acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	ft
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment: <b>Refer to TRS scrubber and incinerator for stack parameters.</b>	

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate Information:** Segment  1  of  1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): <b>Multiple Effect Evaporator</b>	
2. Source Classification Code (SCC): <b>3-07-001-03</b>	
3. SCC Units: <b>Air-Dry Tons Unbleached Pulp</b>	
4. Maximum Hourly Rate: <b>118 tons/hr ADUP</b>	5. Maximum Annual Rate: <b>675,250 tons/yr ADUP</b>
6. Estimated Annual Activity Factor: <b>1,850 tons/day ADUP</b>	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment: <b>259,121 lb/hr black liquor solids (BLS) to pre-evaporator; 40,208 lb/hr BLS to No. 1 MEE 71,482 lb/hr BLS to No. 2 MEE 71,482 lb/hr BLS to No. 3 MEE 75,949 lb/hr BLS to No. 4 MEE 259,121 lb/hr BLS to concentrator</b>	

**Segment Description and Rate Information:** Segment \_\_\_\_ of \_\_\_\_

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code:	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 1 of 1

1. Pollutant Emitted: TRS		
2. Total Percent Efficiency of Control:	99.97%	
3. Primary Control Device Code: 013		
4. Secondary Control Device Code: 021		
5. Potential Emissions:	lbs/hr	tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor:		
Reference:		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions:		
11. Pollutant Potential/Estimated Emissions Comment: Refer to Pt. #32, TRS scrubber and incinerator, for emissions.		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: Rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Incinerate for 0.5 second at 1200°F
4. Equivalent Allowable Emissions:                      lbs/hr                      tons/yr
5. Method of Compliance: Method 16 or 16A on TRS incinerator every 5 years
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): Rule 62-296.404(3)(a)1.: Refer to TRS scrubber and incinerator for allowable emissions.

**B.**

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions:                      lbs/hr                      tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):



**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitations:** 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/hr
4. Method of Compliance:			
5. Visible Emissions Comment:			

Emissions Unit Information Section  2  of  8

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity:
Normal Conditions:                                %                                Exceptional Conditions:                                %
Maximum Period of Excess Opacity Allowed:                                min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity:
Normal Conditions:                                %                                Exceptional Conditions:                                %
Maximum Period of Excess Opacity Allowed:                                min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System** Continuous Monitor       of      

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information:	
Manufacturer:	
Model Number:	Serial Number:
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Continuous Monitoring System Continuous Monitor \_\_\_\_ of \_\_\_\_

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Continuous Monitoring System Continuous Monitor \_\_\_\_ of \_\_\_\_

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

**H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION**

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

**PSD Increment Consumption Determination**

**1. Increment Consuming for Particulate Matter or Sulfur Dioxide?**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:		
PM	<input type="checkbox"/> C	<input type="checkbox"/> E <input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E <input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E <input type="checkbox"/> Unknown
4. Baseline Emissions:		
PM	lbs/hr	tons/yr
SO2	lbs/hr	tons/yr
NO2		tons/yr
5. PSD Comment:		

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

1. Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u> Attachment C of PSD Report </u>	<input type="checkbox"/> Not Applicable	<input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u> Attachment B of PSD report </u>	<input type="checkbox"/> Not Applicable	<input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Waiver Requested
5. Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Previously Submitted, Date: _____	<input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____		<input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____		<input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application	<input checked="" type="checkbox"/> Attached, Document ID: <u> PSD Report </u>		<input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute	<input checked="" type="checkbox"/> Attached, Document ID: <u> PSD Report </u>		<input type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Permit Application
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable



### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### Type of Emissions Unit Addressed in This Section

Check one:

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.



Emissions Unit Control Equipment

A.

<p>1. Description: TRS scrubber using alkaline solution as the scrubbing media.</p> <p>2. Control Device or Method Code: 013</p>
--

B.

<p>1. Description: TRS incinerator</p> <p>2. Control Device or Method Code 021</p>
--

C.

<p>1. Description:</p> <p>2. Control Device or Method Code:</p>
---

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:	mmBtu/hr	
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	109,500 lb/hr condensate	
4. Maximum Production Rate:	118 tons/hr ADUP	
5. Operating Capacity Comment:	Maximum 24-hour production: 1,850 TPD ADUP	

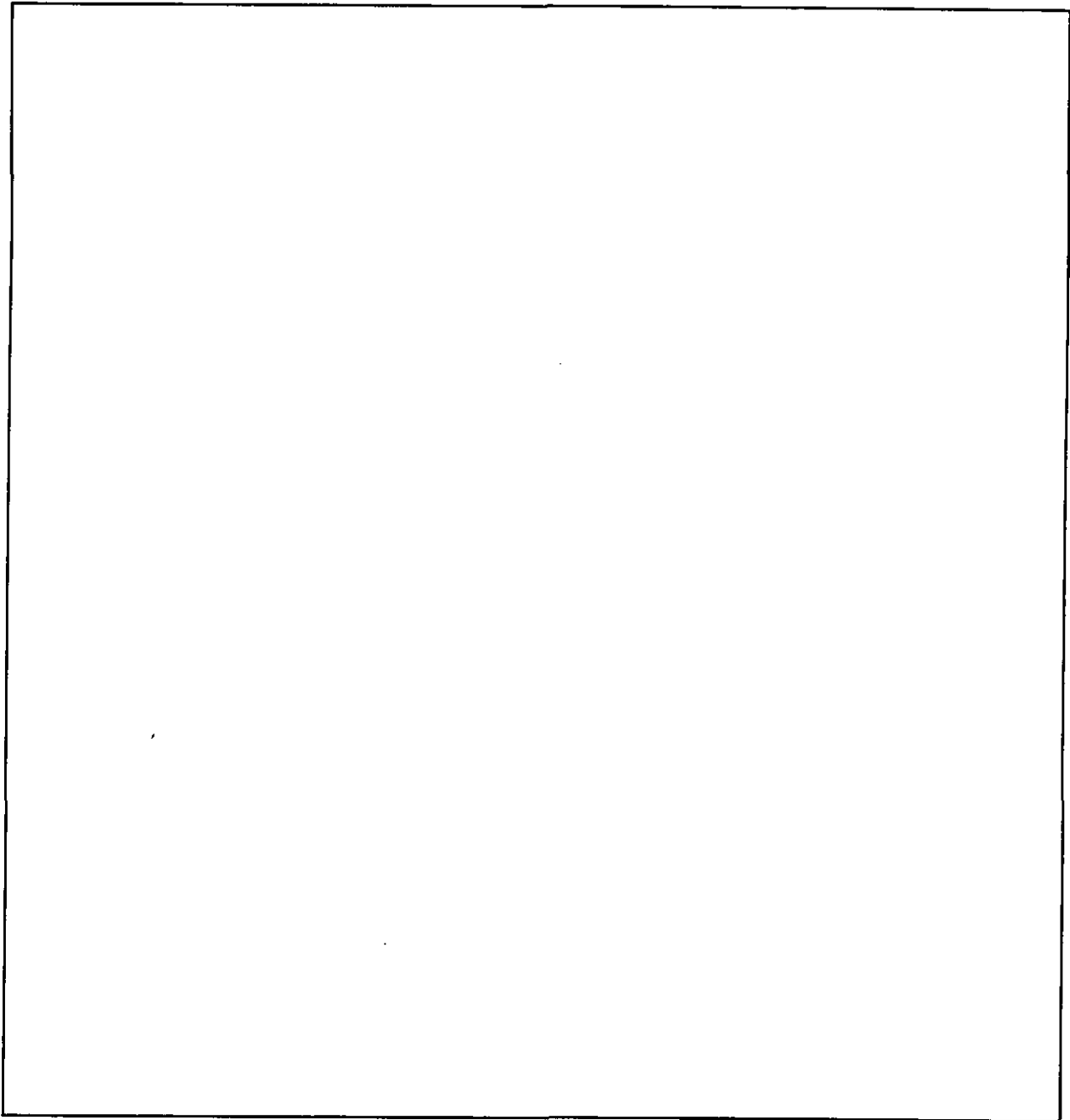
**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
52 weeks/yr	8,760 hours/yr

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-2.960(1)(a)	
62-2.960(1)(b)	
62-2.960(1)(d)1.	
62-2.960(1)(g)	
62-2.960(1)(h)	
62-210.300(2)	
62-210.650	
62-210.700(1)	
62-210.700(4)	
62-210.700(6)	
62-296.320(2)	
62-296.404(3)(a)1.	
62-296.404(3)(a)3.	
62-296.404(3)(a)4.	
62-296.404(6)(a)	
62-296.404(6)(b)	
62-296.404(6)(c)3.	
62-296.404(6)(d)	

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

<p>1. Identification of Point on Plot Plan or Flow Diagram:  <b>Condensate stripper</b></p>
<p>2. Emission Point Type Code:  <input type="checkbox"/> 1            <input checked="" type="checkbox"/> 2            <input type="checkbox"/> 3            <input type="checkbox"/> 4</p>
<p>3. Descriptions of Emissions Points Comprising this Emissions Unit:</p>
<p>4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  <b>Digester system, MEE system, and condensate stripper system all vent to TRS scrubber and incinerator (Pt. #32)</b></p>
<p>5. Discharge Type Code:  <input type="checkbox"/> D            <input type="checkbox"/> F            <input type="checkbox"/> H            <input checked="" type="checkbox"/> P  <input type="checkbox"/> R            <input type="checkbox"/> V            <input type="checkbox"/> W</p>

Emissions Unit Information Section 3 of 8

6. Stack Height:	ft
7. Exit Diameter:	ft
8. Exit Temperature:	°F
9. Actual Volumetric Flow Rate:	acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	ft
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment: Refer to TRS scrubber and incinerator for stack parameters.	



**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate Information:** Segment  1  of  1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): <b>Condensate stripper</b>	
2. Source Classification Code (SCC): <b>3-07-001-99</b>	
3. SCC Units: <b>Air-Dry Tons Unbleached Pulp</b>	
4. Maximum Hourly Rate: <b>118 tons/hr ADUP</b>	5. Maximum Annual Rate: <b>675,250 tons/yr ADUP</b>
6. Estimated Annual Activity Factor: <b>1,850 tons/day ADUP</b>	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**Segment Description and Rate Information:** Segment      of    

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code:	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 1 of 1

1. Pollutant Emitted: TRS		
2. Total Percent Efficiency of Control:	99.97%	
3. Primary Control Device Code: 013		
4. Secondary Control Device Code: 021		
5. Potential Emissions:	lbs/hr	tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor:		
Reference:		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions:		
11. Pollutant Potential/Estimated Emissions Comment: Refer to Pt. #32, TRS scrubber and incinerator, for emissions.		

Emissions Unit Information Section 3 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: Rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Incinerate for 0.5 second at 1200°F
4. Equivalent Allowable Emissions:                      lbs/hr                      tons/yr
5. Method of Compliance: Method 16 or 16A on TRS incinerator every 5 years
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): Rule 62-296.404(3)(a)1.: Refer to TRS scrubber and incinerator for allowable emissions.

**B.**

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions:                      lbs/hr                      tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):

**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other			
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hr
4. Method of Compliance:			
5. Visible Emissions Comment:			

Visible Emissions Limitations: Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:	
2. Basis for Allowable Opacity:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity:	
Normal Conditions:	%      Exceptional Conditions: %
Maximum Period of Excess Opacity Allowed:	min/hr
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitations: Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:	
2. Basis for Allowable Opacity:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity:	
Normal Conditions:	%      Exceptional Conditions: %
Maximum Period of Excess Opacity Allowed:	min/hr
4. Method of Compliance:	
5. Visible Emissions Comment:	

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System** Continuous Monitor      of    

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information:	
Manufacturer:	
Model Number:	Serial Number:
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Continuous Monitoring System Continuous Monitor \_\_\_\_ of \_\_\_\_

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Continuous Monitoring System Continuous Monitor \_\_\_\_ of \_\_\_\_

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	



## H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

### PSD Increment Consumption Determination

#### 1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- 1 The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- 1 The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- 1 The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- 1 For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- 1 None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

Emissions Unit Information Section  3  of  8

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lbs/hr		tons/yr
SO2	lbs/hr		tons/yr
NO2			tons/yr
5. PSD Comment:			

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

<p>1. Process Flow Diagram</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment C of PSD Report</u></p> <p><input type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span></p>
<p>2. Fuel Analysis or Specification</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span></p>
<p>3. Detailed Description of Control Equipment</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment B of PSD report</u></p> <p><input type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span></p>
<p>4. Description of Stack Sampling Facilities</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span></p>
<p>5. Compliance Test Report</p> <p><input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span></p> <p><input type="checkbox"/> Previously Submitted, Date: _____</p>
<p>6. Procedures for Startup and Shutdown</p> <p><input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span></p>
<p>7. Operation and Maintenance Plan</p> <p><input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span></p>
<p>8. Supplemental Information for Construction Permit Application</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u> <span style="float: right;"><input type="checkbox"/> Not Applicable</span></p>
<p>9. Other Information Required by Rule or Statute</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u> <span style="float: right;"><input type="checkbox"/> Not Applicable</span></p>

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Permit Application
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### Type of Emissions Unit Addressed in This Section

Check one:

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section: <b>TRS Scrubber and Incinerator</b>		
2. ARMS Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown <b>31JAX54000532</b>		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>26</b>
6. Initial Startup Date (DD-MON-YYYY):		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY):		
8. Package Unit: Manufacturer: _____ Model Number: _____		
9. Generator Nameplate Rating: _____ MW		
10. Incinerator Information:  Dwell Temperature: _____ 1,200 °F Dwell Time: _____ 0.5 seconds Incinerator Afterburner Temperature: _____ °F		
11. Emissions Unit Comment: <b>Controls TRS emissions from digester system, MEE system, and condensate stripper system.</b>		

Emissions Unit Control Equipment

**A.**

<p>1. Description: TRS scrubber using alkaline solution as the scrubbing medium.</p> <p>2. Control Device or Method Code: 013</p>
---

**B.**

<p>1. Description: TRS incinerator</p> <p>2. Control Device or Method Code 021</p>
--

**C.**

<p>1. Description:</p> <p>2. Control Device or Method Code:</p>
---

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	8.0 mmBtu/hr	
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	600 lb/hr TRS	
4. Maximum Production Rate:		
5. Operating Capacity Comment:	392 lb/hr TRS maximum 24-hour average	

Emissions Unit Operating Schedule

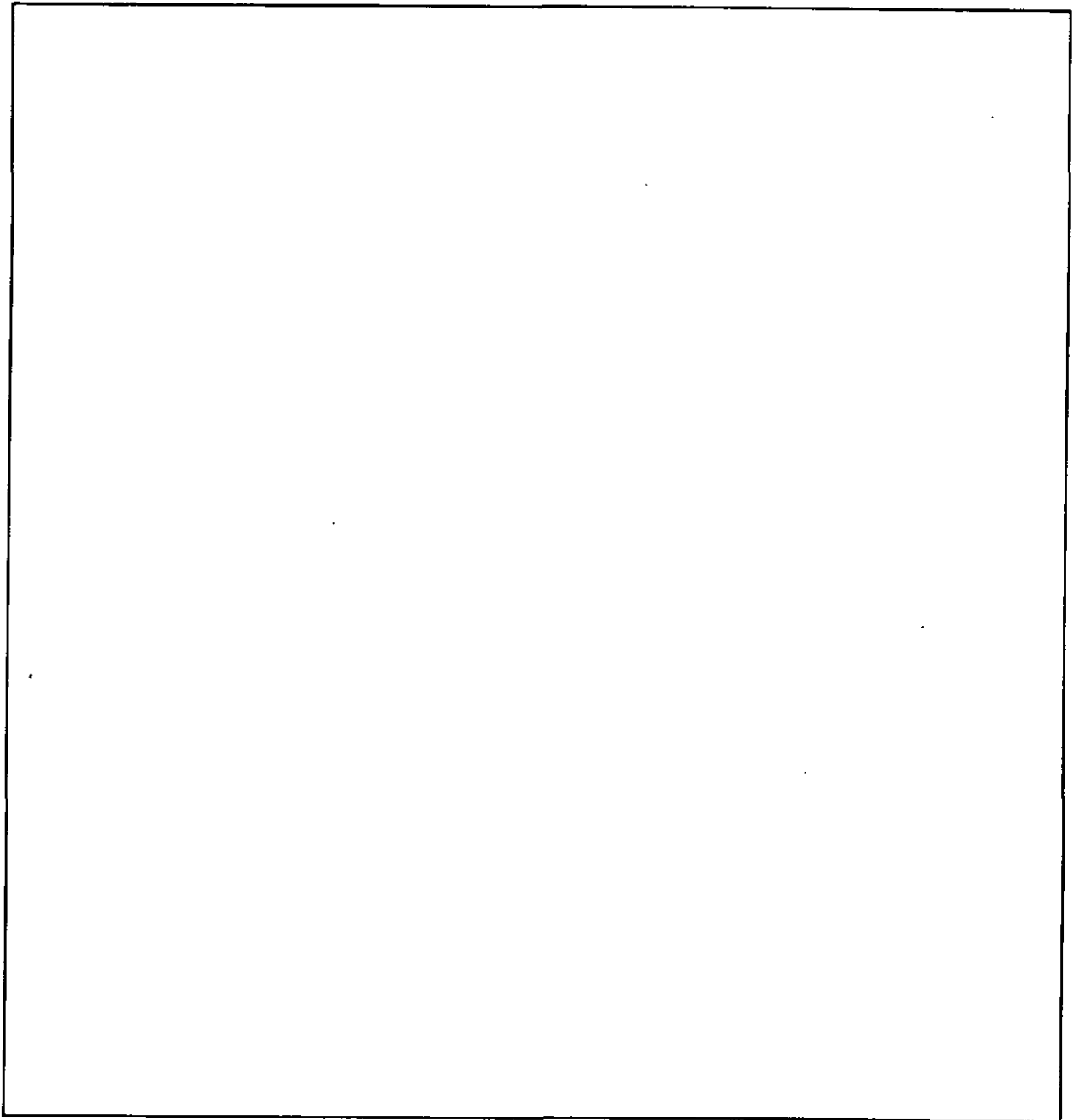
Requested Maximum Operating Schedule:		
24 hours/day	7 days/week	
52 weeks/yr	8,760 hours/yr	



**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-2.960(1)(a)	62-297.401(6)
62-2.960(1)(b)	62-297.401(9)
62-2.960(1)(d)1.	62-297.401(16)
62-2.960(1)(g)	62-297.401(16)(a)
62-2.960(1)(h)	40CFR60.7
62-210.300(2)	40CFR60.8
62-210.650	40CFR60.11(a)
62-210.700(1)	40CFR60.11(d)
62-210.700(4)	40CFR60.13(a)
62-210.700(6)	40CFR60.13(b)
62-296.310(2)	40CFR60.13(e)(2)
62-296.320(2)	40CFR60.13(f)
62-296.404(3)(a)1.	40CFR60.283(a)(1)(iii)
62-296.404(3)(a)3.	40CFR60.284(b)(1)
62-296.404(3)(f)	40CFR60.284(d)(3)(ii)
62-296.404(4)(e)	
62-296.404(4)(f)	
62-296.404(5)(c)	
62-296.404(5)(d)	
62-296.404(6)(a)	
62-296.404(6)(b)	
62-296.404(6)(c)3.	
62-297.401(5)	

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

<p>1. Identification of Point on Plot Plan or Flow Diagram:  <b>TRS incinerator</b></p>
<p>2. Emission Point Type Code:  <input type="checkbox"/> 1                    <input checked="" type="checkbox"/> 2                    <input type="checkbox"/> 3                    <input type="checkbox"/> 4</p>
<p>3. Descriptions of Emissions Points Comprising this Emissions Unit:</p>
<p>4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  <b>Digester system, MEE system, and condensate stripper system all vent to TRS scrubber and incinerator</b></p>
<p>5. Discharge Type Code:  <input type="checkbox"/> D                    <input type="checkbox"/> F                    <input type="checkbox"/> H                    <input type="checkbox"/> P  <input type="checkbox"/> R                    <input checked="" type="checkbox"/> V                    <input type="checkbox"/> W</p>

Emissions Unit Information Section 4 of 8

6. Stack Height:	250	ft
7. Exit Diameter:	3.2	ft
8. Exit Temperature:	500	°F
9. Actual Volumetric Flow Rate:	41,000	acfm
10. Percent Water Vapor:	7	%
11. Maximum Dry Standard Flow Rate:	21,000	dscfm
12. Nonstack Emission Point Height:		ft
13. Emission Point UTM Coordinates:		
Zone:	East (km):	North (km):
14. Emission Point Comment:		

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate Information:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): <b>Methanol burning</b>	
2. Source Classification Code (SCC): <b>3-07-900-11</b>	
3. SCC Units: <b>1,000 gallons burned</b>	
4. Maximum Hourly Rate: <b>0.124</b>	5. Maximum Annual Rate: <b>1.086</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <b>64.5</b>	
10. Segment Comment: <b>Methanol burning</b>	

Segment Description and Rate Information: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Natural gas burning	
2. Source Classification Code: 3-07-900-13	
3. SCC Units: Million cubic feet burned	
4. Maximum Hourly Rate: 0.00762	5. Maximum Annual Rate: 66.75
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.1	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1,050	
10. Segment Comment:	

$$TR5 W = 0.12 \frac{\text{lbs}}{\text{hr}} \frac{(1 \dots 1)}{(1 - .9997)}$$

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 1 of 6

1. Pollutant Emitted: TRS		
2. Total Percent Efficiency of Control:	99.97%	
3. Primary Control Device Code: 013		
4. Secondary Control Device Code: 021		
5. Potential Emissions:	0.12 lbs/hr	0.53 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
8. Emission Factor: 5 ppm TRS in exhaust gases		
Reference:		
9. Emissions Method Code:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
10. Calculation of Emissions: See Attachment A-1		
11. Pollutant Potential/Estimated Emissions Comment:		



**Emissions Unit Information Section 4 of 8**

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: Rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 5 ppmvd TRS at 10% O <sub>2</sub>
4. Equivalent Allowable Emissions:           0.12 lbs/hr   0.53 tons/yr
5. Method of Compliance: Stack testing on incinerator outlet using Method 16 or 16A once every 5 years.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): Rule 62-296.404(3)(a)1.

**B.**

1. Basis for Allowable Emissions Code: Rule
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: Incineration at 1200°F for 0.5 second
4. Equivalent Allowable Emissions:                 lbs/hr   tons/yr
5. Method of Compliance: Continuous monitor for combustion temperature
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): Rule 62-296.404(3)(f)

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 2 of 6

1. Pollutant Emitted: <b>PM</b>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	5.5 lbs/hr	24.1 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor:		
Reference: <b>Stack test results</b>		
9. Emissions Method Code:		
<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions: <b>See Attachment A-1</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
Other		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 5.5 lb/hr		
4. Equivalent Allowable Emissions:	5.5 lbs/hr	24.1 tons/yr
5. Method of Compliance: Stack testing using Method 5 once every 5 years		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant 3 of 6**

1. Pollutant Emitted: <b>PM10</b>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	5.5 lbs/hr	24.1 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor:		
Reference: <b>Stack test results</b>		
9. Emissions Method Code:		
<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions: <b>See Attachment A-1</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section 4 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: Other		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 5.5 lb/hr		
4. Equivalent Allowable Emissions:	5.5 lbs/hr	24.1 tons/yr
5. Method of Compliance: Stack testing using Method 5 once every 5 years		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 4 of 6

1. Pollutant Emitted: SO <sub>2</sub>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	1,200 lbs/hr	1,699.4 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor:		
Reference: Uncontrolled TRS and approximately 50% removal in scrubber		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: See Attachment A-1		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: ESCPSD
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 1,200 lb/hr, max; 784 lb/hr, 24-hr
4. Equivalent Allowable Emissions:      1,200 lbs/hr                      1,699.4 tons/yr
5. Method of Compliance: Test initially and once every 5 years for SO <sub>2</sub> using Method 8 at outlet of TRS incinerator. This testing will demonstrate surrogate parameter (scrubber liquor flow rate) for SO <sub>2</sub> removal.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):

**B.**

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions:                      lbs/hr                                      tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant 5 of 6**

1. Pollutant Emitted: NO <sub>x</sub>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	1.74 lbs/hr	7.60 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 14 lb/1000 gal		
Reference: AP-42 for propane		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions:		
124 gal/hr x 14 lb/1000 gal = 1.74 lb/hr		
1.74 lb/hr x 8,760 hr/yr + 2,000 lb/ton = 7.60 TPY		
11. Pollutant Potential/Estimated Emissions Comment:		



Emissions Unit Information Section 4 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

## E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 6 of 6

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	0.24 lbs/hr	1.03 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 1.9 lb/1000 gal		
Reference: AP-42 for propane		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions:		
124 gal/hr x 1.9 lb/1000 gal = 0.24 lb/hr		
0.24 lb/hr x 8,760 hr/yr + 2,000 lb/ton = 1.03 TPY		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section 4 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitations:** Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: <b>VE</b>			
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other			
3. Requested Allowable Opacity:			
Normal Conditions:	5 %	Exceptional Conditions:	20 %
Maximum Period of Excess Opacity Allowed:			3 min/hr
4. Method of Compliance: <b>Method 9 testing once every 5 years</b>			
5. Visible Emissions Comment:			

**Emissions Unit Information Section  4  of  8**

**Visible Emissions Limitations:** Visible Emissions Limitation   of

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                     %                     Exceptional Conditions:                     %  Maximum Period of Excess Opacity Allowed:                     min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**Visible Emissions Limitations:** Visible Emissions Limitation   of

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                     %                     Exceptional Conditions:                     %  Maximum Period of Excess Opacity Allowed:                     min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System** Continuous Monitor 1 of 2

1. Parameter Code: Scrubber liquor flow rate	
2. CMS Requirement:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3. Monitor Information: Not yet selected	
Manufacturer:	
Model Number:	Serial Number:
4. Installation Date (DD-MON-YYYY): N/A	
5. Performance Specification Test Date (DD-MON-YYYY): N/A	
6. Continuous Monitor Comment: Surrogate parameter for TRS removal efficiency.	

1. Parameter Code: TEMP	
2. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Rosemount Model Number: 3044C41B4M5      Serial Number: 0042477	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment: Continuous monitor for combustion temperature Rule 62-296.404(5)(c)	

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number:      Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

**H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION**

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

**PSD Increment Consumption Determination**

**1. Increment Consuming for Particulate Matter or Sulfur Dioxide?**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.



2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lbs/hr		tons/yr
SO2	lbs/hr		tons/yr
NO2			tons/yr
5. PSD Comment:			

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

1. Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment C of PSD Report</u>	<input type="checkbox"/> Waiver Requested
	<input type="checkbox"/> Not Applicable	
2. Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input checked="" type="checkbox"/> Not Applicable	
3. Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment B of PSD Report</u>	<input type="checkbox"/> Waiver Requested
	<input type="checkbox"/> Not Applicable	
4. Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input checked="" type="checkbox"/> Not Applicable	
5. Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
	<input type="checkbox"/> Previously Submitted, Date: _____	
6. Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application	<input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u>	<input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute	<input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u>	<input type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Permit Application
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable

**ATTACHMENT A-1  
EMISSION ESTIMATES**

**I. SULFUR DIOXIDE (SO<sub>2</sub>)**

SO<sub>2</sub> emissions are based upon TRS content of gases to be incinerated. Fuel burning (methanol and natural gas) contributes negligible amounts of SO<sub>2</sub> to exhaust gases. Estimated TRS content of the gas streams vented to the incinerator and resulting uncontrolled SO<sub>2</sub> emissions are presented below:

Gas Stream Source	<u>TRS Content (lb/hr)*</u>		<u>SO<sub>2</sub> Emissions (lb/hr)</u>	
	Maximum 24-hour	Maximum 3-hour	Maximum 24-hour	Maximum 3-hour
(1) No. 3 Accumulator Tank	196	300	392	600
(2) Pre-Evaporators	69	106	138	212
(3) No. 1 B.L. Evaporator Set	17	26	34	52
(4) No. 2 B.L. Evaporator Set	17	26	34	52
(5) No. 3 B.L. Evaporator Set	17	26	34	52
(6) No. 4 B.L. Evaporator Set	17	26	34	52
(7) Turpentine Condenser	21	32	42	64
(8) Condensate Stripper	<u>38</u>	<u>58</u>	<u>76</u>	<u>116</u>
<b>Totals</b>	<b>392</b>	<b>600</b>	<b>784</b>	<b>1,200</b>

\* TRS reported as sulfur

Maximum annual SO<sub>2</sub> emissions are based upon the maximum 24-hour average TRS content and 50.5% removal in the TRS scrubber:

$$392 \text{ lb/hr TRS} \times 2 \text{ lb SO}_2/\text{lb TRS} \times (1 - 0.505) = 388 \text{ lb/hr SO}_2$$

$$388 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 1,699.4 \text{ TPY}$$

**II. TOTAL REDUCED SULFUR (TRS)**

Although it is expected that the TRS Incinerator will result in conversion of all TRS to SO<sub>2</sub>, the TRS regulations allow a 5 ppm (dry basis at standard conditions, corrected to 10% O<sub>2</sub>) TRS level

in the exhaust gases of an incineration device (12-hour average). Based upon this emission standard, maximum TRS emissions are calculated as follows:

$$\text{Gas Flow Rate} = 22,000 \text{ dscfm @ } 18.7\% \text{ O}_2$$

Equate 5 ppm emission rate @ 10% O<sub>2</sub> to actual stack O<sub>2</sub>

$$C_{\text{corr}} = C_{\text{act}} [(21 - X)/(21 - Y)]$$

$$X = \text{corrected O}_2 = 10\%$$

$$Y = \text{actual O}_2 = 18.7\%$$

$$C_{\text{corr}} = C_{\text{act}} [(21 - 10)/(21 - 18.7)] = 4.8 C_{\text{act}}$$

$$C_{\text{act}} = C_{\text{corr}} / 4.8 = 5 / 4.8 = 1.0 \text{ ppm}$$

TRS emissions:

$$PVC = mRT$$

$$m = PVC/RT$$

$$m = \frac{2116.8 \text{ lb}_f}{\text{ft}^2} \times \frac{22,000 \text{ ft}^3}{\text{min}} \times \frac{1.0}{10^6} \times \frac{34 \text{ lb}_m \text{ } ^\circ\text{R}}{1,545 \text{ ft} \text{ } \text{lb}_f} \times \frac{1}{528^\circ\text{R}} \times \frac{60 \text{ min}}{\text{hr}}$$

$$= 0.12 \text{ lb/hr}$$

$$0.12 \text{ lb/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 0.53 \text{ TPY}$$

### III. PM(TSP)/PM10

Emissions based on permit allowable of 5.5 lb/hr and 24.1 TPY.

### IV. OTHER POLLUTANTS

#### A. METHANOL BURNING

Emission factors for methanol burning are not published in USEPA AP-42, "Compilation of Air Pollutant Emission Factors." As a result, emission factors in AP-42 for liquified petroleum gas (propane) were used as an estimate of emissions due to methanol burning. The emission factors are as follows:

Nitrogen oxides - 14 lb/1000 gal

Carbon monoxide - 1.9 lb/1000 gal

Volatile Organic Compounds - 0.5 lb/1000 gal

Emission estimates are presented below:

Maximum Methanol burning rate =

$$8.0 \times 10^6 \text{ Btu/hr} / 9,781 \text{ Btu/lb} / 6.6 \text{ lb/gal} = 124 \text{ gal/hr}$$

$$\text{Nitrogen oxides} = 124 \times 14/1000 = 1.74 \text{ lb/hr}$$

$$\text{Carbon monoxide} = 124 \times 1.9/1000 = 0.24 \text{ lb/hr}$$

$$\text{Volatile Organic Compound} = 124 \times 0.5/1000 = 0.06 \text{ lb/hr}$$

## B. NATURAL GAS BURNING

From AP-42, emission factors for natural gas burning are as follows:

$$\text{Nitrogen oxides} - 100 \text{ lb}/10^6 \text{ ft}^3$$

$$\text{Carbon monoxide} - 20 \text{ lb}/10^6 \text{ ft}^3$$

$$\text{Volatile Organic Compounds} - 5.3 + 2.7 = 8.0 \text{ lb}/10^6 \text{ ft}^3$$

Emission estimates are presented below:

$$\begin{aligned} \text{Maximum natural gas burning rate} &= 8.0 \times 10^6 \text{ Btu/hr} / 1,050 \text{ Btu/ft}^3 \\ &= 7,619 \text{ ft}^3/\text{hr} \end{aligned}$$

$$\text{Nitrogen oxides} - 7,619 \text{ ft}^3/\text{hr} \times 100/10^6 = 0.76 \text{ lb/hr}$$

$$\text{Carbon monoxide} = 7,619 \text{ ft}^3/\text{hr} \times 20/10^6 = 0.15 \text{ lb/hr}$$

$$\text{Volatile Organic Compounds} = 7,619 \text{ ft}^3/\text{hr} \times 8/10^6 = 0.061 \text{ lb/hr}$$

## C. ANNUAL EMISSIONS

Annual emissions estimates assumes highest emissions for either fuel

$$\text{Nitrogen oxides} = 1.74 \text{ lb/hr} \times 8,760 / 2,000 = 7.60 \text{ TPY}$$

$$\text{Carbon monoxide} = 0.24 \text{ lb/hr} \times 8,760 / 2,000 = 1.03 \text{ TPY}$$

$$\text{Volatile Organic Compounds} = 0.06 \text{ lb/hr} \times 8,760 / 2,000 = 0.27 \text{ TPY}$$

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- [ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section: No. 4 Recovery Boiler		
2. ARMS Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown 31JAX54000518		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: 26
6. Initial Startup Date (DD-MON-YYYY):		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY):		
8. Package Unit: Manufacturer: _____ Model Number: _____		
9. Generator Nameplate Rating: _____ MW		
10. Incinerator Information: Dwell Temperature: _____ °F Dwell Time: _____ seconds Incinerator Afterburner Temperature: _____ °F		
11. Emissions Unit Comment:		



Emissions Unit Control Equipment

A.

1. Description: Electrostatic Precipitator
2. Control Device or Method Code: 010

B.

1. Description:
2. Control Device or Method Code:

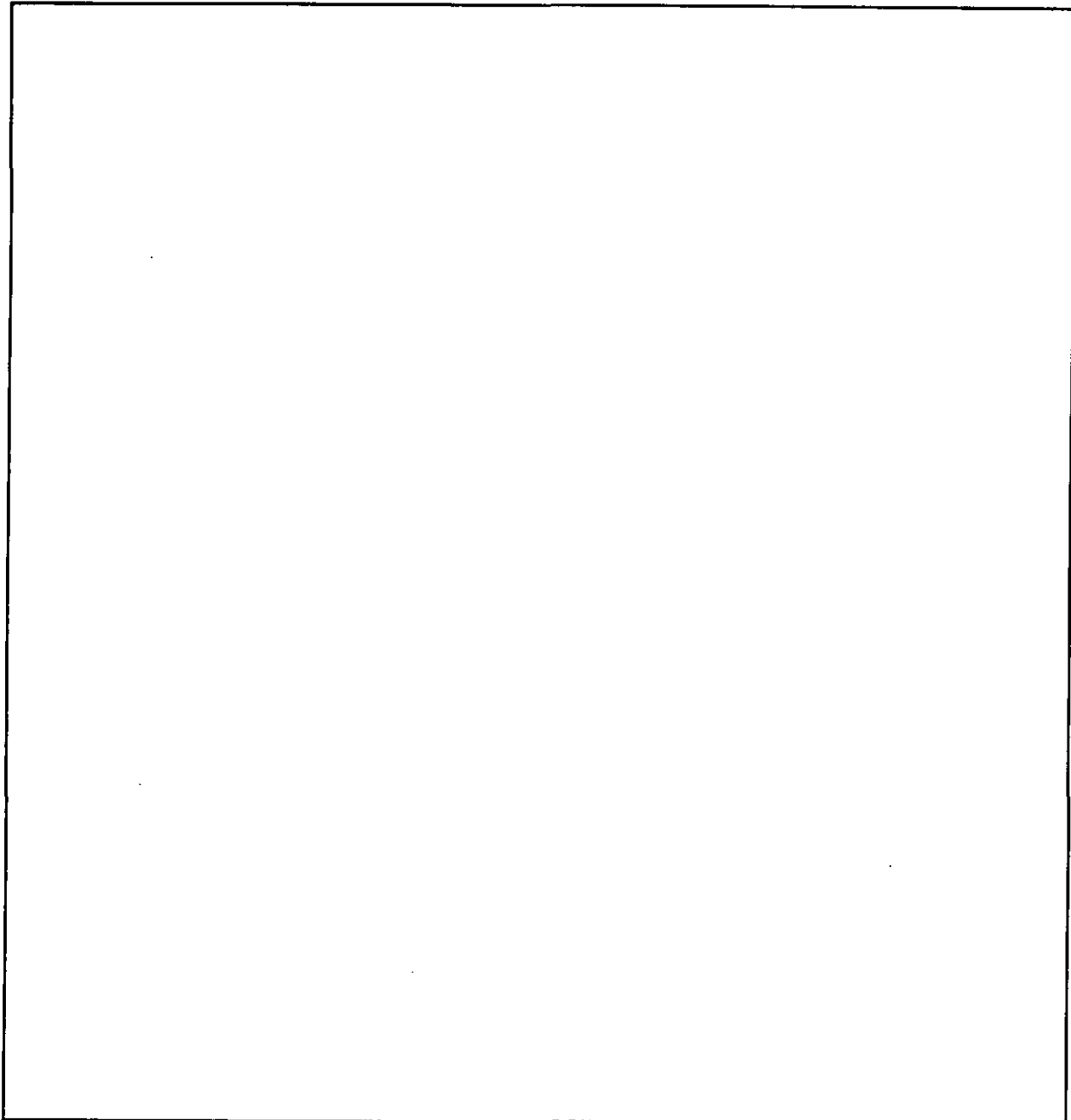
C.

1. Description:
2. Control Device or Method Code:

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-2.960(1)(a)	62-297.401(5)
62-2.960(1)(b)	62-297.401(7)(e)
62-2.960(1)(d)2.	62-297.401(8)
62-2.960(1)(g)	62-297.401(9)
62-2.960(1)(h)	62-297.401(10)
62-210.300(2)	62-297.401(16)
62-210.650	62-297.401(16)(a)
62-210.700(1)	62-297.401(25)
62-210.700(4)	62-297.401(25)(a)
62-296.310(3)	
62-296.320(2)	
62-296.404(1)(a)1.	
62-296.404(2)	
62-296.404(3)(c)1.a.	
62-296.404(3)(c)3.	
62-296.404(4)(a)	
62-296.404(4)(f)	
62-296.404(5)(a)	
62-296.404(5)(b)	
62-296.404(6)(a)	
62-296.404(6)(b)	
62-296.404(6)(c)1.	
62-296.404(6)(d)	

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

<p>1. Identification of Point on Plot Plan or Flow Diagram:  <b>RB4</b></p>
<p>2. Emission Point Type Code:  <input checked="" type="checkbox"/> 1            <input type="checkbox"/> 2            <input type="checkbox"/> 3            <input type="checkbox"/> 4</p>
<p>3. Descriptions of Emissions Points Comprising this Emissions Unit:</p>
<p>4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:</p>
<p>5. Discharge Type Code:  <input type="checkbox"/> D            <input type="checkbox"/> F            <input type="checkbox"/> H            <input type="checkbox"/> P  <input type="checkbox"/> R            <input checked="" type="checkbox"/> V            <input type="checkbox"/> W</p>

Emissions Unit Information Section  5  of  8

6. Stack Height:	230 ft	
7. Exit Diameter:	12.0 ft	
8. Exit Temperature:	400 °F	
9. Actual Volumetric Flow Rate:	432,000 acfm	
10. Percent Water Vapor:	21 %	
11. Maximum Dry Standard Flow Rate:	210,000 dscfm	
12. Nonstack Emission Point Height:	ft	
13. Emission Point UTM Coordinates:		
Zone:	East (km):	North (km):
14. Emission Point Comment:		

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate Information:** Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Recovery Furnace/Indirect Contact Evaporator	
2. Source Classification Code (SCC): 3-07-001-10	
3. SCC Units: Air-dry tons unbleached pulp	
4. Maximum Hourly Rate: 118.0 tons/hr ADUP	5. Maximum Annual Rate: 675,250 tons/yr ADUP
6. Estimated Annual Activity Factor: 1,850 tons/day ADUP	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**Segment Description and Rate Information:** Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): No. 6 fuel oil	
2. Source Classification Code: 1-02-004-01	
3. SCC Units: 1,000 gallons burned	
4. Maximum Hourly Rate: 5.4	5. Maximum Annual Rate: 47,304
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 2.5	8. Maximum Percent Ash: 0.05
9. Million Btu per SCC Unit: 145.78	
10. Segment Comment:	

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant  1  of  8** 

1. Pollutant Emitted: <b>PM</b>		
2. Total Percent Efficiency of Control:	<b>99 %</b>	
3. Primary Control Device Code: <b>010</b>		
4. Secondary Control Device Code:		
5. Potential Emissions:	<b>83.2 lbs/hr</b>	<b>364.4 tons/yr</b>
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>0.033 gr/dscf @ 8% O<sub>2</sub></b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: <b>See PSD Report</b>		
11. Pollutant Potential/Estimated Emissions Comment:		



**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>Other</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: <b>0.033 gr/dscf @ 8% O<sub>2</sub></b>
4. Equivalent Allowable Emissions: <b>83.2 lbs/hr</b> <b>364.4 tons/yr</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 5</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>

**B.**

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions:                      lbs/hr    tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant  2  of  8**

1. Pollutant Emitted: <b>PM10</b>		
2. Total Percent Efficiency of Control:	<b>99 %</b>	
3. Primary Control Device Code: <b>010</b>		
4. Secondary Control Device Code:		
5. Potential Emissions:	<b>83.2 lbs/hr</b>	<b>364.4 tons/yr</b>
6. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
8. Emission Factor: <b>0.033 gr/dscf @ 8% O<sub>2</sub></b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
10. Calculation of Emissions: <b>See PSD Report</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.033 gr/dscf @ 8% O <sub>2</sub>		
4. Equivalent Allowable Emissions:	83.2 lbs/hr	364.4 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): BACT		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  3  of  8

1. Pollutant Emitted: NO <sub>x</sub>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	210.6 lbs/hr	922.4 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 100 ppmvd @ 8% O <sub>2</sub>		
Reference: BACT		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: See PSD Report		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section  5  of  8

Allowable Emissions (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 100 ppmvd @ 8% O <sub>2</sub>		
4. Equivalent Allowable Emissions:	210.6 lbs/hr	922.4 tons/yr
5. Method of Compliance: <b>Annual stack test using EPA Method 7 or 7E</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  4  of  8

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	1,025.4 lbs/hr	2,245.6 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 800 ppmvd @ 8% O <sub>2</sub> , 1-hr; 400 ppmvd @ 8% O <sub>2</sub> , annual average		
Reference: BACT		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: See PSD Report		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: <b>800 ppmvd @ 8% O<sub>2</sub>, 1-hr; 400 ppmvd @ 8% O<sub>2</sub>, annual average</b>
4. Equivalent Allowable Emissions: <b>1,025.4 lbs/hr</b> <b>2,245.6 tons/yr</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 10</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>

**B.**

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions:                  lbs/hr    tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant  5  of  8**

1. Pollutant Emitted: <b>VOC</b>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	54.6 lbs/hr	239.1 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>0.52 lb/ton BLS</b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions:		
210,000 lb/hr BLS x 0.52 lb/ton + 2,000 lb/ton = 54.6 lb/hr		
11. Pollutant Potential/Estimated Emissions Comment:		



Emissions Unit Information Section 5 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.52 lb/ton BLS</b>		
4. Equivalent Allowable Emissions:	<b>54.6 lbs/hr</b>	<b>239.1 tons/yr</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 25 or 25A</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant  6  of  8**

1. Pollutant Emitted: TRS		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	17.8 lbs/hr	78.0 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 11.4 ppmvd @ 8% O <sub>2</sub>		
Reference: BACT		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: See PSD Report		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section  5  of  8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>11.4 ppmvd @ 8% O<sub>2</sub></b>		
4. Equivalent Allowable Emissions:	<b>17.8 lbs/hr</b>	<b>78.0 tons/yr</b>
5. Method of Compliance: <b>Continuous TRS Monitor</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

## E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 7 of 8

1. Pollutant Emitted: SO <sub>2</sub>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	109.9 lbs/hr	481.4 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 37.5 ppmvd @ 8% O <sub>2</sub>		
Reference: FDEP Limitation		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: See PSD Report		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section  5  of  8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 37.5 ppmvd @ 8% O <sub>2</sub>		
4. Equivalent Allowable Emissions:	109.9 lbs/hr	481.4 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 8		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

## E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 8 of 8

1. Pollutant Emitted: <b>SAM</b>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	3.2 lbs/hr	14.2 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>0.81 ppm</b>		
Reference: <b>NCASI Bulletin No. 106</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions:		
$427,500 \text{ acfm} \times 2,116.8 \text{ lb}_v/\text{ft}^3 + 15.765 \text{ ft-lb}_v/\text{lb}_m\text{-}^\circ\text{R} + 860^\circ\text{R} \times 0.81/10^6$ $\times 60 \text{ min/hr} = 3.2 \text{ lb/hr}$		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.81 ppm</b>		
4. Equivalent Allowable Emissions:	<b>3.2 lbs/hr</b>	<b>14.2 tons/yr</b>
5. Method of Compliance: <b>Annual stack test using NCASI Method 106</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitations:** Visible Emissions Limitation  1  of  1

1. Visible Emissions Subtype: VE	
2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
3. Requested Allowable Opacity:	
Normal Conditions:                            20 %	Exceptional Conditions:                            %
Maximum Period of Excess Opacity Allowed:	min/hr
4. Method of Compliance: Annual VE test using EPA Method 9	
5. Visible Emissions Comment:	



Emissions Unit Information Section   5   of   8  

**Visible Emissions Limitations:** Visible Emissions Limitation      of     

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                     %            Exceptional Conditions:                     %  Maximum Period of Excess Opacity Allowed:   min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**Visible Emissions Limitations:** Visible Emissions Limitation      of     

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                     %            Exceptional Conditions:                     %  Maximum Period of Excess Opacity Allowed:   min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System** Continuous Monitor 1 of 2

1. Parameter Code: TRS	
2. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information:	
Manufacturer: See comment	Serial Number: NA
Model Number: NA	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment: Rule 62-296.404(5)(a); TRS continuous monitor system has been assembled by permittee from various components.	

Emissions Unit Information Section  5  of  8

Continuous Monitoring System Continuous Monitor  2  of  2

1. Parameter Code: 02		
2. CMS Requirement:	<input checked="" type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Teledyne Model Number: Serial Number:		
4. Installation Date (DD-MON-YYYY):		
5. Performance Specification Test Date (DD-MON-YYYY):		
6. Continuous Monitor Comment: Rule 62-296.404(5)(a)		

Continuous Monitoring System Continuous Monitor \_\_\_\_ of \_\_\_\_

1. Parameter Code:		
2. CMS Requirement:	<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:		
4. Installation Date (DD-MON-YYYY):		
5. Performance Specification Test Date (DD-MON-YYYY):		
6. Continuous Monitor Comment:		

## H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

### PSD Increment Consumption Determination

#### 1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [ X ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	0 lbs/hr	0 tons/yr	
SO2	0 lbs/hr	0 tons/yr	
NO2		477.9 tons/yr	
5. PSD Comment:			

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

<p>1. Process Flow Diagram</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u> Attachment C of PSD Report </u></p> <p><input type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span></p>
<p>2. Fuel Analysis or Specification</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span></p>
<p>3. Detailed Description of Control Equipment</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span></p>
<p>4. Description of Stack Sampling Facilities</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span></p>
<p>5. Compliance Test Report</p> <p><input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span></p> <p><input type="checkbox"/> Previously Submitted, Date: _____</p>
<p>6. Procedures for Startup and Shutdown</p> <p><input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span></p>
<p>7. Operation and Maintenance Plan</p> <p><input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span></p>
<p>8. Supplemental Information for Construction Permit Application</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u> PSD Report </u> <span style="float: right;"><input type="checkbox"/> Not Applicable</span></p>
<p>9. Other Information Required by Rule or Statute</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u> PSD Report </u> <span style="float: right;"><input type="checkbox"/> Not Applicable</span></p>

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Permit Application
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- [ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.



Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section: No. 4 Smelt Dissolving Tanks		
2. ARMS Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown 31JAX54000519		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: 26
6. Initial Startup Date (DD-MON-YYYY):		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY):		
8. Package Unit: Manufacturer: _____ Model Number: _____		
9. Generator Nameplate Rating: _____ MW		
10. Incinerator Information: Dwell Temperature: _____ °F Dwell Time: _____ seconds Incinerator Afterburner Temperature: _____ °F		
11. Emissions Unit Comment:		

**Emissions Unit Control Equipment**

**A.**

<p>1. Description: Venturi scrubbers; one for each smelt tank</p> <p>2. Control Device or Method Code: 053</p>
--

**B.**

<p>1. Description:</p> <p>2. Control Device or Method Code:</p>
---

**C.**

<p>1. Description:</p> <p>2. Control Device or Method Code:</p>
---

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:	mmBtu/hr	
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	85,890 lb/hr smelt	
4. Maximum Production Rate:		
5. Operating Capacity Comment:		

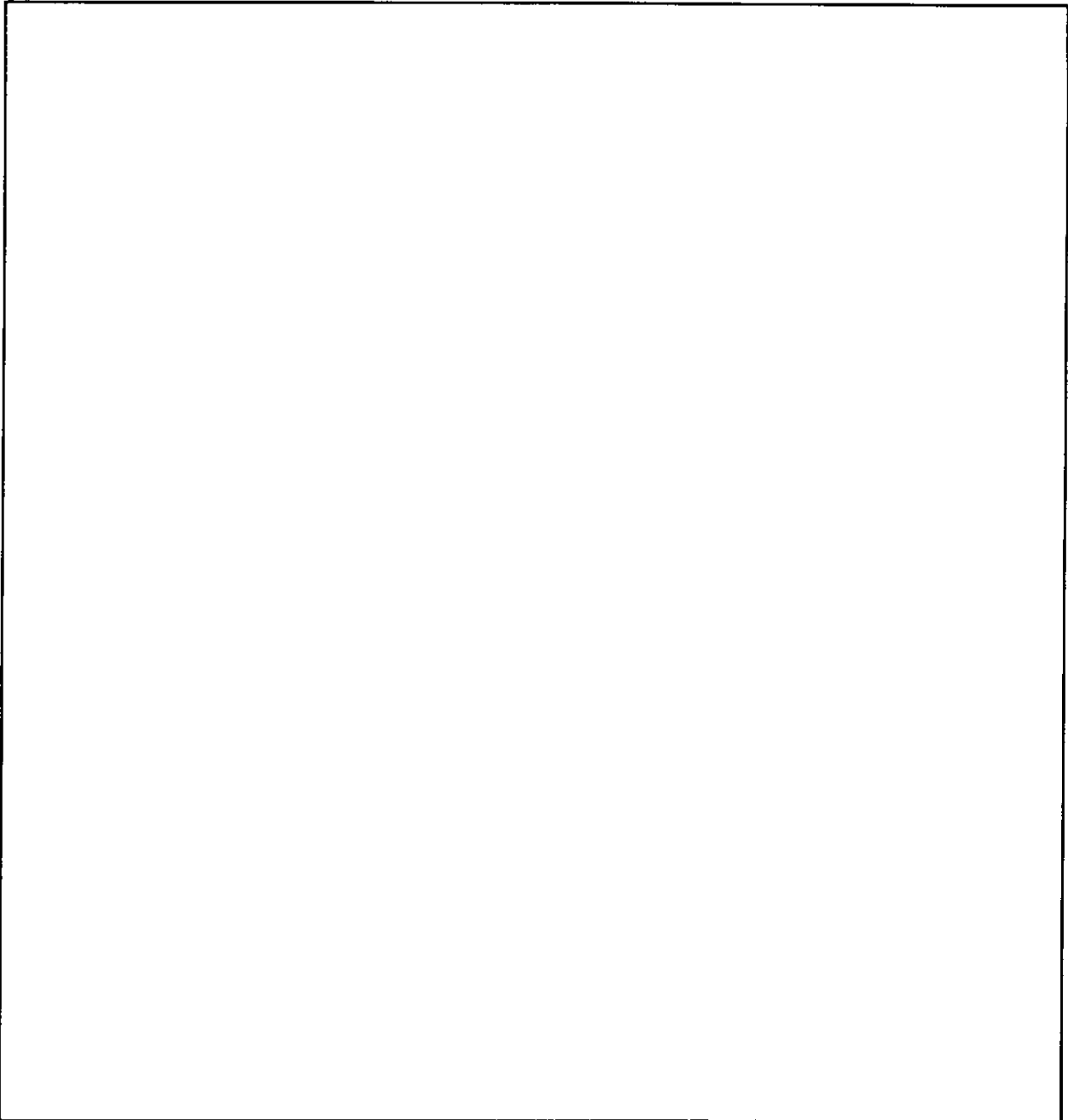
**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:		
24 hours/day	7 days/week	
52 weeks/yr	8,760 hours/yr	

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



Emissions Unit Information Section  6  of  8

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-2.960(1)(a)	62-297.401(16)
62-2.960(1)(b)	62-297.401(16)(a)
62-2.960(1)(d)1.	
62-2.960(1)(g)	
62-2.960(1)(h)	
62-210.300(2)	
62-210.650	
62-210.700(1)	
62-210.700(4)	
62-210.700(6)	
62-296.310(1)	
62-296.310(2)	
62-296.310(3)	
62-296.320(2)	
62-296.404(3)(d)	
62-296.404(4)(c)	
62-296.404(4)(f)	
62-296.404(5)(d)	
62-296.404(6)(a)	
62-296.404(6)(b)	
62-296.404(6)(c)3.	
62-296.404(6)(d)	
62-297.401(5)	

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>SDT4</b>
2. Emission Point Type Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4
3. Descriptions of Emissions Points Comprising this Emissions Unit: <b>2 smelt dissolving tank vents with scrubbers</b>
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W

Emissions Unit Information Section  6  of  8

6. Stack Height:	206 ft
7. Exit Diameter:	5.0 ft
8. Exit Temperature:	160 °F
9. Actual Volumetric Flow Rate:	32,000 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	ft
13. Emission Point UTM Coordinates:	
Zone:	East (km):                      North (km):
14. Emission Point Comment:	

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate Information:** Segment  1  of  1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): <b>Smelt Dissolving Tank</b>	
2. Source Classification Code (SCC): <b>3-07-001-05</b>	
3. SCC Units: <b>Air-dry tons unbleached pulp</b>	
4. Maximum Hourly Rate: <b>118.0 tons/hr ADUP</b>	5. Maximum Annual Rate: <b>675,250 tons/yr ADUP</b>
6. Estimated Annual Activity Factor: <b>1,850 tons/day ADUP</b>	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	



**Segment Description and Rate Information:** Segment \_\_\_\_ of \_\_\_\_

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code:	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  1  of  7

1. Pollutant Emitted: <b>PM</b>		
2. Total Percent Efficiency of Control:	<b>96 %</b>	
3. Primary Control Device Code: <b>053</b>		
4. Secondary Control Device Code:		
5. Potential Emissions:	<b>12.6 lbs/hr</b>	<b>55.2 tons/yr</b>
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>0.12 lb/ton BLS to RB4</b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions:		
<b>210,000 lb/hr BLS x 0.12 lb/ton + 2,000 lb/ton = 12.6 lb/hr</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.12 lb/ton BLS to RB4		
4. Equivalent Allowable Emissions:	12.6 lbs/hr	55.2tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): BACT		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  2  of  7

1. Pollutant Emitted: <b>PM10</b>		
2. Total Percent Efficiency of Control:	<b>96 %</b>	
3. Primary Control Device Code: <b>053</b>		
4. Secondary Control Device Code:		
5. Potential Emissions:	12.6 lbs/hr	55.2 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>0.12 lb/ton BLS to RB4</b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions:		
210,000 lb/hr BLS x 0.12 lb/ton + 2,000 lb/ton = 12.6 lb/hr		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section 6 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.12 lb/ton BLS to RB4		
4. Equivalent Allowable Emissions:	12.6 lbs/hr	55.2 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): BACT		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant 3 of 7**

1. Pollutant Emitted: TRS		
2. Total Percent Efficiency of Control:	90 %	
3. Primary Control Device Code: 053		
4. Secondary Control Device Code:		
5. Potential Emissions:	3.4 lbs/hr	14.9 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 0.048 lb/3000 lb BLS to RB4		
Reference: 62-296.404(3)(d)		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions:		
210,000 lb/hr BLS x 0.048 lb/3000 lb BLS = 3.36 lb/hr		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: Rule		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.048 lb/3000 lb BLS		
4. Equivalent Allowable Emissions:	3.4 lbs/hr	14.9 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 16 or 16A		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): 62-296.404(3)(d)		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 4 of 7

1. Pollutant Emitted: SO <sub>2</sub>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	7.9 lbs/hr	34.5 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 0.075 lb/ton BLS to RB4		
Reference: NCASI Bulletin No. 646		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions:		
210,000 lb/hr BLS x 0.075 lb/ton BLS + 2,000 lb/ton = 7.9 lb/hr		
11. Pollutant Potential/Estimated Emissions Comment:		



**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

## E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 5 of 7

1. Pollutant Emitted: <b>NO<sub>x</sub></b>		
2. Total Percent Efficiency of Control:		%
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	15.8 lbs/hr	69.0 tons/yr
6. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
8. Emission Factor: <b>0.15 lb/ton BLS to RB4</b>		
Reference: <b>NCASI Bulletin No. 646</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
10. Calculation of Emissions:		
$210,000 \text{ lb/hr BLS} \times 0.15 \text{ lb/ton BLS} + 2,000 \text{ lb/ton} = 15.8 \text{ lb/hr}$		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  6  of  7

1. Pollutant Emitted: <b>VOC</b>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	20.2 lbs/hr	88.3 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>0.192 lb/ton BLS to RB4</b>		
Reference: <b>NCASI Bulletin No. 646</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions:		
<b>210,000 lb/hr BLS x 0.192 lb/ton BLS + 2,000 lb/ton = 20.2 lb/hr</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 7 of 7

1. Pollutant Emitted: <b>SAM</b>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	0.39 lbs/hr	1.70 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 4% of SO <sub>2</sub> as SO <sub>3</sub>		
Reference: AP-42, Table 1.3-2		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions:		
7.9 lb/hr SO <sub>2</sub> x 0.04 x 98/80 = 0.39 lb/hr		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section  6  of  8

Allowable Emissions (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitations:** Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VEX	
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other	
3. Requested Allowable Opacity:	
Normal Conditions:                      %                      Exceptional Conditions:                      %	
Maximum Period of Excess Opacity Allowed:	min/hr
4. Method of Compliance:	
5. Visible Emissions Comment: Due to moisture interference, the visible emission limiting standard pursuant to F.A.C. Rule 62-296.310(2) is not applicable and is deferred to F.A.C. Rule 62-296.404(2)(b).	



Visible Emissions Limitations: Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                  %                  Exceptional Conditions:                  %  Maximum Period of Excess Opacity Allowed:                                  min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

Visible Emissions Limitations: Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                  %                  Exceptional Conditions:                  %  Maximum Period of Excess Opacity Allowed:                                  min/hr
4. Method of Compliance:
5. Visible Emissions Comment:

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System** Continuous Monitor 1 of 2

1. Parameter Code: Weak wash flow rate to scrubber (North tank)	
2. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information:  Manufacturer: Foxboro Model Number: 2803-SABA-TSA-G                      Serial Number: 5252373	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment: Weak wash flow rate to scrubber of 119 gpm, minimum, 12-hour average.	

1. Parameter Code: Weak wash flow rate to scrubber (South tank)	
2. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Taylor Model Number: Serial Number: 1200LK03121-100-3970A	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

## H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

### PSD Increment Consumption Determination

#### 1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [ X ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

Emissions Unit Information Section 6 of 8

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	0 lbs/hr		0 tons/yr
SO2	0 lbs/hr		0 tons/yr
NO2			48.8 tons/yr
5. PSD Comment:			

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

1. Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment C of PSD Report</u>	<input type="checkbox"/> Waiver Requested
	<input type="checkbox"/> Not Applicable	
2. Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input checked="" type="checkbox"/> Not Applicable	
3. Detailed Description of Control Equipment	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input checked="" type="checkbox"/> Not Applicable	
4. Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input checked="" type="checkbox"/> Not Applicable	
5. Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
	<input type="checkbox"/> Previously Submitted, Date: _____	
6. Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application	<input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u>	<input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute	<input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u>	<input type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Permit Application
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### Type of Emissions Unit Addressed in This Section

Check one:

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.



**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section: No. 4 Lime Kiln		
2. ARMS Identification Number: [ ] No Corresponding ID [ ] Unknown 31JAX54000517		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 26
6. Initial Startup Date (DD-MON-YYYY):		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY):		
8. Package Unit: Manufacturer: Model Number:		
9. Generator Nameplate Rating: MW		
10. Incinerator Information: Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature: °F		
11. Emissions Unit Comment:		

Emissions Unit Control Equipment

**A.**

1. Description: Venturi Scrubber
2. Control Device or Method Code: 053

**B.**

1. Description:
2. Control Device or Method Code:

**C.**

1. Description:
2. Control Device or Method Code:

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	136 mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr                      tons/day
3. Maximum Process or Throughput Rate:	82,986 lb/hr CaCO <sub>3</sub> and inerts
4. Maximum Production Rate:	38,889 lb/hr CaO <sub>3</sub>
5. Operating Capacity Comment:	

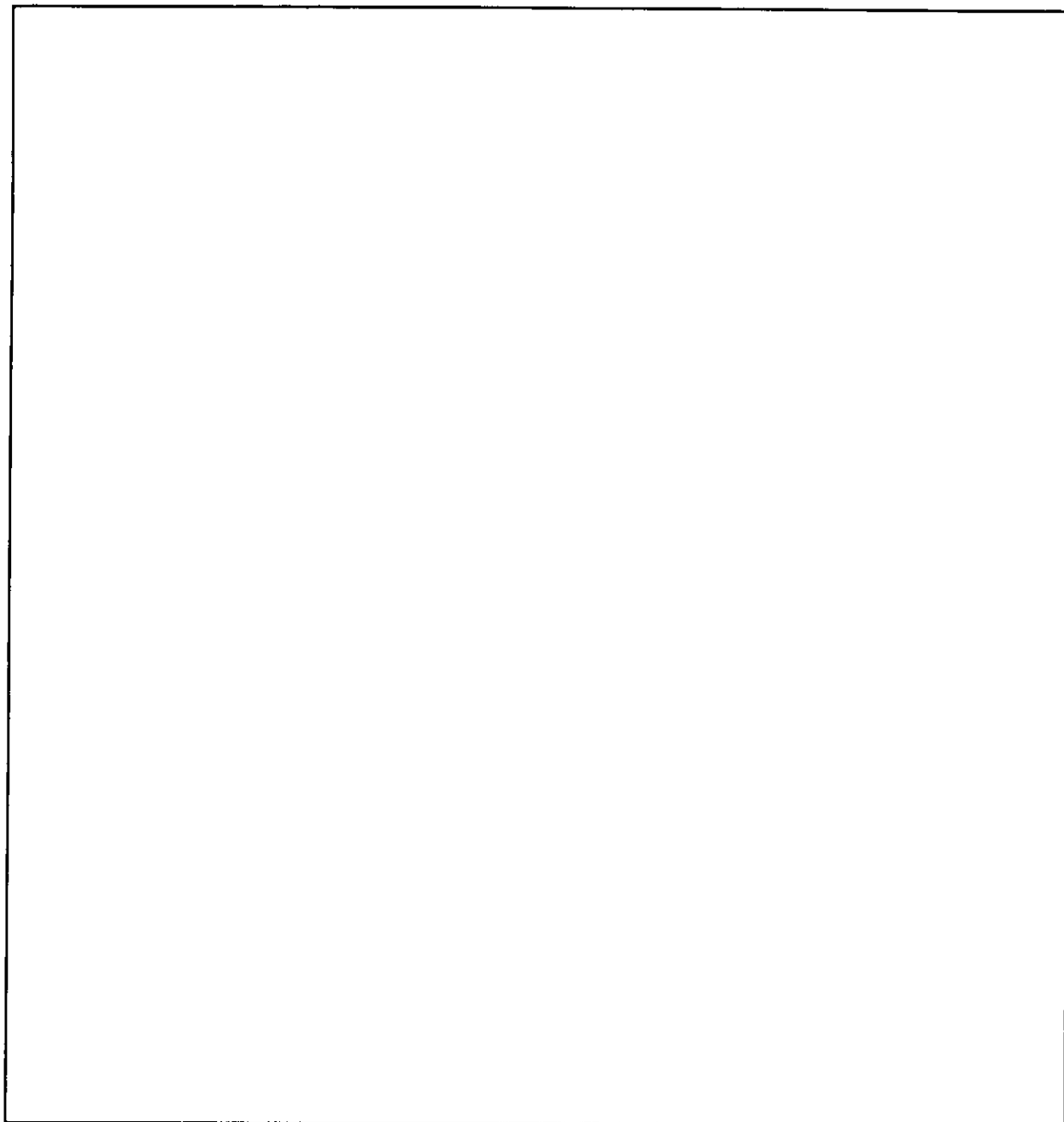
Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
52 weeks/yr	8,760 hours/yr

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



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**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-2.960(1)(a)	62-297.401(8)
62-2.960(1)(b)	62-297.401(10)
62-2.960(1)(d)3.	62-297.401(16)
62-2.960(1)(g)	62-297.401(16)(a)
62-2.960(1)(h)	62-297.401(25)
62-210.300(2)	62-297.401(25)(a)
62-210.650	
62-210.700(1)	
62-210.700(4)	
62-210.700(6)	
62-296.310(1)	
62-296.310(3)	
62-296.320(2)	
62-296.404(3)(e)	
62-296.404(4)(b)	
62-296.404(5)(a)	
62-296.404(5)(b)	
62-296.404(6)(a)	
62-296.404(6)(b)	
62-296.404(6)(c)2.	
62-296.404(6)(d)	
62-297.401(5)	
62-297.401(7)(e)	

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>LK4</b>
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
3. Descriptions of Emissions Points Comprising this Emissions Unit:
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W

Emissions Unit Information Section  7  of  8

6. Stack Height:	131 ft	
7. Exit Diameter:	4.42 ft	
8. Exit Temperature:	150 °F	
9. Actual Volumetric Flow Rate:	56,000 acfm	
10. Percent Water Vapor:	34 %	
11. Maximum Dry Standard Flow Rate:	32,000 dscfm	
12. Nonstack Emission Point Height:	ft	
13. Emission Point UTM Coordinates:		
Zone:	East (km):	North (km):
14. Emission Point Comment:		

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate Information:** Segment  1  of  2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Lime Kiln	
2. Source Classification Code (SCC): 3-07-001-06	
3. SCC Units: Air-dry tons unbleached pulp	
4. Maximum Hourly Rate: 118.0 tons/hr ADUP	5. Maximum Annual Rate: 675,250 tons/yr ADUP
6. Estimated Annual Activity Factor: 1,850 tons/day ADUP	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	



**Segment Description and Rate Information:** Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): No. 6 fuel oil	
2. Source Classification Code: 1-02-004-01	
3. SCC Units: 1,000 gallons burned	
4. Maximum Hourly Rate: 0.933	5. Maximum Annual Rate: 8,173.1
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 2.5	8. Maximum Percent Ash: 0.05
9. Million Btu per SCC Unit: 145.78	
10. Segment Comment:	

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 1 of 8

1. Pollutant Emitted: <b>PM</b>		
2. Total Percent Efficiency of Control:	<b>99 %</b>	
3. Primary Control Device Code: <b>053</b>		
4. Secondary Control Device Code:		
5. Potential Emissions:	<b>26.0 lbs/hr</b>	<b>113.9 tons/yr</b>
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>0.081 gr/dscf @ 10% O<sub>2</sub></b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: <b>See PSD Report</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section 7 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.081 gr/dscf @ 10% O <sub>2</sub>		
4. Equivalent Allowable Emissions:	26.0 lbs/hr	113.9 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): BACT		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 2 of 8

1. Pollutant Emitted: <b>PM10</b>		
2. Total Percent Efficiency of Control:	<b>99 %</b>	
3. Primary Control Device Code: <b>053</b>		
4. Secondary Control Device Code:		
5. Potential Emissions:	<b>26.0 lbs/hr</b>	<b>113.9 tons/yr</b>
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>0.081 gr/dscf @ 10% O<sub>2</sub></b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: <b>See PSD Report</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

Emissions Unit Information Section 7 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.081 gr/dscf @ 10% O<sub>2</sub></b>		
4. Equivalent Allowable Emissions:	<b>26.0 lbs/hr</b>	<b>113.9 tons/yr</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 5</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  3  of  8

1. Pollutant Emitted: <b>NO<sub>x</sub></b>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	50.3 lbs/hr	220.3 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>290 ppmvd @ 10% O<sub>2</sub></b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: <b>See PSD Report</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>290 ppmvd @ 10% O<sub>2</sub></b>		
4. Equivalent Allowable Emissions:	<b>50.3 lbs/hr</b>	<b>220.3 tons/yr</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 7 or 7E</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 4 of 8

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	7.3 lbs/hr	32.0 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 69 ppmvd @ 10% O <sub>2</sub>		
Reference: BACT		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: See PSD Report		
11. Pollutant Potential/Estimated Emissions Comment:		



Emissions Unit Information Section 7 of 8

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>69 ppmvd @ 10% O<sub>2</sub></b>		
4. Equivalent Allowable Emissions:	<b>7.3 lbs/hr</b>	<b>32.0 tons/yr</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 10</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant 5 of 8**

1. Pollutant Emitted: <b>VOC</b>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	17.2 lbs/hr	75.3 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: <b>185 ppmvd @ 10% O<sub>2</sub></b>		
Reference: <b>BACT</b>		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: <b>See PSD Report</b>		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 185 ppmvd @ 10% O <sub>2</sub>		
4. Equivalent Allowable Emissions:	17.2 lbs/hr	75.3 tons/yr
5. Method of Compliance: Annual stack test using EPA Method 25 or 25A		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): BACT		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 6 of 8

1. Pollutant Emitted: TRS		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	4.0 lbs/hr	17.5 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 20 ppmvd @ 10% O <sub>2</sub> , 12-hr average		
Reference: Rule 62-296.404(3)(e)1.		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: See PSD Report		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: <b>20 ppmvd @ 10% O<sub>2</sub></b>
4. Equivalent Allowable Emissions: <b>4.0 lbs/hr</b> <b>17.5 tons/yr</b>
5. Method of Compliance: <b>Continuous TRS Monitor</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>Rule 62-296.404(3)(e)1.</b>

**B.**

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions:                      lbs/hr    tons/yr
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant  7  of  8**

1. Pollutant Emitted: SO <sub>2</sub>		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	10.9 lbs/hr	47.7 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
8. Emission Factor: 0.15 lb/ton ADUP		
Reference: AP-42, Table 10.1-1: 0.3 lb/ton ADUP and 50% control with wet scrubber		
9. Emissions Method Code:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
10. Calculation of Emissions:		
$19.44 \text{ tons/hr CaO} \times 0.90 \times \text{ton ADUP} / 0.24 \text{ tons CaO} = 72.9 \text{ TPH ADUP}$ $72.9 \text{ TPH ADUP} \times 0.15 \text{ lb/ton} = 10.9 \text{ lb/hr}$		
11. Pollutant Potential/Estimated Emissions Comment:		

**Emissions Unit Information Section   7   of   8**

**Allowable Emissions (Pollutant identified on front page)**

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	10.9 lbs/hr	47.7 tons/yr
5. Method of Compliance: <b>Annual stack test using EPA Method 8</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant 8 of 8

1. Pollutant Emitted: <b>SAM</b>		
2. Total Percent Efficiency of Control:		%
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	0.53 lbs/hr	2.34 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: SO <sub>2</sub> is 4% of SO <sub>2</sub> emissions		
Reference: AP-42, Table 1.3-2		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions: 10.9 lb/hr x 0.04 x 98/80 = 0.53 lb/hr (SO <sub>4</sub> /SO <sub>2</sub> )		
11. Pollutant Potential/Estimated Emissions Comment:		



Emissions Unit Information Section 7 of 8

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.5 lb/hr		
4. Equivalent Allowable Emissions:	0.5 lbs/hr	2.34 tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): BACT		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitations:** Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: <b>VEX</b>
2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                                  %                                  Exceptional Conditions:                                  %  Maximum Period of Excess Opacity Allowed:    min/hr
4. Method of Compliance:
5. Visible Emissions Comment: <b>Due to moisture interference, the visible emission limiting standard pursuant to F.A.C. Rule 62-296.310(2) is not applicable and is deferred to F.A.C. Rule 62-296.404(2)(b).</b>

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other			
3. Requested Allowable Opacity:		Exceptional Conditions:	
Normal Conditions:	%		%
Maximum Period of Excess Opacity Allowed:			min/hr
4. Method of Compliance:			
5. Visible Emissions Comment:			

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other			
3. Requested Allowable Opacity:		Exceptional Conditions:	
Normal Conditions:	%		%
Maximum Period of Excess Opacity Allowed:			min/hr
4. Method of Compliance:			
5. Visible Emissions Comment:			

### G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System** Continuous Monitor  1  of  2

1. Parameter Code: TRS	
2. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information:	
Manufacturer: See Comment Model Number: NA	Serial Number: NA
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment: Rule 62-296.404(5)(a); TRS monitoring system assembled by permittee from various components.	



## H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

### PSD Increment Consumption Determination

#### 1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

Emissions Unit Information Section 7 of 8

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	0 lbs/hr		0 tons/yr
SO2	0 lbs/hr		0 tons/yr
NO2			148.4 tons/yr
5. PSD Comment:			

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

1. Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment C of PSD Report</u>	<input type="checkbox"/> Waiver Requested
	<input type="checkbox"/> Not Applicable	
2. Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input checked="" type="checkbox"/> Not Applicable	
3. Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input type="checkbox"/> Not Applicable	
4. Description of Stack Sampling Facilities	<input checked="" type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
	<input type="checkbox"/> Not Applicable	
5. Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
	<input type="checkbox"/> Previously Submitted, Date: _____	
6. Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application	<input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u>	<input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute	<input checked="" type="checkbox"/> Attached, Document ID: <u>PSD Report</u>	<input type="checkbox"/> Not Applicable



**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Permit Application
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### Type of Emissions Unit Addressed in This Section

Check one:

- 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, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section: Tall Oil Plant		
2. ARMS Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown 31JAX54000531		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: 26
6. Initial Startup Date (DD-MON-YYYY):		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY):		
8. Package Unit: Manufacturer: _____ Model Number: _____		
9. Generator Nameplate Rating: _____ MW		
10. Incinerator Information:  <div style="display: flex; justify-content: space-between;"> <div style="text-align: right;">Dwell Temperature:</div> <div>°F</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="text-align: right;">Dwell Time:</div> <div>seconds</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="text-align: right;">Incinerator Afterburner Temperature:</div> <div>°F</div> </div>		
11. Emissions Unit Comment:		

**Emissions Unit Control Equipment**

**A.**

<p>1. Description: Packed-Gas Absorption Column</p>          <p>2. Control Device or Method Code: 050</p>
---

**B.**

<p>1. Description:</p>          <p>2. Control Device or Method Code:</p>
--

**C.**

<p>1. Description:</p>          <p>2. Control Device or Method Code:</p>
--

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:	mmBtu/hr	
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:	55 tons/hr crude tall oil, 12-hr average	
5. Operating Capacity Comment:	20,020 tons/yr crude tall oil	

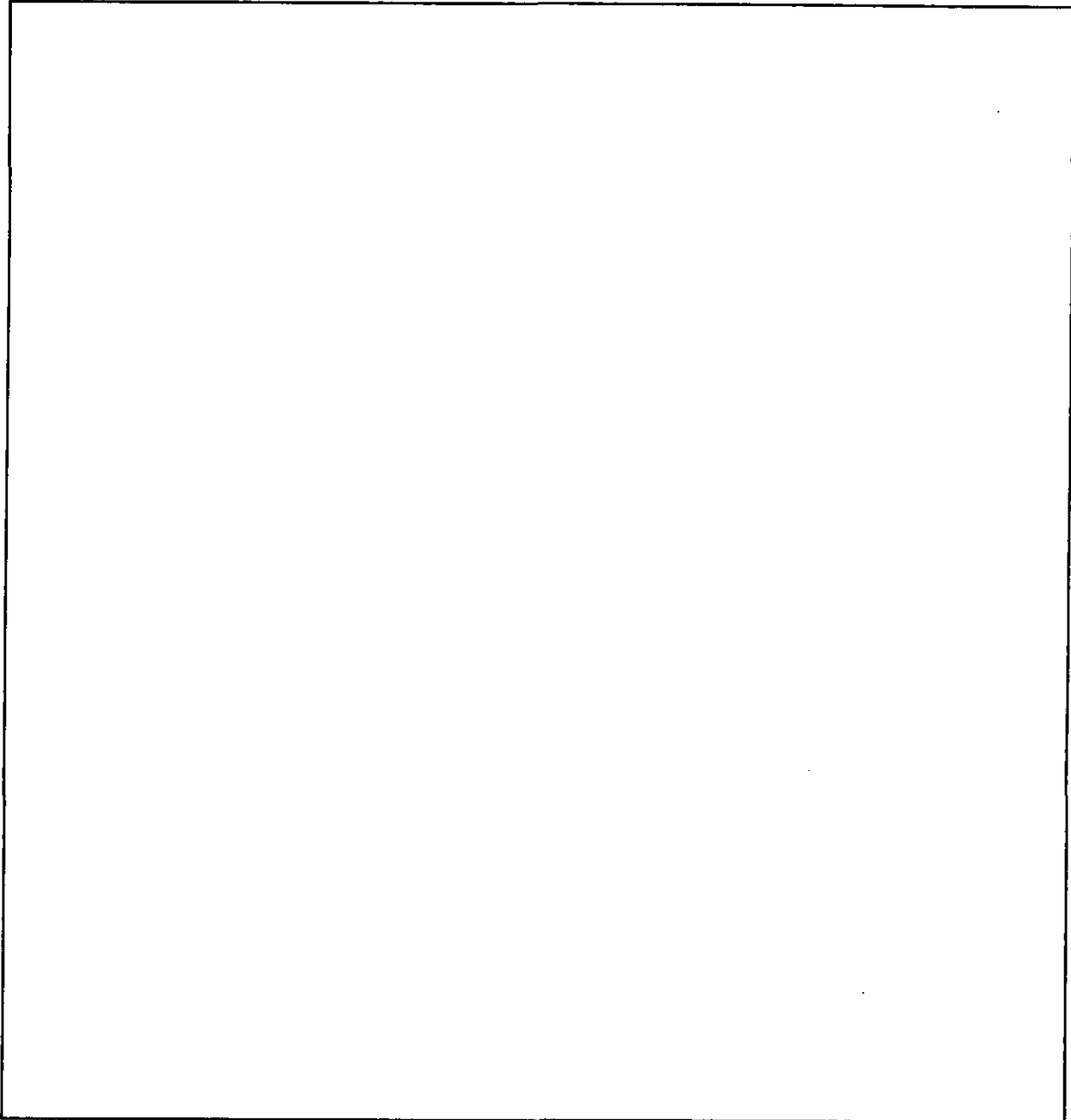
**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
52 weeks/yr	8,760 hours/yr

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



Emissions Unit Information Section  8  of  8

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-2.960(1)(a)	
62-2.960(1)(b)	
62-2.960(1)(d)1.	
62-2.960(1)(g)	
62-2.960(1)(h)	
62-210.300(2)	
62-210.650	
62-210.700(1)	
62-210.700(4)	
62-210.700(6)	
62-296.320(2)	
62-296.404(3)(b)	
62-296.404(4)(d)	
62-296.404(4)(f)	
62-296.404(5)(d)	
62-296.404(6)(a)	
62-296.404(6)(b)	
62-296.404(6)(c)3.	
62-296.404(6)(d)	
62-297.401(16)	
62-297.401(16)(a)	
62-297.401(16)(b)	

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>TOP</b>
2. Emission Point Type Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4
3. Descriptions of Emissions Points Comprising this Emissions Unit:
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W



Emissions Unit Information Section 8 of 8

6. Stack Height:	40 ft
7. Exit Diameter:	1.33 ft
8. Exit Temperature:	200 °F
9. Actual Volumetric Flow Rate:	3,400 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	ft
13. Emission Point UTM Coordinates:	
Zone:	East (km):
	North (km):
14. Emission Point Comment:	

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate Information:** Segment  1  of  1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): <b>Tall Oil Production</b>	
2. Source Classification Code (SCC): <b>3-99-999-96</b>	
3. SCC Units: <b>1,000 gallons</b>	
4. Maximum Hourly Rate: <b>55 tons/hr Crude Tall oil</b>	5. Maximum Annual Rate: <b>20,020 tons/yr Crude Tall oil</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**Segment Description and Rate Information:** Segment       of      

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code:	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  1  of  2

1. Pollutant Emitted: TRS		
2. Total Percent Efficiency of Control:	96%	
3. Primary Control Device Code: 050		
4. Secondary Control Device Code:		
5. Potential Emissions:	4.23 lbs/hr	0.50 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 0.05 lb/ton crude tall oil		
Reference: Rule 62-296.404(3)(b)		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
10. Calculation of Emissions:		
55 tons CTO x 0.05 lb/ton + 12 hr = 0.23 lb/hr		
20,020 TPY CTO x 0.05 lb/ton + 2,000 lb/ton = 0.50 TPY		
11. Pollutant Potential/Estimated Emissions Comment:		
lb/hr limit is based on 12-hr average		

**Allowable Emissions** (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: <b>RULE</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.05 lb/ton Crude tall oil</b>		
4. Equivalent Allowable Emissions:	<b>0.23 lbs/hr</b>	<b>0.50 tons/yr</b>
5. Method of Compliance: <b>Annual stack test using EPA Method 16, 16A or 16B</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode): <b>Rule 62-296.404(3)(b)</b>		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant  2  of  2

1. Pollutant Emitted: VOC		
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	13.3 lbs/hr	29.0 tons/yr
6. Synthetically Limited?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
8. Emission Factor: 2.9 lb/ton Crude tall oil (as C)		
Reference: NCASI Bulletin 677, Table X1.A.3		
9. Emissions Method Code:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5
10. Calculation of Emissions:		
55 TPH CTO x 2.9 lb/ton + 12 hrs = 13.3 lb/hr		
20,020 TPY CTO x 2.9 lb/ton + 2,000 lb/ton = 29.0 TPY		
11. Pollutant Potential/Estimated Emissions Comment:		

**Allowable Emissions** (Pollutant identified on front page)

**A.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lbs/hr	tons/yr
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_\_ of \_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other			
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hr
4. Method of Compliance:			
5. Visible Emissions Comment:			



**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hr
4. Method of Compliance:			
5. Visible Emissions Comment:			

**Visible Emissions Limitations:** Visible Emissions Limitation \_\_\_ of \_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hr
4. Method of Compliance:			
5. Visible Emissions Comment:			

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System** Continuous Monitor  1  of  1

1. Parameter Code: White liquor flow rate to scrubber	
2. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information:  Manufacturer: Rosemount Model Number: 8701TSA020C1                      Serial Number: 0044082	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment: White liquor flow rate to scrubber of 149 gpm minimum	

Continuous Monitoring System Continuous Monitor \_\_\_\_ of \_\_\_\_

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Continuous Monitoring System Continuous Monitor \_\_\_\_ of \_\_\_\_

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

## H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

### PSD Increment Consumption Determination

#### 1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

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2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

<b>3. Increment Consuming/Expanding Code:</b>			
PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
<b>4. Baseline Emissions:</b>			
PM	lbs/hr		tons/yr
SO2	lbs/hr		tons/yr
NO2			tons/yr
<b>5. PSD Comment:</b>			

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

1. Process Flow Diagram  <input checked="" type="checkbox"/> Attached, Document ID: <u> Attachment C of PSD Report </u> <input type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span>
2. Fuel Analysis or Specification  <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span>
3. Detailed Description of Control Equipment  <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span>
4. Description of Stack Sampling Facilities  <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <span style="float: right;"><input type="checkbox"/> Waiver Requested</span>
5. Compliance Test Report  <input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span> <input type="checkbox"/> Previously Submitted, Date: _____
6. Procedures for Startup and Shutdown  <input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span>
7. Operation and Maintenance Plan  <input type="checkbox"/> Attached, Document ID: _____ <span style="float: right;"><input checked="" type="checkbox"/> Not Applicable</span>
8. Supplemental Information for Construction Permit Application  <input checked="" type="checkbox"/> Attached, Document ID: <u> PSD Report </u> <span style="float: right;"><input type="checkbox"/> Not Applicable</span>
9. Other Information Required by Rule or Statute  <input checked="" type="checkbox"/> Attached, Document ID: <u> PSD Report </u> <span style="float: right;"><input type="checkbox"/> Not Applicable</span>

**Additional Supplemental Requirements for Category I Applications Only**

10. Alternative Methods of Operation
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading)
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements
<input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Permit Application
<input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____
<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____
<input type="checkbox"/> Not Applicable

**PART B**  
**PSD REPORT**  
**GEORGIA-PACIFIC CORPORATION**  
**PALATKA MILL**  
**MARCH 1995**



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**ATTACHMENTS**

- ATTACHMENT A: CURRENT ACTUAL AND FUTURE MAXIMUM EMISSIONS**
- ATTACHMENT B: DESIGN INFORMATION FOR NEW TRS SCRUBBER**
- ATTACHMENT C: EMISSION UNIT FLOW DIAGRAMS**
- ATTACHMENT D: PARTICLE SIZE DISTRIBUTIONS USED IN DEPOSITION MODELING**

## 1.0 INTRODUCTION

Georgia-Pacific Corporation (G-P) operates a Kraft pulp mill in Palatka, Florida. Currently, there are a total of thirteen digesters used in the pulp production process at the facility. G-P is proposing to replace two of these existing digesters with new digesters of a slightly larger size. This change will potentially allow increased pulp production at the facility. In addition to this activity, G-P is proposing to add additional screen tubes to the existing No. 4 Recovery Boiler (RB4) in order to improve recovery boiler performance. This will potentially allow increased throughput of black liquor to RB4.

In addition to the potential effects upon the digester system and RB4, these changes may allow other emissions units at the facility to increase production rates. If the changes result in an increase in throughput and an associated increase in emissions, an air construction permit is required. As a result, G-P is submitting the air construction permit application contained herein in anticipation that the future throughput rates for several sources may increase, an increase in emissions may occur, and regulatory review would be warranted.

Based on the current actual emissions and the future maximum emissions anticipated for the affected sources, the proposed project may constitute a major modification at a major stationary source under federal and state air quality regulations. This report addresses the requirements of the prevention of significant deterioration (PSD) review procedures pursuant to rules and regulations implementing the Clean Air Act (CAA) Amendments of 1977. The Florida Department of Environmental Protection (FDEP) has review and approval authority for the PSD program in Florida.

Based on the calculated emissions, a PSD review is indicated for the following pollutants: particulate matter [PM(TSP)], particulate matter with an aerodynamic diameter of 10 microns or less (PM10), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), volatile organic compounds (VOCs), total reduced sulfur (TRS), and beryllium (Be).

This application contains six additional sections. A description of the proposed project, including air emission rates, is presented in Section 2.0. The air quality review requirements and source

applicability of the proposed project in relation to regulatory requirements are discussed in Section 3.0.

Preconstruction PSD ambient monitoring requirements are addressed in Section 4.0. The air quality impact analysis is presented in Section 5.0, while the best available control technology (BACT) analysis required as part of the PSD permitting process is presented in Section 6.0. The impacts of the project on soils, vegetation, and visibility are addressed in Section 7.0. Also included in this section are potential impacts upon federal Class I areas. Supportive information is provided in the attachments.

## 2.0 PROJECT DESCRIPTION

### 2.1 BACKGROUND

Georgia-Pacific Corporation (G-P) operates a Kraft pulp mill located in Palatka, Florida. The mill consists of a batch digester system, multiple effect evaporator (MEE) system, condensate stripper system, recovery boiler and smelt tanks, lime kiln, tall oil plant, steam boilers, and other equipment to produce finished paper products from virgin wood. Currently, there are a total of thirteen batch digesters (Nos. 1-13) used in the pulp production process at the facility. The permitted pulp production capacity of the digester system is currently 118 tons per hour (TPH) of air-dried unbleached pulp (ADUP) and 1,850 tons per day (TPD) ADUP.

G-P is proposing to replace two existing batch digesters with new digesters of a slightly larger size. In addition, the No. 4 Recovery Boiler (RB4) is being upgraded with the addition of new screen tubes. These changes will potentially allow increased throughput and production from these process units. Other process units at the facility may also be affected due to this increased production capacity. The planned changes and the effects upon process units at the facility are described in greater detail below.

#### Batch Digester System

G-P is proposing to replace two of the existing digesters (Nos. 11 and 12) with new digesters of a slightly larger size. The existing Nos. 11 and 12 digesters are each 4,000 ft<sup>3</sup> in size; the two new replacement digesters will be 4,900 ft<sup>3</sup> each. Although G-P expects an increase in actual pulp production of about 40 TPD due to these larger digesters, the current permitted capacity of the system of 118 TPH and 1,850 TPD ADUP is sufficient to support the new digesters. Therefore, G-P is not requesting any change in the permitted capacity of the batch digester system.

The batch digester system total reduced sulfur (TRS) emissions are controlled by the TRS incinerator. The TRS incinerator also controls TRS emissions from the MEE system and condensate stripper system. TRS control is achieved by combustion in an incinerator that subjects the TRS non-condensable gases to a temperature of at least 1,200°F for a minimum of 0.5 second. The TRS in the gas stream is converted to sulfur dioxide (SO<sub>2</sub>) by the incinerator.

As part of the digester replacement project, G-P is proposing to install a TRS scrubber before the TRS incinerator. This scrubber will remove a portion of the TRS, thereby reducing SO<sub>2</sub> emissions from the incinerator stack. Design data concerning the TRS scrubber is contained in Attachment B.

#### No. 4 Recovery Boiler

G-P is proposing to install additional screen tubes in the existing No. 4 Recovery Boiler (RB4). A total of sixteen (16) screen tube banks will be added to the recovery boiler. These tubes will result in a lowering of flue gas temperature in the boiler bank section and in the superheater section. This in turn will lead to less particulate adhesion to the steam tubes and will protect the super heater tubes from excessive temperatures. Overall boiler performance will improve and less downtime for maintenance will result.

The additional screen tubes will potentially allow increased throughput of black liquor to RB4. G-P expects that about a 4 percent increase in actual black liquor throughput may result, with additional steam production of about 30,000 lb/hr. This additional steam will be utilized to support the additional pulp production, as well as increase on-site electricity generation with the existing steam turbine system.

The current permitted capacity of RB4 is 210,000 lb/hr of black liquor solids (BLS), or  $5.04 \times 10^6$  lb/day BLS. Although G-P expects an increase in actual BLS throughput of about 4 percent due to the proposed changes, the current permitted capacity of the recovery boiler of  $5.04 \times 10^6$  lb/day BLS is sufficient to support the increased rate. Therefore, G-P is not requesting any change in the permitted capacity of RB4.

#### Effects Upon Other Process Equipment

In addition to the potential effects upon the digester system and RB4, the proposed changes may allow other emissions units at the facility to increase production rates. These include the MEE system, the condensate stripper system, the No. 4 Smelt Dissolving Tanks (SDT4), the No. 4 Lime Kiln (LK4), and the Tall Oil plant. No physical modifications will be made to these process units. Although the throughput of these process units may increase due to the proposed changes, the currently permitted capacities of these units are adequate.



G-P operates two oil-fired power boilers (Nos. 4 and 5 Power Boilers) and a combination bark/oil-fired boiler (No. 4 Combination Boiler) at the facility to supply steam to the process and to drive steam turbine electric generators. The power boilers and combination boiler operation will not be affected by the proposed project. These boilers provide steam to support the pulping process and to generate electricity, and are already operating at a high rate in order to maximize electricity generation. Therefore, the increased pulp production resulting from the proposed changes will not affect current power boiler or combination boiler operation.

## **2.2 CURRENT AIR EMISSIONS**

Current actual emissions of all PSD-regulated pollutants from all emission units potentially affected by the proposed changes are presented in Table 2-1. The basis for the actual emissions is presented in Attachment A. In general, the basis of the actual emissions is actual operation during the last two years (1993-1994). For emission units and pollutants where stack test data were available, the average source test results and actual hours of operation were used to estimate current emissions. For emission units and pollutants where source test data were not available, emission factors were used in conjunction with actual production rates.

## **2.3 FUTURE MAXIMUM AIR EMISSIONS**

Future maximum annual emissions for all PSD-regulated pollutants from the affected sources are presented in Table 2-2. Maximum short-term emission rates and the basis for the maximum annual emissions are presented in Tables 2-3 through 2-7. The future maximum emissions represent current permitted emissions rates in cases where a permit limit exists, except in the case of the TRS incinerator. Where permit limits do not exist, maximum emissions are based upon maximum operation and the same emission factors used to estimate current actual emissions.

In the case of the TRS incinerator, the proposed future TRS emissions are equal to the current permit limit. The maximum short-term SO<sub>2</sub> emissions for the TRS incinerator are the same as currently permitted. This is to allow for periods when the new TRS scrubber may be down for repair or maintenance. However, the maximum annual SO<sub>2</sub> emissions have been reduced by approximately 50 percent from the present permitted emissions of 3,434 TPY, based on operation of the TRS scrubber.

G-P proposes to demonstrate compliance with the new annual SO<sub>2</sub> limit through stack testing that demonstrates the TRS scrubber achieves at least 50 percent TRS removal when the scrubber is operated at certain minimum scrubber liquid flow rates. G-P proposes to install a continuous scrubber liquid flow monitor and to maintain the scrubber liquid flow above the minimum flow rate demonstrated by the compliance testing.

#### **2.4 FACILITY AND EMISSION UNIT LOCATIONS**

A site location map of the G-P mill is shown in Figure 2-1. A plot plan showing the location of the air emission sources is presented in Figure 2-2.

#### **2.5 FLOW DIAGRAMS**

Flow diagrams of each of the eight emission units affected by the proposed project are contained in Attachment C.

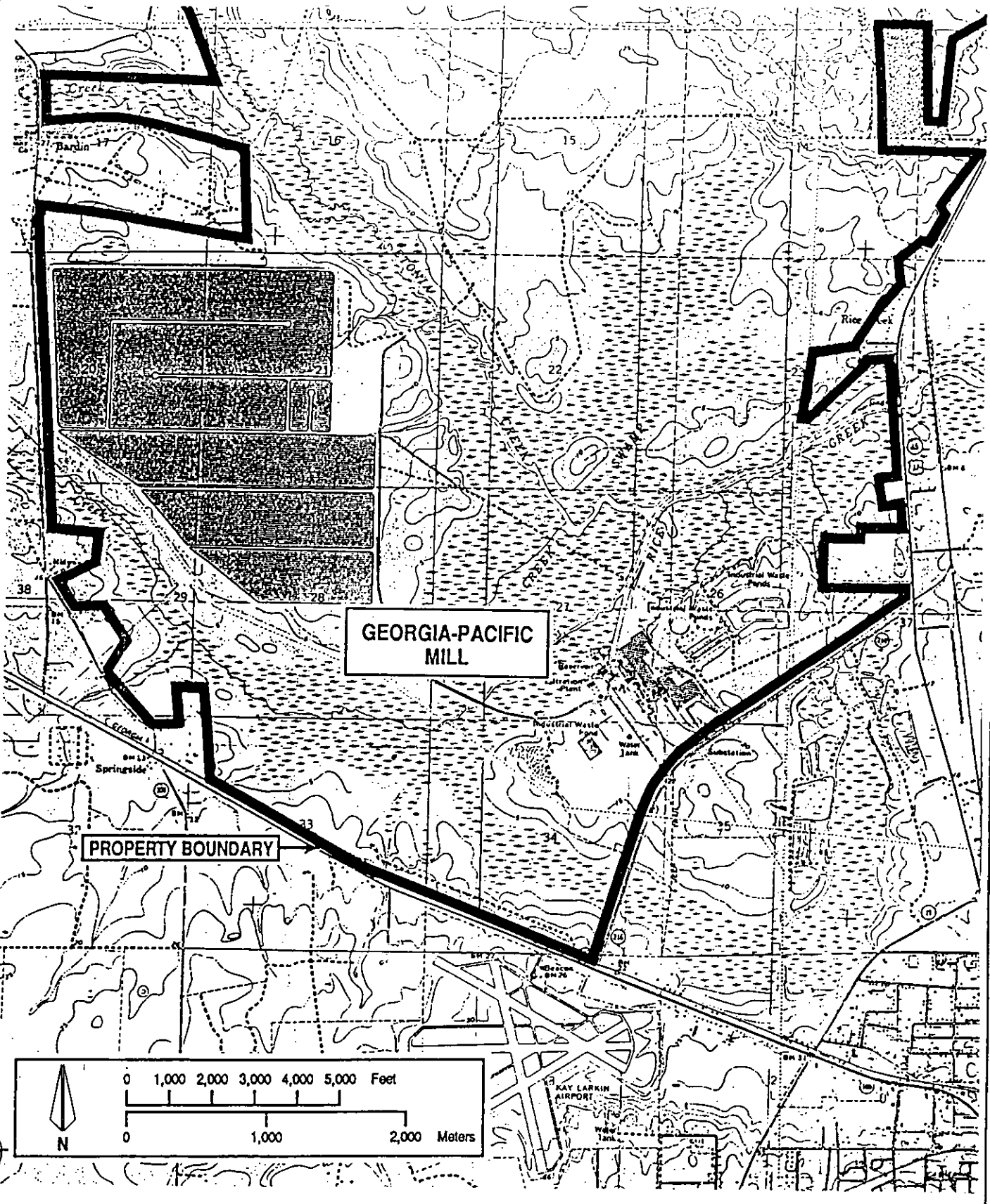


Figure 2-1  
Location of the Georgia-Pacific facility, Palatka, Florida.



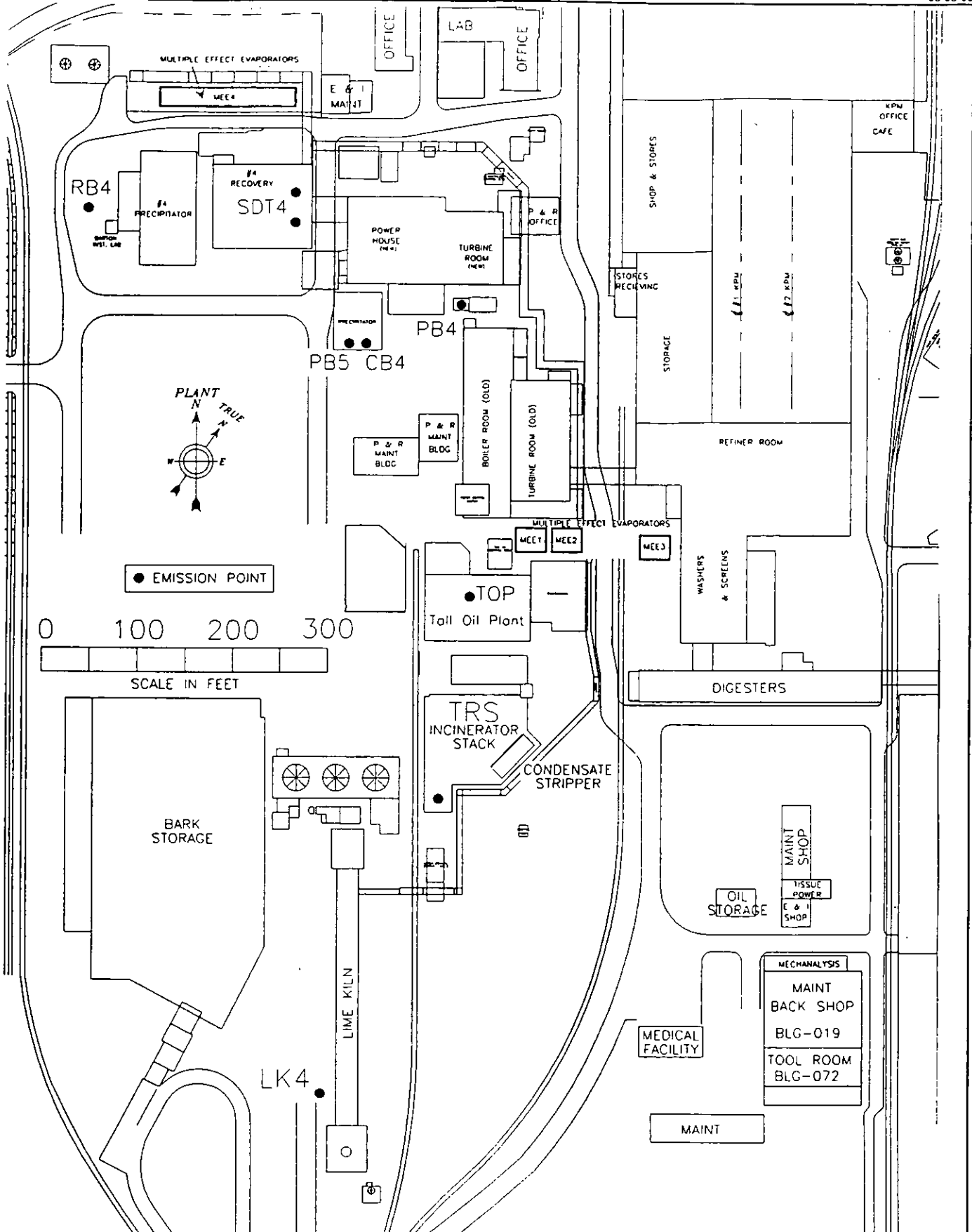


Figure 2-2 Georgia-Pacific Palatka Mill Plot Plan



Table 2-1. Current Actual Emissions From Affected Sources, Georgia-Pacific Palatka Operations

Regulated Pollutant	Current Actual Emissions (TPY)					
	No. 4 LK	No. 4 RB	No. 4 SDT	TALL OIL	TRS INCIN.	TOTAL
Particulate matter (TSP)	80.0	125.8	28.6	--	23.2	257.6
Particulate matter (PM10)	80.0	125.8	28.6	--	23.2	257.6
Sulfur dioxide	3.20	58.8	27.8	--	2,137.4	2,227.2
Nitrogen oxides	125.5	410.3	55.7	--	1.76	593.3
Carbon monoxide	9.60	1,246.2	--	--	0.30	1,256.1
Volatile organic compounds	3.20	11.7	71.3	23.5	0.10	109.8
Sulfuric acid mist	0.16	7.66	1.36	--	104.7	113.9
Total reduced sulfur	4.40	13.3	4.84	0.32	0 <sup>a</sup>	22.9
Lead	0.034	0.070	0.017	--	--	0.12
Mercury	0.00037	0.031	6.68E-05	--	--	0.031
Beryllium	0.0015	0.0022	5.20E-05	--	--	0.0038
Fluorides	--	--	--	--	--	--
Asbestos	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--

<sup>a</sup> Stack tests indicated TRS levels were below detectable limits.

Table 2-2. Future Maximum Annual Emissions From Affected Sources, Georgia-Pacific Palatka Operations

Regulated Pollutant	Future Maximum Emissions (TPY)					
	No. 4 LK	No. 4 RB	No. 4 SDT	TALL OIL	TRS INCIN.	TOTAL
Particulate matter (TSP)	113.9	364.4	55.2	--	24.1	557.6
Particulate matter (PM10)	113.9	364.4	55.2	--	24.1	557.6
Sulfur dioxide	47.7	481.4	34.5	--	1,699.4	2,263.0
Nitrogen oxides	220.3	922.4	69.0	--	7.60	1,219.3
Carbon monoxide	32.0	2,245.6	--	--	1.03	2,278.6
Volatile organic compounds	75.3	239.1	88.3	29.0	0.27	432.0
Sulfuric acid mist	2.34	14.2	1.70	--	83.3	101.5
Total reduced sulfur	17.5	78.0	14.9	0.50	0.53	111.4
Lead	0.045	0.090	0.021	--	--	0.16
Mercury	0.00049	0.039	8.28E-05	--	--	0.040
Beryllium	0.0020	0.0028	6.44E-05	--	--	0.0049
Fluorides	--	--	--	--	--	--
Asbestos	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--

Table 2-3. Maximum Emissions from No. 4 Lime Kiln, Georgia-Pacific, Palatka Operations

Regulated Pollutant	No. 4 Lime Kiln (No. 6 Fuel Oil Fired)				Hourly Emissions (lb/hr)	Annual Emissions <sup>b</sup> (TPY)
	Emission Factor	Reference	Activity Factor			
Particulate (TSP)	0.081 gr/dscf @ 10% O <sub>2</sub>	1	37,400 dscfm @ 10% O <sub>2</sub>		26.0	113.9
Particulate (PM <sub>10</sub> )	0.081 gr/dscf @ 10% O <sub>2</sub>	1	37,400 dscfm @ 10% O <sub>2</sub>		26.0	113.9
Sulfur dioxide	0.15 lb/ton ADP <sup>a</sup>	1	73 tons (ADP)/hr		10.9	47.7
Nitrogen oxides	290.0 ppmvd @ 10% O <sub>2</sub>	1	37,400 dscfm @ 10% O <sub>2</sub>		50.3	220.3
Carbon monoxide	69.0 ppmvd @ 10% O <sub>2</sub>	1	37,400 dscfm @ 10% O <sub>2</sub>		7.3	32.0
Volatile Organic Compds.	185.0 ppmvd @ 10% O <sub>2</sub>	1	37,400 dscfm @ 10% O <sub>2</sub>		17.2	75.3
Sulfuric acid mist	4 % of SO <sub>2</sub> as SO <sub>3</sub>	2	--		0.53	2.34
Total reduced sulfur	20.0 ppmvd @ 10% O <sub>2</sub>	1	37,400 dscfm @ 10% O <sub>2</sub>		4.0	17.5
Lead	530 lb/MMton CaO	3	19.44 TPH CaO		0.010	0.045
Mercury	5.8 lb/MMton CaO	3	19.44 TPH CaO		0.00011	0.00049
Beryllium	23 lb/MMton CaO	3	19.44 TPH CaO		0.00045	0.0020
Fluorides	--	--	--		--	--
Asbestos	--	--	--		--	--
Vinyl chloride	--	--	--		--	--

<sup>a</sup> Based 0.3 lb/ton ADP uncontrolled emissions rate and 50% control efficiency.

<sup>b</sup> Based on 8,760 hr/yr operation

References

1. Based on Permit Allowables (AO54-209858).
2. AP-42: Compilation of Air Pollutant Emission Factors, Table 1.3-2: SO<sub>3</sub> is 4% of SO<sub>2</sub> emissions.
3. NCASI Technical Bulletin No. 650, June 1993. Data for lime kiln burning oil and gas with scrubber control.

Table 2-4. Maximum Emissions from No. 4 Recovery Boiler, Georgia-Pacific, Palatka Operations

Regulated Pollutant	No. 4 Recovery Boiler				Hourly Emissions (lb/hr)	Annual Emissions <sup>b</sup> (TPY)
	Emission Factor	Reference	Activity Factor			
Particulate (TSP)	0.033 gr/dscf @ 8% O <sub>2</sub>	1	294,000 dscfm @ 8% O <sub>2</sub>		83.2	364.4
Particulate (PM10)	0.033 gr/dscf @ 8% O <sub>2</sub>	1	294,000 dscfm @ 8% O <sub>2</sub>		83.2	364.4
Sulfur dioxide	75 ppmvd @ 8% O <sub>2</sub>	1	294,000 dscfm @ 8% O <sub>2</sub>		109.9	481.4
Nitrogen oxides	100 ppmvd @ 8% O <sub>2</sub> <sup>a</sup>	1	294,000 dscfm @ 8% O <sub>2</sub>		210.6	922.4
Carbon monoxide: 1-hr	800 ppmvd @ 8% O <sub>2</sub>	1	294,000 dscfm @ 8% O <sub>2</sub>		1,025.4	--
Annual average	400 ppmvd @ 8% O <sub>2</sub>	1	294,000 dscfm @ 8% O <sub>2</sub>		512.7	2,245.6
Volatile Organic Compds.	0.52 lb/ton BLS	1	210,000 lbs BLS/hr		54.6	239.1
Sulfuric acid mist	0.77 ppmvd	1	450,000 acfm		3.20	14.2
Total reduced sulfur	11.4 ppmvd @ 8% O <sub>2</sub>	1	294,000 dscfm @ 8% O <sub>2</sub>		17.8	78.0
Lead	16 lb/10 <sup>12</sup> Btu	2	1,277.7 MMBtu/hr		0.020	0.090
Mercury	7 lb/10 <sup>12</sup> Btu	2	1,277.7 MMBtu/hr		0.0089	0.039
Beryllium	0.5 lb/10 <sup>12</sup> Btu	2	1,277.7 MMBtu/hr		0.00064	0.0028
Fluorides	ND	3	--		--	--
Asbestos	--	--	--		--	--
Vinyl Chloride	--	--	--		--	--

<sup>a</sup> 24-hour and annual average.

<sup>b</sup> Based on 8,760 hr/yr operation.

ND = not detectable

References

1. From permit allowables (AO54-209650).
2. NCASI Bulletin No. 650, Table 11ED, non-direct contact evaporator.
3. From "Application of Combustion Modifications to Industrial Combustion Equipment" EPA-600/7-79-015a; one test from recovery boiler.



Table 2-5. Maximum Emissions from No. 4 Smelt Dissolving Tank, Georgia-Pacific, Palatka Operations

Regulated Pollutant	No. 4 Smelt Dissolving Tank				
	Emission Factor	Reference	Activity Factor	Hourly Emissions (lb/hr)	Annual Emissions <sup>a</sup> (TPY)
Particulate (TSP)	0.12 lb/ton BLS	1	105 tons BLS/hr	12.6	55.2
Particulate (PM10)	0.12 lb/ton BLS	1	105 tons BLS/hr	12.6	55.2
Sulfur dioxide	0.075 lb/ton BLS	2	105 tons BLS/hr	7.9	34.5
Nitrogen oxides	0.15 lb/ton BLS	2	105 tons BLS/hr	15.8	69.0
Carbon monoxide	--	--	--	--	--
Volatile Organic Compds.	0.192 lb/ton BLS	2	105 tons BLS/hr	20.2	88.3
Sulfuric acid mist	4 % of SO <sub>2</sub> as SO <sub>3</sub>	3	--	0.39	1.70
Total reduced sulfur	0.048 lb/3000 lbs BLS	1	105 tons BLS/hr	3.4	14.9
Lead	45 lb/MMton BLS	4	105 tons BLS/hr	0.0047	0.021
Mercury	0.18 lb/MMton BLS	4	105 tons BLS/hr	1.89E-05	8.28E-05
Beryllium	0.14 lb/MMton BLS	4	105 tons BLS/hr	1.47E-05	6.44E-05
Fluorides	--	--	--	--	--
Asbestos	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--

<sup>a</sup> Based on 8,760 hr/yr operation.

References

1. From permit allowables (AO54-209650)
2. From NCASI Technical Bulletin No. 646 (February 1993), Tables 16, 17 and 18.
3. AP-42: Compilation of Air Pollutant Emission Factors, Table 1.3-2: SO<sub>3</sub> is 4% of SO<sub>2</sub> emissions.
4. From NCASI Technical Bulletin No. 650 (June 1993), Table 14B.

Table 2-6. Maximum Emissions from Tall Oil Plant, Georgia-Pacific, Palatka Operations

Regulated Pollutant	Tall Oil Plant				
	Emission Factor	Reference	Activity Factor	Hourly Emissions (lb/hr)	Annual Emissions (TPY) <sup>a</sup>
Particulate (TSP)	---	---	---	---	---
Particulate (PM10)	---	---	---	---	---
Sulfur dioxide	---	---	---	---	---
Nitrogen oxides	---	---	---	---	---
Carbon monoxide	---	---	---	---	---
Volatile Organic Compds.					
12-hr	2.9 lb C/ton (CTO)	1	4.58 tons CTO/hr	13.3	---
Annual average	2.9 lb C/ton (CTO)	1	20,020 tons CTO/yr	---	29.0
Sulfuric acid mist	---	---	---	---	---
Total reduced sulfur					
12-hr	0.05 lb/ton CTO	2	4.58 tons CTO/hr	0.23	---
Annual average	0.05 lb/ton CTO	2	20,020 tons CTO/yr	---	0.50
Lead	---	---	---	---	---
Mercury	---	---	---	---	---
Beryllium	---	---	---	---	---
Fluorides	---	---	---	---	---
Asbestos	---	---	---	---	---
Vinyl Chloride	---	---	---	---	---

CTO= Crude Tall Oil

<sup>a</sup> Based on 8760 hr/yr operation

References

1. Emission factor from NCASI Technical Bulletin 677 (September 1994), Table XI. A. 3.
2. From permit allowables (AO54-209098).

Table 2-7. Maximum Emissions from TRS Incinerator, Georgia-Pacific, Palatka Operations

Regulated Pollutant	TRS Incinerator (Natural Gas Burning)				TRS Incinerator (Methanol Burning)				Maximum Hourly Emissions (lb/hr)	Annual Emissions <sup>c</sup> (TPY)
	Emission Factor	Reference	Activity Factor <sup>a</sup>	Hourly Emissions (lb/hr)	Emission Factor	Reference	Activity Factor <sup>b</sup>	Hourly Emissions (lb/hr)		
Particulate (TSP)	Permit Allowable	1	--	5.5	Permit Allowable	1	--	5.5	5.5	24.1
Particulate (PM10)	Permit Allowable	1	--	5.5	Permit Allowable	1	--	5.5	5.5	24.1
Sulfur dioxide: 3-hr	5.085 lb S/ton ADUP	2	118 ton/hr ADUF	1,200	5.085 lb S/ton ADUP	2	118 ton/hr	1,200	1200	--
24-hr	5.085 lb S/ton ADUP	2	1,850 TPD ADUP	784	5.085 lb S/ton ADUP	2	1,850 TPD AI	784	784	--
Annual	5.085 lb S/ton ADUP; 50% control	3	1,850 TPD ADUP	388	5.085 lb S/ton ADUP; 50% control	3	1,850 TPD AI	388	388	1,699.4
Nitrogen oxides	100 lb/MMscf gas	4	7,620 ft <sup>3</sup> /hr	0.76	14 lb/1000 gal	4	124 gal/hr	1.74	1.74	7.60
Carbon monoxide	20 lb/MMscf gas	4	7,620 ft <sup>3</sup> /hr	0.15	1.9 lb/1000 gal	4	124 gal/hr	0.24	0.24	1.03
Volatile Org. Compds.	8 lb/MMscf gas	4	7,620 ft <sup>3</sup> /hr	0.06	0.5 lb/1000 gal	4	124 gal/hr	0.06	0.06	0.27
Sulfuric acid mist	4 % of SO <sub>2</sub> as SO <sub>3</sub>	5	--	58.8	4 % of SO <sub>2</sub> as SO <sub>3</sub>	5	--	58.8	58.8	83.3
Total reduced sulfur	5 ppmvd @ 10% O <sub>2</sub>	1	4,590 dscfm	0.12	5 ppmvd @ 10% O <sub>2</sub>	1	4,590 dscfm	0.12	0.12	0.53
Lead	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	--	--	--	--	--	--	--	--
Beryllium	--	--	--	--	--	--	--	--	--	--
Fluorides	--	--	--	--	--	--	--	--	--	--
Asbestos	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--

<sup>a</sup> Natural gas heating value of 1,050 Btu/scf.

<sup>b</sup> Methanol heating value of 64,500 Btu/gal.

<sup>c</sup> Based on 8,760 hr/yr operation.

References

1. Emission factor based on permit allowables (AO54-166018).
2. Emission factor based on uncontrolled emissions (from permit application for TRS incinerator). Emission rate based on permit allowables (AO54-166018).
3. Based on uncontrolled 24-hour average emissions and assuming 50% control with TRS scrubber.
4. From AP-42, Table 1.4-1, 1.4-2, and 1.4-3, for natural gas burning.
5. Emission factors for methanol burning are not published in USEPA AP-42, therefore factors for propane were used to estimate the emissions (AP-42, Table 1.5-1).

### **3.0 AIR QUALITY REVIEW REQUIREMENTS AND APPLICABILITY**

The following discussion pertains to federal and state new source review requirements and their applicability to Georgia-Pacific's proposed project. These requirements must be satisfied before construction can begin on the proposed project.

#### **3.1 NATIONAL AND STATE AAQS**

The existing applicable national and Florida ambient air quality standards (AAQS) are presented in Table 3-1. National primary AAQS were promulgated to protect the public health, and national secondary AAQS were promulgated to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. Areas of the country in violation of AAQS are designated as non-attainment areas, and new sources to be located in or near these areas may be subject to more stringent air permitting requirements.

#### **3.2 PSD REQUIREMENTS**

##### **3.2.1 GENERAL REQUIREMENTS**

Federal PSD requirements are contained in the Code of Federal Regulations (CFR), Title 40, Part 52.21, prevention of significant deterioration of air quality. The State of Florida has adopted PSD regulations [Rule 62-212.400, Florida Administrative Code (F.A.C.)] that essentially are identical to the federal regulations. PSD regulations require that all new major stationary facilities or major modifications to existing major facilities which emit air pollutants regulated under CAA be reviewed and a construction permit issued. Florida's State Implementation Plan (SIP), which contains PSD regulations, has been approved by the U.S. Environmental Protection Agency (EPA) and PSD approval authority in Florida has been granted to FDEP.

A "major facility" is defined under Florida PSD regulations as any one of 28 named source categories that has the potential to emit 100 tons per year (TPY) or more of any pollutant regulated under the CAA, or any other stationary facility that has the potential to emit 250 TPY or more of any pollutant regulated under CAA. An "emission unit" is defined as any part or activity of a facility that has the potential to emit any air pollutant. "Potential to emit" means the capability, at maximum design capacity, to emit a pollutant, considering the application of control equipment and any other federally enforceable limitations on the emission units' capacity. A "major modification" is defined under PSD regulations as a change at an existing major stationary

facility that increases emissions by greater than significant amounts. PSD significant emission rates are shown in Table 3-2.

PSD review is used to determine whether significant air quality deterioration will result from the new or modified facility. Major new facilities and major modifications are required to undergo the following analyses related to PSD for each pollutant emitted in significant amounts:

1. Source information,
2. Control technology review,
3. Source impact analysis,
4. Preconstruction air quality monitoring analysis, and
5. Additional impact analyses.

In addition to these analyses, a new source also must be reviewed with respect to good engineering practice (GEP) stack height regulations. If the proposed new source or modification is located in a non-attainment area for any pollutant, the source may be subject to non-attainment new source review requirements.

Discussions concerning each of these requirements are presented in the following sections.

### **3.2.2 INCREMENTS/CLASSIFICATIONS**

The 1977 CAA amendments address the prevention of significant deterioration of air quality. The law specifies that certain increases in air quality concentrations above the baseline concentration level of SO<sub>2</sub> and total suspended particulate matter [PM(TSP)] would constitute significant deterioration. The magnitude of the allowable increment depends on the classification of the area in which a new source (or modification) will be located or will have an impact. Congress also directed EPA to evaluate PSD increments for other criteria pollutants and, if appropriate, promulgate PSD increments for such pollutants.

Three classifications were designated, based on criteria established in the CAA amendments. Certain types of areas (international parks, national wilderness areas, memorial parks larger than 5,000 acres, and national parks larger than 6,000 acres) were designated as Class I areas. All other areas of the country were designated as Class II. PSD increments for Class III areas were defined, but no areas were designated as Class III. However, Congress made provisions in the

law to allow the redesignation of Class II areas to Class III areas. PSD increments for Class III areas are higher than those for Class II increments.

In 1978, EPA promulgated PSD regulations related to the requirements for classifications, increments, and area designations as set forth by Congress. PSD increments were initially set for only SO<sub>2</sub> and PM(TSP). However, in 1988, EPA promulgated final PSD regulations for NO<sub>x</sub> and established PSD increments for nitrogen dioxide (NO<sub>2</sub>). On June 3, 1993, EPA promulgated PSD increments for particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM10). The PM10 increments replaced the PM(TSP) increments.

The current federal PSD increments are shown in Table 3-1. As shown, Class I increments are the most stringent, allowing the smallest amount of air quality deterioration, while the Class III increments allow the greatest amount of deterioration. FDEP has adopted the EPA class designations and allowable PSD increments for PM10, SO<sub>2</sub>, and NO<sub>2</sub>.

The term "baseline concentration" evolves from federal and state PSD regulations and refers to a fictitious concentration level corresponding to a specified baseline date and certain additional baseline sources. In reference to the baseline concentration, the baseline date actually includes three different dates:

1. The major source baseline date, which is January 6, 1975, in the cases of SO<sub>2</sub> and PM10, and February 8, 1988, in the case of NO<sub>2</sub>;
2. The minor source baseline date, which is the earliest date after the trigger date on which a major stationary facility or major modification subject to PSD regulations submits a complete PSD application; and
3. The trigger date, which is August 7, 1977, for SO<sub>2</sub> and PM10, and February 8, 1988, for NO<sub>2</sub>.

By definition in the PSD regulations, baseline concentration means the ambient concentration level that exists in the baseline area at the time of the applicable baseline date. A baseline concentration is determined for each pollutant for which a baseline date is established and includes:

1. The actual emissions representative of facilities in existence on the applicable minor source baseline date, and

2. The allowable emissions of major stationary facilities that began construction before January 6, 1975, for SO<sub>2</sub> and PM<sub>10</sub> sources, or February 8, 1988, for NO<sub>x</sub> sources, but which were not in operation by the applicable baseline date.

The following emissions are not included in the baseline concentration and, therefore, affect PSD increment consumption:

1. Actual emissions representative of a major stationary facility on which construction began after January 6, 1975, for SO<sub>2</sub> and PM<sub>10</sub> sources, and after February 8, 1988, for NO<sub>x</sub> sources; and
2. Actual emission increases and decreases at any stationary facility occurring after the major source baseline date that result from a physical change or change in the method of operation of the facility.

The minor source baseline date for SO<sub>2</sub> and PM<sub>10</sub> has been set as December 27, 1977, for the entire State of Florida [Rule 62-212.400, F.A.C.]. The minor source baseline date for NO<sub>2</sub> has been set as March 28, 1988, for all of Florida.

### **3.2.3 CONTROL TECHNOLOGY REVIEW**

The control technology review requirements of the federal and state PSD regulations require that all applicable federal and state emission-limiting standards be met, and that BACT be applied to control emissions from the facility or modification [Rule 62-212.400(5)(c), F.A.C.]. The BACT requirements are applicable to all regulated pollutants for which the increase in emissions from the facility or modification exceeds the significant emission rate (see Table 3-2).

BACT is defined in Rule 62-212.200, F.A.C. as:

An emissions limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the department, on a case by case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant. If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall,

to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice, or operation.

The requirements for BACT were promulgated within the framework of PSD in the 1977 amendments of the CAA [Public Law 95-95; Part C, Section 165(a)(4)]. The primary purpose of BACT is to optimize consumption of PSD air quality increments and thereby enlarge the potential for future economic growth without significantly degrading air quality (EPA, 1978; 1980). Guidelines for the evaluation of BACT can be found in EPA's Guidelines for Determining Best Available Control Technology (BACT) (EPA, 1978) and in the PSD Workshop Manual (EPA, 1980). These guidelines were promulgated by EPA to provide a consistent approach to BACT and to ensure that the impacts of alternative emission control systems are measured by the same set of parameters. In addition, through implementation of these guidelines, BACT in one area may not be identical to BACT in another area. According to EPA (1980),

BACT analyses for the same types of emissions unit and the same pollutants in different locations or situations may determine that different control strategies should be applied to the different sites, depending on site-specific factors. Therefore, BACT analyses must be conducted on a case-by-case basis.

The BACT requirements are intended to ensure that the control systems incorporated in the design of a proposed facility reflect the latest in control technologies used in a particular industry and take into consideration existing and future air quality in the vicinity of the proposed or modified facility. BACT must, as a minimum, demonstrate compliance with New Source Performance Standards (NSPS) for a source (if applicable). An evaluation of the air pollution control techniques and systems, including a cost-benefit analysis of alternative control technologies capable of achieving a higher degree of emission reduction than the proposed control technology, is required. The cost-benefit analysis requires the documentation of the materials, energy, and economic penalties associated with the proposed and alternative control systems, as well as the environmental benefits derived from these systems. A decision on BACT is to be based on sound judgment, balancing environmental benefits with energy, economic, and other impacts (EPA, 1978).

Historically, a "bottom-up" approach consistent with the BACT Guidelines and PSD Workshop Manual has been used. With this approach, an initial control level, which is usually NSPS, is evaluated against successively more stringent controls until a BACT level is selected.



EPA issued a draft guidance document in 1990 on the top-down approach entitled Top-Down Best Available Control Technology Guidance Document (EPA, 1990a). The "draft" guidance requires starting with the most stringent (or top) technology and emissions limits that have been applied elsewhere to the same or a similar source category. The applicant must next provide a basis for rejecting this technology in favor of the next most stringent technology or propose to use it. Rejection of control alternatives may be based on technical or economic infeasibility. Such decisions are made on the basis of physical differences (e.g., fuel type), locational differences (e.g., availability of water), or significant differences that may exist in the environmental, economic, or energy impacts. The differences between the proposed facility and the facility on which the control technique was applied previously must be justified.

It is noted that the American Paper Institute (API) initiated legal action in 1989 against the EPA over the implementation of the top-down approach. EPA and API reached a settlement agreement (July 9, 1991) which requires EPA to initiate formal rulemaking for BACT procedures. A proposed rule was required by January, 1992, but has not yet been published. However, until new rules are issued, EPA is requiring that the top-down approach still be used to determine BACT.

#### **3.2.4 AIR QUALITY MONITORING REQUIREMENTS**

In accordance with requirements of 40 CFR 52.21(m) and Rule 62-212.400(5)(f), F.A.C, any application for a PSD permit must contain an analysis of continuous ambient air quality data in the area affected by the proposed major stationary facility or major modification. For a new major facility, the affected pollutants are those that the facility potentially would emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate (see Table 3-2).

Ambient air monitoring for a period of up to 1 year is generally appropriate to satisfy the PSD monitoring requirements. A minimum of 4 months of data is required. Existing data from the vicinity of the proposed source may be used if the data meet certain quality assurance requirements; otherwise, additional data may need to be gathered. Guidance in designing a PSD monitoring network is provided in EPA's Ambient Monitoring Guidelines for Prevention of Significant Deterioration (EPA, 1987a).

Under the exemption rule, FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause, in any area, air quality impacts less than the *de minimis* levels presented in Table 3-2 [Rule 62-212.400, F.A.C.].

### **3.2.5 SOURCE IMPACT ANALYSIS**

A source impact analysis must be performed for a proposed major facility or major modification subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rates shown in Table 3-2 [Rule 62-212.400(5)(d) F.A.C.]. The PSD regulations specifically provide for the use of atmospheric dispersion models in performing impact analyses, estimating baseline and future air quality levels, and determining compliance with AAQS and allowable PSD increments. Designated EPA models normally must be used in performing the impact analysis. Specific applications for other than EPA-approved models require EPA's consultation and prior approval.

Guidance for the use and application of dispersion models is presented in the EPA publication *Guideline on Air Quality Models* (EPA, 1987b). The source impact analysis for criteria pollutants can be limited to the new or modified facility if the net increase in impacts as a result of the new or modified source is below modeling significance levels, as presented in Table 3-1.

Various lengths of record for meteorological data can be used for impact analyses. A 5-year period can be used with corresponding evaluation of highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term "highest, second-highest" (HSH) refers to the highest of the second-highest concentrations at all receptors (i.e., the highest concentration at each receptor is discarded). The second-highest concentration is significant because short-term AAQS specify that the standard should not be exceeded at any location more than once a year. If less than 5 years of meteorological data are used in the modeling analysis, the highest concentration at each receptor must normally be used for comparison to air quality standards.

### **3.2.6 ADDITIONAL IMPACT ANALYSES**

In addition to air quality impact analyses, federal and State of Florida PSD regulations require analysis of the impairment to visibility and the impacts on soils and vegetation that would occur as

a result of the proposed or modified facility [40 CFR 52.21; Rule 62-212.400(5)(e), F.A.C.]. These analyses are to be conducted primarily for PSD Class I areas. Impacts from general commercial, residential, industrial, and other growth associated with the facility or modification also must be addressed. These analyses are required for each pollutant emitted in significant amounts (Table 3-2).

### 3.2.7 GOOD ENGINEERING PRACTICE STACK HEIGHT

The 1977 CAA amendments require that the degree of emission limitation required for control of any pollutant not be affected by a stack height that exceeds GEP or any other dispersion technique. On July 8, 1985, EPA promulgated final stack height regulations (EPA, 1985). Identical regulations have been adopted by FDEP [Rule 62-210.550, F.A.C.]. GEP stack height is defined as the highest of:

1. 65 meters (m); or
2. A height established by applying the formula:

$$H_g = H + 1.5L$$

where:  $H_g$  = GEP stack height,

$H$  = Height of the structure or nearby structure, and

$L$  = Lesser dimension (height or projected width) of nearby structure(s); or

3. A height demonstrated by a fluid model or field study.

"Nearby" is defined as a distance up to five times the lesser of the height or width dimensions of a structure or terrain feature but not greater than 0.8 kilometer (km). Although GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height, the actual stack height may be greater.

The stack height regulations also allow increased GEP stack height beyond that resulting from the formula in cases where plume impaction occurs. Plume impaction is defined as concentrations measured or predicted to occur when the plume interacts with elevated terrain. Elevated terrain is defined as terrain that exceeds the height calculated by the GEP stack height formula. Because the terrain in the vicinity of the Georgia-Pacific facility is generally flat, plume impaction was not considered in determining the GEP stack height.

### **3.3 NON-ATTAINMENT RULES**

Based on the current non-attainment provisions (Rule 62-212.500, F.A.C.), all major new facilities and modifications to existing major facilities located in a non-attainment area must undergo non-attainment review if the proposed pieces of equipment have the potential to emit 100 TPY or more of the non-attainment pollutant, or if the modification results in a significant net emission increase of the non-attainment pollutant.

For major facilities or major modifications that locate in an attainment or unclassifiable area, the non-attainment review procedures apply if the source or modification is located within the area of influence of a non-attainment area. The area of influence is defined as an area that is outside the boundary of a non-attainment area but within the locus of all points that are 50 km outside the boundary of the non-attainment area. Based on Rule 62-212.500(2)(a), F.A.C., all VOC facilities or emission units that are located within an area of influence are exempt from the provisions of new source review for non-attainment areas. Facilities or emissions units that emit other non-attainment pollutants and are located within the area of influence are subject to non-attainment review unless the maximum allowable emissions do not have a significant impact within the non-attainment area.

### **3.4 SOURCE APPLICABILITY**

#### **3.4.1 PSD REVIEW**

##### **3.4.1.1 Pollutant Applicability**

The G-P Kraft pulp mill is located in Putnam County, which has been designated by EPA and FDEP as an attainment area for all criteria pollutants. Putnam County and surrounding counties are designated as PSD Class II areas for SO<sub>2</sub>, PM<sub>10</sub>, and NO<sub>2</sub>.

The G-P facility is considered to be an existing major stationary facility because potential emissions of certain regulated pollutants exceed 100 TPY. As a result, PSD review is required for the proposed modification for each pollutant for which the net increase in emissions exceeds the PSD significant emission rates presented in Table 3-2 (i.e., a major modification).

Historically, FDEP and EPA have required that current actual emissions be compared with future maximum emissions (not future actual emissions) to determine PSD source applicability. This analysis is also to consider any contemporaneous emission changes at the facility that occurred

within the past 5 years or since the last PSD permit was issued for a particular pollutant. Current actual emissions are shown in Table 2-1 (refer also to Attachment A). Future maximum emissions are shown in Table 2-2 (refer also to Attachment A). There have been no contemporaneous emission changes at the facility since issuance of the last PSD permit for the facility in 1991. The PSD applicability analysis based on this method is presented in Table 3-3.

As shown in Table 3-3, the increase in PM(TSP), PM10, NO<sub>x</sub>, CO, VOC, TRS, and beryllium emissions, based on comparing current actual emissions and future allowable emissions, will exceed the PSD significant emission rate. Therefore, FDEP/EPA may determine that the proposed project is subject to PSD review for these pollutants. For purposes of minimizing the permit review time by FDEP, it will be assumed that the project is subject to PSD review for these pollutants.

#### **3.4.1.2 Ambient Monitoring**

Based upon the increase in emissions from G-P's proposed project, a PSD preconstruction ambient monitoring analysis is required for PM(TSP), PM10, NO<sub>x</sub>, CO, VOC, TRS, and beryllium. However, if the increase in impacts of a pollutant is less than the *de minimis* monitoring concentration, then an exemption from the preconstruction ambient monitoring requirement may be granted for that pollutant. In addition, if an acceptable ambient monitoring method for the pollutant has not been established by EPA, monitoring is not required.

A comparison of the net increase in impacts due to the proposed project and the *de minimis* monitoring concentrations is presented in Table 3-4. This comparison is presented for those pollutants that are subject to PSD review for the proposed project.

The air quality impact analysis presented in Section 5.0 demonstrates that the maximum impacts resulting from the net increase in emissions will be below the *de minimis* monitoring concentrations for all pollutants except ozone and TRS. The net increase in VOC emissions is greater than 100 TPY and, therefore, ozone requires a preconstruction monitoring analysis. The monitoring analysis for ozone and TRS is presented in Section 4.0.

#### **3.4.1.3 GEP Stack Height Analysis**

The GEP stack height regulations allow any stack to be at least 65 m [213 (ft)] high. All sources being modified at G-P are existing sources, with existing stacks. None of these sources exceeds GEP stack height based on the significant structures at the facility.

#### **3.4.1.4 Best Available Control Technology**

The federal PSD regulations [40 CFR 52.21(j)(3)] state that BACT is required for each pollutant for which the modification results in a net emissions increase. BACT must be applied to each emissions unit in which a net emissions increase in a PSD pollutant would occur as a result of a physical change or a change in the method of operation in the unit. As discussed in Section 2.0, the only emissions units at G-P which are being physically changed or for which there will be a change in the method of operation are the digester system and No. 4 Recovery Boiler. The MEE system, condensate stripper system, No. 4 Smelt Tank, No. 4 Lime Kiln, and tall oil plant are not being physically modified or changed. As a result, BACT only applies to the digester system and No. 4 Recovery Boiler.

The pollution control device for the digester system at G-P is the TRS incinerator. The pollution control device for the No. 4 Recovery Boiler is an electrostatic precipitator. PSD pollutants emitted by the TRS incinerator and No. 4 Recovery Boiler, which must undergo BACT review, are PM(TSP), PM10, NO<sub>x</sub>, CO, VOC, and TRS. The No. 4 Recovery Boiler also emits trace amounts of beryllium, which must also undergo BACT review.

#### **3.4.2 NONATTAINMENT REVIEW**

The G-P mill is located in Putnam County, which has been designated as an attainment area for all pollutants. As a result, nonattainment review does not apply to the proposed project.

#### **3.4.3 NEW SOURCE PERFORMANCE STANDARDS**

Federal New Source Performance Standards (NSPS) have been promulgated for digester systems, multiple effect evaporators, condensate strippers, brown stock wasters, recovery boilers, smelt tanks, and lime kilns in the pulp and paper industry (40 CFR 60, Subpart BB). In the case of modifications to existing sources, the NSPS apply if the sources would meet the definition of "modification" under 40 CFR Part 60. A modification is defined as any physical or operational change to the source that would result in an increase in the emission rate (in lb/hr) of any

pollutant regulated under the applicable NSPS. Only PM and TRS are regulated under the NSPS for Kraft pulp mills. However, the following by themselves are not considered modifications under this part:

1. Maintenance, repair, and replacement of component parts that are considered routine; and,
2. An increase in the production rate, if that increase can be accomplished without a capital expenditure.

As described in Section 2.0, there are no physical changes being made to the G-P mill in this project except for the replacement of the Nos. 11 and 12 digesters and the modifications to the No. 4 Recovery Boiler. No other equipment is being physically modified as part of this project. The new digesters will be subject to the NSPS. The NSPS can be met by combustion in an incinerator at 1,200 °F for at least 0.5 second [40 CFR 60.283(a)(1)(iii)]. The existing TRS incinerator meets this requirement.

The only physical change being made to the No. 4 Recovery Boiler is the addition of screen tubes in the boiler. This is a physical change. However, the physical change can be accomplished without a capital expenditure. A "capital expenditure" is defined under NSPS as an expenditure for a physical or operational change that exceeds the product of the "annual asset guideline repair allowance percentage" and the existing facility's basis, as specified in the latest IRS publications. The allowable percentage for a recovery boiler is 10 percent. The cost of the changes being proposed by G-P falls well below the criteria defining a capital expenditure.

G-P has determined the existing basis for RB4 to be \$27 million (1994 dollars). Therefore, a capital expenditure would be an expenditure in excess of \$2.7 million for RB4. The addition of the new screen tubes on RB4 will cost approximately \$2 million, which is well below the \$2.7 million figure defining a capital expenditure. As a result, the change does not constitute a modification under the NSPS, and NSPS is not triggered by the changes.

Table 3-1. National and State AAQS, Allowable PSD Increments, and Significance Levels

Pollutant	Averaging Time	AAQS ( $\mu\text{g}/\text{m}^3$ )			PSD Increments ( $\mu\text{g}/\text{m}^3$ )		Significant Impact Levels ( $\mu\text{g}/\text{m}^3$ )
		National		State of Florida	Class I	Class II	
		Primary Standard	Secondary Standard				
Particulate Matter (PM10)	Annual Arithmetic Mean	50	50	50	4	17	1
	24-Hour Maximum	150 <sup>b</sup>	150 <sup>b</sup>	150 <sup>a</sup>	8	30	5
Sulfur Dioxide	Annual Arithmetic Mean	80	NA	60	2	20	1
	24-Hour Maximum	365 <sup>b</sup>	NA	260 <sup>a</sup>	5	91	5
	3-Hour Maximum	NA	1,300 <sup>b</sup>	1,300 <sup>a</sup>	25	512	25
Carbon Monoxide	8-Hour Maximum	10,000 <sup>b</sup>	10,000 <sup>b</sup>	10,000 <sup>a</sup>	NA	NA	500
	1-Hour Maximum	40,000 <sup>b</sup>	40,000 <sup>b</sup>	40,000 <sup>a</sup>	NA	NA	2,000
Nitrogen Dioxide	Annual Arithmetic Mean	100	100	100	2.5	25	1
Ozone	1-Hour Maximum <sup>c</sup>	235	235	235	NA	NA	NA
Lead	Calendar Quarter Arithmetic Mean	1.5	1.5	15	NA	NA	NA

Note: AAQS = Ambient Air Quality Standards.  
 NA = Not applicable, i.e., no standard exists.  
 Particulate matter (PM10) = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.  
 PSD = prevention of significant deterioration.  
 $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter.

<sup>a</sup>Maximum concentration not to be exceeded more than once per year.

<sup>b</sup>Achieved when the expected number of exceedances per year is less than 1.

<sup>c</sup>Achieved when the expected number of days per year with concentrations above the standard is less than 1.

Sources: 40 CFR 50.  
 40 CFR 52.21.  
 Rule 62-272, F.A.C.



Table 3-2. PSD Significant Emission Rates and *De Minimis* Monitoring Concentrations

Pollutant	Regulated Under	Significant Emission Rate (TPY)	<i>De Minimis</i> Monitoring Concentration ( $\mu\text{g}/\text{m}^3$ )
Sulfur Dioxide	NAAQS, NSPS	40	13, 24-hour
Particulate Matter (TSP)	NSPS	25	10, 24-hour
Particulate Matter (PM10)	NAAQS	15	10, 24-hour
Nitrogen Oxides	NAAQS, NSPS	40	14, annual
Carbon Monoxide	NAAQS, NSPS	100	575, 8-hour
Volatile Organic Compounds (Ozone)	NAAQS, NSPS	40	100 TPY <sup>a</sup>
Lead	NAAQS	0.6	0.1, 3-month
Sulfuric Acid Mist	NSPS	7	NM
Fluorides	NSPS	3	0.25, 24-hour
Total Reduced Sulfur	NSPS	10	—
Reduced Sulfur Compounds	NSPS	10	—
Hydrogen Sulfide	NSPS	10	0.2, 1-hour
Asbestos	NESHAP	0.007	NM
Beryllium	NESHAP	0.0004	0.001, 24-hour
Mercury	NESHAP	0.1	0.25, 24-hour
Vinyl Chloride	NESHAP	1	15, 24-hour

Note: Ambient monitoring requirements for any pollutant may be exempted if the impact of the increase in emissions is below *de minimis* monitoring concentrations.

NAAQS = National Ambient Air Quality Standards.

NESHAP = National Emission Standards for Hazardous Air Pollutants.

NM = No ambient measurement method.

NSPS = New Source Performance Standards.

PM10 = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.

PSD = prevention of significant deterioration.

TPY = tons per year.

TSP = total suspended particulate matter.

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter.

<sup>a</sup> No *de minimis* concentration; an increase in VOC emissions of 100 TPY or more will require monitoring analysis for ozone.

Table 3-3. Net Emissions Increase Associated With Proposed Project, Georgia-Pacific Palatka Operations

Regulated Pollutant	Current Actual Emissions (TPY)	Future Maximum Emissions (TPY)	Net Increase In Emissions (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Applies?
Particulate matter (TSP)	257.6	557.6	300.0	25	Yes
Particulate matter (PM10)	257.6	557.6	300.0	15	Yes
Sulfur dioxide	2,227.2	2,263.0	35.8	40	No
Nitrogen oxides	593.3	1,219.3	626.0	40	Yes
Carbon monoxide	1,256.1	2,278.6	1,022.5	100	Yes
Volatile organic compounds	109.8	432.0	322.2	40	Yes
Sulfuric acid mist	113.9	101.5	-12.4	7	No
Total reduced sulfur	22.9	111.4	88.5	10	Yes
Lead	0.12	0.16	0.04	0.6	No
Mercury	0.031	0.040	0.009	0.1	No
Beryllium	0.0038	0.0049	0.0011	0.0004	Yes
Fluorides	--	--	--	3	No
Asbestos	--	--	--	0.007	No
Vinyl Chloride	--	--	--	1	No

Table 3-4. Comparison of Net Increase in Impacts to the *De Minimis* Monitoring Concentrations

Pollutant	Net Increase in Impacts Due to Proposed Project ( $\mu\text{g}/\text{m}^3$ )	<i>De Minimis</i> Monitoring Concentration ( $\mu\text{g}/\text{m}^3$ )	Preconstruction Ambient Monitoring Analysis Required?
Particulate Matter (TSP)	4.6	10, 24-hour	No
Particulate Matter (PM10)	4.6	10, 24-hour	No
Nitrogen Oxides	0.6	14, annual	No
Carbon Monoxide	27	575, 8-hour	No
Volatile Organic Compounds (Ozone)	322.2 TPY	100 TPY <sup>a</sup>	Yes
Hydrogen Sulfide	9.3	0.2, 1-hour	Yes
Beryllium	<0.00012, 24-hr	0.001, 24-hour	No

<sup>a</sup> No *de minimis* concentration; an increase in VOC emissions of 100 TPY or more will require a monitoring analysis for ozone.

Source: KBN, 1995.

#### 4.0 AMBIENT MONITORING ANALYSIS

As described in Section 3.4.1.2, a PSD preconstruction monitoring analysis is required for ozone and TRS. Existing ambient ozone data for the monitoring stations nearest to Palatka are presented in Table 4-1. Two of these stations are located in Jacksonville, about 40 miles north of Palatka, and two are located in Daytona Beach, about 40 miles southeast of Palatka. Data are presented for the years 1991-1993. The two monitors in Daytona Beach started operating in late 1991, and therefore limited data is available for 1991.

The ozone data from these four air monitoring stations are considered to be representative for PSD preconstruction monitoring purposes. Due to the location of Palatka, and relatively low population and traffic density, it is expected that ozone concentrations in Daytona Beach and Jacksonville will be much higher than in Palatka. The Daytona Beach data is considered to be more representative of Palatka air quality since its population is closer to Palatka's than is Jacksonville's.

In the case of TRS, the Ambient Monitoring Guidelines for Prevention of Significant Deterioration (EPA, 1987) states that "consistent with Section 165 (e) (1) of the Clean Air Act, EPA believes that an analysis based on modeling of the impact of non-criteria pollutants on the air quality should generally be used in lieu of monitoring data." Therefore, Georgia-Pacific is submitting a modeling analysis for TRS to satisfy the PSD preconstruction monitoring requirements. This analysis is presented in Section 6.0.

Table 4-1. Summary of Ambient Ozone Data for Sites Nearest Georgia-Pacific Palatka Mill, 1991 - 1993

SAROAD Site No.	City	Monitoring Method	Period	No. of Obs.	1-Hour Ozone Concentrations (ppm)		
					First-Maximum	Second-Maximum	Third-Maximum
1960-070-H01	Jacksonville Naval Air Station	Continuous	1991	8325	0.095	0.095	0.095
			1992	8143	0.114	0.102	0.100
			1993	8297	0.124	0.117	0.108
1960-077-H03	Jacksonville-Sheffield School	Continuous	1991	8476	0.084	0.083	0.080
			1992	8136	0.106	0.101	0.092
			1993	8512	0.103	0.103	0.099
0920-002-G01	Daytona Beach-Dunn Avenue	Continuous	1991	1267	0.079	0.062	0.057
			1992	8591	0.083	0.082	0.082
			1993	8634	0.097	0.093	0.089
3730-001-G01	Port Orange-Spruce Creek Road	Continuous	1991	1289	0.068	0.050	0.049
			1992	8663	0.085	0.082	0.080
			1993	8649	0.094	0.094	0.086

Note: No. = number.  
 Obs. = observations.  
 ppm = parts per million.  
 Ozone standard = 0.12 ppm, not be exceeded on more than one calendar day per year.

Source: Florida DEP, 1991, 1992, 1993.

## 5.0 AIR QUALITY MODELING APPROACH

### 5.1 GENERAL MODELING APPROACH

The general modeling approach follows EPA and FDEP modeling guidelines for determining compliance with AAQS and PSD increments. In general, when model predictions are used to determine compliance with AAQS and PSD increments, current policies stipulate that the highest annual average and highest, second-highest short-term (i.e., 24 hours or less) concentrations be compared to the applicable standard when 5 years of meteorological data are used. The highest, second-highest concentration (HSH) is calculated for a receptor field by:

1. Eliminating the highest concentration predicted at each receptor,
2. Identifying the second-highest concentration at each receptor, and
3. Selecting the highest concentration among these second-highest concentrations.

This approach is consistent with the air quality standards, which permit a short-term average concentration to be exceeded once per year at each receptor.

To develop the maximum short-term concentrations for the Georgia-Pacific (G-P) facility, the general modeling approach was divided into screening and refined phases to reduce the computation time required to perform the modeling analysis. The basic difference between the two phases was the receptor grid used in the analysis.

In general, concentrations for the screening phase were predicted using a coarse receptor grid and a 5-year meteorological record. After a final list of HSH short-term concentrations was developed, the refined phase of the analysis was conducted by predicting concentrations for a refined receptor grid centered on the receptor at which the HSH concentration was produced from the screening phase. The air dispersion model was executed for the meteorological periods during which both the highest and second-highest concentrations were predicted to occur at that receptor, based on the screening phase results. This approach was used to ensure that valid HSH concentrations were obtained. More detailed descriptions of the emission inventory and receptor grids used in the screening and refined phases of the analysis are presented in the following sections.

## **5.2 MODEL SELECTION**

The selection of an appropriate air dispersion model was based on the model's ability to simulate impacts in areas surrounding the G-P site. Within 50 km of the site, the terrain can be described as simple, i.e., flat to gently rolling. As defined in EPA modeling guidelines, simple terrain is considered to be an area where the terrain features are all lower in elevation than the top of the stack(s) under evaluation. Therefore, a simple terrain model was selected to predict maximum ground-level concentrations.

The Industrial Source Complex Short-term (ISCST2, Version 93109) dispersion model (EPA, 1992b) was used to evaluate all pollutant emissions for this project. This model is contained in EPA's User's Network for Applied Modeling of Air Pollution (UNAMAP), Version 6 (EPA, 1988b). The ISCST2 model is applicable to sources located in either flat or rolling terrain where terrain heights do not exceed stack heights. The ISCST2 model is designed to calculate hourly concentrations based on hourly meteorological parameters (i.e., wind direction, wind speed, atmospheric stability, ambient temperature, and mixing heights). The hourly concentrations are processed into non-overlapping, short-term and annual averaging periods. For example, a 24-hour average concentration is based on twenty-four 1-hour averages calculated from midnight to midnight of each day. For each short-term averaging period selected, the highest and second-highest average concentrations are calculated for each receptor. As an option, a table of the 50 highest concentrations over the entire field of receptors can be produced.

Major features of the ISCST2 model are presented in Table 5-1. The ISCST2 model has both rural and urban mode options which affect the wind speed profile exponent law, dispersion rates, and mixing-height formulations used in calculating ground level concentrations. The criteria used to determine when the rural or urban mode is appropriate are based on land use near the source's surroundings (Auer, 1978). If the land use is classified as heavy industrial, light-moderate industrial, commercial, or compact residential for more than 50 percent of the area within a 3-km radius circle centered on the site location, the urban option should be selected. Otherwise, the rural option is more appropriate.

In this analysis, the EPA regulatory default options were used to predict all maximum impacts. The regulatory default options include:

1. Final plume rise at all receptor locations,
2. Stack-tip downwash,
3. Buoyancy-induced dispersion,
4. Default wind speed profile coefficients for rural or urban option,
5. Default vertical potential temperature gradients,
6. Calm wind processing, and
7. Reducing calculated SO<sub>2</sub> concentrations in urban areas by using a decay half-life of 4 hours.

In this analysis, the EPA regulatory options were used to address maximum impacts. Based on a review of the land use around G-P, the rural mode was selected based on the degree of residential, industrial, and commercial development within 3 km of the site.

### **5.3 METEOROLOGICAL DATA**

Meteorological data used in the ISCST model to determine air quality impacts consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from the National Weather Service (NWS) station at Jacksonville International Airport. The 5-year period of meteorological data was from 1983 through 1987. The NWS station at Jacksonville, located approximately 91 km due north of the G-P site, was selected for use in the study because it is the closest primary weather station to the study area which is representative of the plant site.

The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling. The wind speed, cloud cover, and cloud ceiling values were used in the ISCST meteorological preprocessor program to determine atmospheric stability using the Turner stability scheme. Based on the temperature measurements at morning and afternoon, mixing heights were calculated with the radiosonde data using the Holzworth (1972) approach. Hourly mixing heights were derived from the morning and afternoon mixing heights using the interpolation method developed by EPA (Holzworth, 1972).

The hourly surface data and mixing heights were used to develop a sequential series of hourly meteorological data (i.e., wind direction, wind speed, temperature, stability, and mixing heights). Because the observed hourly wind directions were classified into one of thirty-six 10-degree



sectors, the wind directions were randomized within each sector to account for the expected variability in air flow. These calculations were performed by using the EPA RAMMET meteorological preprocessor program.

#### **5.4 BUILDING DOWNWASH CONSIDERATIONS**

Many of the sources at G-P have stack heights below Good Engineering Practice. Therefore, according to EPA modeling guidelines, the potential effects of building downwash must be addressed in the modeling analysis. The potential for building downwash was evaluated for all source/structure combinations at the G-P facility. Those structures found to potentially cause downwash are presented in Table 5-2. A plot plan showing building and stack locations is presented in Figure 2-2. The EPA's Building Profile Input Program (BPIP, version 94074) was used to determine direction-specific building heights and widths for each G-P stack below GEP used in the modeling analysis.

#### **5.5 SIGNIFICANT IMPACT ANALYSIS**

##### **5.5.1 METHODOLOGY**

The proposed changes to RB4, LK4, SDT4, the TRS incinerator (TRS), and the tall oil plant (TOP) will result in an emission increase above significant emission levels for PM(TSP)/PM10, NO<sub>x</sub>, CO, VOC, Be, and TRS (refer to Table 3-3). Proposed increases in SO<sub>2</sub> emissions are below significant emission rates and are not required to be addressed in this analysis.

Modeling was performed for applicable pollutants to determine if the proposed increase in emissions results in impacts greater than significant impact levels (Table 3-1). For those pollutants that are shown not to exceed significant impact levels, no further modeling is required. For those pollutants for which predicted concentrations exceed these impact levels, further modeling is required to determine the significant impact area and compliance with AAQS and PSD increments. VOC is a reactive pollutant and current techniques do not allow accurate modeling of VOC or impacts upon ozone concentrations.

##### **5.5.2 SOURCE INVENTORY**

The source inventory used in the significant impact analysis is presented in Tables 5-3 and 5-4. Current emission rates are derived from Table 2-1 and Attachment A, and stack parameters are based on recent stack tests of these emission units. Future maximum emission rates (refer to

Tables 2-3 through 2-7 and Attachment A) and stack parameters are based on maximum operation of all emission units. To determine the impacts caused by the increase in emissions from the affected emission units for applicable pollutants, current emissions were modeled as negative in the ISCST, with the future maximum emissions as positive.

### **5.5.3 RECEPTORS**

#### **G-P Plant Vicinity**

A total of 380 receptors was used in the significant impact analysis. These receptors were placed along 36 polar radials spaced 10 degrees apart and centered on the TRS incinerator at G-P. The first receptor was located at the plant property boundary with subsequent receptors located at offsite distances of 700, 1,100, 1,500, 2,000, 2,500, 3,000, 3,500, 4,000, 4,500, 5,000, 10,000, 15,000, 20,000 and 25,000 m. The plant property receptors used in the significant impact analysis are presented in Table 5-5.

#### **Class I Areas**

Eleven receptors were used to predict maximum impacts in the PSD Class I areas. These 11 receptors include 1 receptor at Wolf Island and 10 around the southern and eastern edges of the Okefenokee NWR. A list of these receptors is presented in Table 5-6.

### **5.5.4 RESULTS**

#### **Significant Impact Analysis**

Results of the significant impact screening analyses for PM(TSP)/PM10, NO<sub>x</sub>, and CO are summarized in Tables 5-7, 5-8, and 5-9, respectively. Based on the screening analysis results, refinements were performed. The refined modeling analysis results are compared to EPA significant impact levels in Table 5-10. The maximum annual and 24-hour PM(TSP)/PM10 impacts are 0.51 and 4.61  $\mu\text{g}/\text{m}^3$ , respectively, which are below the significant impact levels of 1 and 5  $\mu\text{g}/\text{m}^3$ , respectively. The maximum annual NO<sub>x</sub> impact of 0.61  $\mu\text{g}/\text{m}^3$  is below the significant impact level of 1  $\mu\text{g}/\text{m}^3$ . The maximum 8-hour and 1-hour CO impacts are 27 and 101  $\mu\text{g}/\text{m}^3$ , respectively, which are below the significant impact levels of 500 and 2,000  $\mu\text{g}/\text{m}^3$ , respectively. Based on these analyses, the impacts for these pollutants do not exceed the significant impact levels, and, therefore, AAQS and PSD Class II increment consumption analyses are not required.

### **Class I Areas**

The maximum PM(TSP)/PM10 and NO<sub>x</sub> impacts of the proposed project at the PSD Class I areas of Wolf Island and Okefenokee NWR are presented in Tables 5-11 and 5-12, respectively. The maximum annual and 24-hour PM(TSP)/PM10 impacts are 0.00015 and 0.0044 µg/m<sup>3</sup>, respectively, which are below the proposed National Park Service (NPS) Class I significant impact levels of 0.1 and 0.33 µg/m<sup>3</sup>, respectively, for those averaging times.

The maximum annual NO<sub>x</sub> impact is 0.00031 µg/m<sup>3</sup>, which is below the proposed NPS Class I significant impact level of 0.025. Because the PM(TSP)/PM10 and NO<sub>x</sub> impacts due to the proposed project are below the NPS significant impact levels, a PSD Class I analysis is not required for these pollutants.

### **5.5.5 TOXIC POLLUTANT IMPACTS**

The impacts of beryllium and TRS were determined for comparison to FDEP's Florida Air Reference Concentrations (FARCs). For this analysis, the total maximum impacts of the affected emissions units at Georgia-Pacific were analyzed, not just the net increase in impacts due to the modification.

#### **Beryllium**

Maximum predicted beryllium impacts due to all affected emissions units after the proposed modification are summarized in Table 5-13. The FDEP has developed FARCs for beryllium compounds: 0.00042 µg/m<sup>3</sup>, annual average; 0.0048 µg/m<sup>3</sup>, 24-hour average; and 0.02 µg/m<sup>3</sup>, 8-hour average. The maximum beryllium impacts are 0.00001 µg/m<sup>3</sup> annual average; 0.00012 µg/m<sup>3</sup>, 24-hour average; and 0.00027 µg/m<sup>3</sup>, 8-hour average. These impacts are below the respective FARCs for this substance.

#### **TRS**

Maximum predicted TRS impacts due to all affected emissions units after the proposed modification are summarized in Table 5-14. The FDEP has developed FARCs for TRS compounds (as H<sub>2</sub>S): 0.90 µg/m<sup>3</sup>, annual average, 33.6 µg/m<sup>3</sup>, 24-hour average; and 140 µg/m<sup>3</sup>, 8-hour average. The maximum TRS impacts (as H<sub>2</sub>S) are 0.34 µg/m<sup>3</sup>, annual average; 3.4 µg/m<sup>3</sup>, 24-hour average; and 4.6 µg/m<sup>3</sup>, 8-hour average. These impacts are below the respective FARCs for this compound.

Table 5-1. Major Features of the ISCST2 Model

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ISCST2 Model Features
<ul style="list-style-type: none"><li>• Polar or Cartesian coordinate systems for receptor locations</li><li>• Rural or one of three urban options which affect wind speed profile exponent, dispersion rates, and mixing height calculations</li><li>• Plume rise due to momentum and buoyancy as a function of downwind distance for stack emissions (Briggs, 1969, 1971, 1973, and 1975)</li><li>• Procedures suggested by Huber and Snyder (1976) and Huber (1977) for evaluating building wake effects</li><li>• Procedures suggested by Briggs (1974) for evaluating stack-tip downwash</li><li>• Separation of multiple point sources</li><li>• Consideration of the effects of gravitational settling and dry deposition on ambient particulate concentrations</li><li>• Capability of simulating point, line, volume and area sources</li><li>• Capability to calculate dry deposition</li><li>• Variation of wind speed with height (wind speed-profile exponent law)</li><li>• Concentration estimates for 1-hour to annual average times</li><li>• Terrain-adjustment procedures for elevated terrain including a terrain truncation algorithm</li><li>• Consideration of time-dependent exponential decay of pollutants</li><li>• The method of Pasquill (1976) to account for buoyancy-induced dispersion</li><li>• A regulatory default option to set various model options and parameters to EPA recommended values (see text for regulatory options used)</li><li>• Procedure for calm-wind processing</li><li>• Wind speeds less than 1 m/s are set to 1 m/s.</li></ul>

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Note: ISCST2 = Industrial Source Complex Short-Term.

Source: EPA, 1992b.

Table 5-2. Structure Dimensions Used in the Georgia-Pacific Modeling Analysis

Structure	Actual Building Dimensions					
	Height		Length		Width	
	ft	m	ft	m	ft	m
RB4 Precipitator	85	25.9	118	36.0	58.5	17.8
RB4 Boiler Building	196	59.7	99.7	30.4	91.9	28.0
Power Plant Building	110	33.5	165	50.3	93	28.3

Table 5-3. Georgia-Pacific Source Emissions Used in the Modeling Analysis

Emission Unit	Emission Unit ID	Short-Term Emissions								Long-Term Emissions							
		PM(TSP)/PM10		CO		TRS		Be		PM(TSP)/PM10		NO <sub>x</sub>		TRS		Be	
		(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(TPY)	(g/s)	(TPY)	(g/s)	(TPY)	(g/s)	(TPY)	(g/s)
<b>Current Actuals</b>																	
Recovery Boiler No. 4	RB4	31.2	3.93	309.2	38.96	3.3	0.42	5.5E-04	6.9E-05	125.8	3.62	410.3	11.80	13.3	0.38	2.2E-03	6.3E-05
Lime Kiln No. 4	LK4	20.0	2.52	2.4	0.30	1.1	0.14	3.8E-04	4.8E-05	80.0	2.30	125.5	3.61	4.40	0.13	1.5E-03	4.3E-05
Smelt Dissolving Tank No. 4	SDT4	7.1	0.89	-	-	1.2	0.15	1.3E-05	1.6E-06	28.6	0.82	55.7	1.60	4.84	0.14	5.2E-05	1.5E-06
TRS Incinerator	TRS	5.3	0.67	0.18	0.02	0	0	-	-	23.2	0.67	1.76	0.05	0	0	-	-
Tall Oil Plant	TOP	-	-	-	-	0.073	0.01	-	-	-	-	-	-	0.32	0.01	-	-
<b>Proposed Maximums</b>																	
Recovery Boiler No. 4	RB4	83.2	10.48	1025.4	129.20	17.8	2.24	6.4E-04	8.1E-05	364.4	10.48	922.4	26.53	78.0	2.24	2.8E-03	8.1E-05
Lime Kiln No. 4	LK4	26.0	3.28	7.3	0.92	4.0	0.50	4.5E-04	5.7E-05	113.9	3.28	220.3	6.34	17.5	0.50	2.0E-03	5.8E-05
Smelt Dissolving Tank No. 4	SDT4	12.6	1.59	-	-	3.4	0.43	1.5E-05	1.9E-06	55.2	1.59	69.0	1.98	14.9	0.43	6.4E-05	1.9E-06
TRS Incinerator	TRS	5.5	0.69	0.24	0.03	0.120	0.02	-	-	24.1	0.69	7.60	0.22	0.53	0.02	-	-
Tall Oil Plant	TOP	-	-	-	-	0.23	0.03	-	-	-	-	-	-	0.50	0.01	-	-

Table 5-4. Georgia-Pacific Source Location and Operating Parameters Used in the Modeling Analysis

Emission Unit	Emission Unit ID	Relative Location (a)				Stack Parameters				Operating Parameters			
		X		Y		Height		Diameter		Temperature		Velocity	
		(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(°F)	(°K)	(ft/s)	(m/s)
<u>Current Actuals</u>													
Recovery Blr No. 4	RB4	-370	-112.8	622	189.6	230	70.1	12.00	3.66	400	477.6	57.3	17.48
Lime Kiln No. 4	LK4	-123	-37.5	-310	-94.5	131	39.9	4.42	1.35	150	338.7	60.8	18.53
Smelt Dissolving Tank No 4	SDT4 (b)	-153	-46.6	639	194.8	206	62.8	5.00	1.52	160	344.3	20.0	6.10
TRS Incinerator	TRS	0	0.0	0	0.0	250	76.2	3.08	0.94	500	533.2	94.0	28.65
Tall Oil Plant	TOP	32	9.8	212	64.6	40	12.2	1.33	0.41	200	366.5	40.8	12.44
<u>Proposed Maximums</u>													
Recovery Blr No. 4	RB4	-370	-112.8	622	189.6	230	70.1	12.00	3.66	400	477.6	63.7	19.42
Lime Kiln No. 4	LK4	-123	-37.5	-310	-94.5	131	39.9	4.42	1.35	150	338.7	60.8	18.53
Smelt Dissolving Tank No 4	SDT4 (b)	-153	-46.6	639	194.8	206	62.8	5.00	1.52	160	344.3	21.2	6.46
TRS Incinerator	TRS	0	0.0	0	0.0	250	76.2	3.08	0.94	500	533.2	105.1	32.03
Tall Oil Plant	TOP	32	9.8	212	64.6	40	12.2	1.33	0.41	200	366.5	40.8	12.44

(a) Relative to TRS Incinerator stack location and true north

(b) Source has 2 stacks. Location is centroid.

Table 5-5. Summary of Direction-Specific Distances From the TRS Incinerator to G-P Plant Property Boundaries

Direction (Degrees)	Distance (m)	Direction (Degrees)	Distance (m)
10	5,000	190	750
20	4,500	200	1,829
30	2,500	210	1,829
40	2,500	220	1,981
50	1,500	230	2,134
60	1,500	240	2,438
70	1,500	250	2,896
80	838	260	3,048
90	686	270	3,658
100	533	280	3,962
110	457	290	4,572
120	457	300	5,182
130	457	310	4,801
140	457	320	4,875
150	457	330	6,000
160	488	340	5,500
170	533	350	5,250
180	610	360	5,125



Table 5-6. Wolf Island and Okeefenokee NWR Receptors Used in the Modeling Analysis

PSD Class I Area	UTM Coordinates	
	East (km)	North (km)
Wolf Island NWR	470.5	3459.0
Okefenokee NWR	391.0	3417.0
Okefenokee NWR	390.0	3410.0
Okefenokee NWR	392.0	3400.0
Okefenokee NWR	390.0	3395.0
Okefenokee NWR	391.0	3390.0
Okefenokee NWR	390.0	3384.0
Okefenokee NWR	383.0	3382.0
Okefenokee NWR	378.0	3382.0
Okefenokee NWR	374.0	3383.0
Okefenokee NWR	370.0	3383.0

Table 5-7. Maximum Predicted PM(TSP)/PM10 Concentrations for the Proposed Modification Only – Screening Analysis

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ )	Receptor Location*		Period Ending (YYMMDDHH)
		Direction (deg)	Distance (m)	
Annual	0.41	110.	457.	83123124
	0.42	110.	457.	84123124
	0.39	100.	533.	85123124
	0.43	100.	533.	86123124
	0.51	110.	457.	87123124
High 24-Hour	2.89	80.	838.	83031924
	4.43	180.	610.	84011524
	3.10	100.	533.	85070824
	3.80	180.	610.	86121524
	3.37	110.	457.	87050824

Note: YY = Year.  
MM = Month.  
DD = Day.  
HH = Hour.

\* All receptor coordinates are relative to the G-P TRS Incinerator Stack Location.

Table 5-8. Maximum Predicted NO<sub>x</sub> Concentrations for the Proposed Modification Only — Screening Analysis

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ )	Receptor Location*		Period Ending (YYMMDDHH)
		Direction (deg)	Distance (m)	
Annual	0.46	120.	700.	83123124
	0.48	110.	700.	84123124
	0.47	90.	686.	85123124
	0.55	90.	686.	86123124
	0.59	130.	1100.	87123124

Note: YY = Year.  
MM = Month.  
DD = Day.  
HH = Hour.

\* All receptor coordinates are relative to the G-P TRS Incinerator Stack Location.

Table 5-9. Maximum Predicted CO Concentrations for the Proposed Modification Only — Screening Analysis

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ )	Receptor Location*		Period Ending (YYMMDDHH)
		Direction (deg)	Distance (m)	
8-Hour High	24	90.	3500.	83031916
	25	60.	2000.	84081216
	27	70.	2000.	85052916
	26	70.	2000.	86060816
	23	130.	2000.	87071416
1-Hour High	100	90.	686.	83071513
	86	210.	2000.	84082109
	94	90.	686.	85071111
	96	90.	686.	86071812
	101	90.	686.	87091713

Note: YY = Year.  
MM = Month.  
DD = Day.  
HH = Hour.

\* All receptor coordinates are relative to the G-P TRS Incinerator Stack Location.

Table 5-10. Maximum Predicted PM(TSP)/PM10, NO<sub>x</sub>, and CO Concentrations for the Proposed Modification Only as Compared with Significant Impact Levels - Refined Analysis

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ )	Receptor Location*		Period Ending (YYMMDDHH)	EPA Significant Impact Levels ( $\mu\text{g}/\text{m}^3$ )
		Direction (deg)	Distance (m)		
<u>PM(TSP)/PM10</u>					
Annual	0.51	110	457	87123124	1
24-Hour High	4.61	182	638	84011524	5
<u>NO<sub>x</sub></u>					
Annual	0.61	130	900	87123124	1
<u>CO</u>					
8-Hour High	27	70	2000	85052916	500
1-Hour High	101	90	686	87091713	2000

Note: YY = Year.  
MM = Month.  
DD = Day.  
HH = Hour.

\* All receptor coordinates are relative to the TRS Incinerator stack location.

Table 5-11. Maximum Predicted PM(TSP)/PM10 Concentrations for the Proposed Modification Only at the Wolf Island and Okeefenokee NWR Class I Areas

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ )	Receptor Location <sup>a</sup>		Period Ending (YYMMDDHH)	NPS Recommended Significance Levels ( $\mu\text{g}/\text{m}^3$ )
		UTM-E	UTM-N		
Annual	0.00009	390000.	3384000.	83123124	0.1
	0.00013	370000.	3383000.	84123124	
	0.00015	370000.	3383000.	85123124	
	0.00011	470500.	3459000.	86123124	
	0.00011	470500.	3459000.	87123124	
24-Hour High	0.00355	370000.	3383000.	83051624	0.33
	0.00312	370000.	3383000.	84020324	
	0.00439	470500.	3459000.	85081724	
	0.00336	370000.	3383000.	86092424	
	0.00444	470500.	3459000.	87122624	

Note: YY = Year.  
MM = Month.  
DD = Day.  
HH = Hour.

<sup>a</sup> All receptor coordinates are reported in Universal Transverse Mercator (UTM) Coordinates.

Table 5-12. Maximum Predicted NO<sub>x</sub> Concentrations for the Proposed Modification Only at the Wolf Island and Okeefenokee NWR Class I Areas

Averaging Time	Concentration (μg/m <sup>3</sup> )	Receptor Location*		Period Ending (YYMMDDHH)	NPS Recommended Significance Levels (μg/m <sup>3</sup> )
		UTM-E	UTM-N		
Annual	0.00020	390000.	3384000.	83123124	0.025
	0.00027	370000.	3383000.	84123124	
	0.00031	370000.	3383000.	85123124	
	0.00024	470500.	3459000.	86123124	
	0.00023	470500.	3459000.	87123124	

Note: YY = Year.  
MM = Month.  
DD = Day.  
HH = Hour.

\* All receptor coordinates are reported in Universal Transverse Mercator (UTM) Coordinates.

Table 5-13. Maximum Predicted Beryllium Concentrations for the G-P Plant After the Proposed Modification

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ )	Receptor Location*		Period Ending (YYMMDDHH)	FDEP FARC ( $\mu\text{g}/\text{m}^3$ )
		Direction (deg)	Distance (m)		
Annual	0.00001	130.	1100.	83123124	0.00042
	0.00001	130.	1100.	84123124	
	0.00001	100.	700.	85123124	
	0.00001	120.	700.	86123124	
	0.00001	130.	1100.	87123124	
24-Hour High	0.00010	100.	700.	83031924	0.0048
	0.00011	190.	1500.	84112124	
	0.00010	120.	700.	85070824	
	0.00012	130.	700.	86082424	
	0.00011	190.	1500.	87101124	
8-Hour High	0.00024	130.	457.	83082916	0.02
	0.00025	110.	457.	84081016	
	0.00025	130.	457.	85060216	
	0.00026	120.	457.	86060216	
	0.00027	140.	700.	87071416	

Note: YY = Year.  
MM = Month.  
DD = Day.  
HH = Hour.  
FARC = Florida Air Reference Concentration.

\* All receptor coordinates are reported in Universal Transverse Mercator (UTM) Coordinates.



Table 5-14. Maximum Predicted TRS (as H<sub>2</sub>S) Concentrations for the G-P Plant After the Proposed Modification

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ )	Receptor Location*		Period Ending (YYMMDDHH)	FDEP FARC ( $\mu\text{g}/\text{m}^3$ )
		Direction (deg)	Distance (m)		
Annual	0.28	110.	457.	83123124	0.90
	0.28	110.	457.	84123124	
	0.26	100.	533.	85123124	
	0.28	100.	533.	86123124	
	0.34	110.	457.	87123124	
24-Hour High	1.8	120.	457.	83110324	33.6
	3.4	180.	610.	84011524	
	2.0	100.	533.	85070824	
	2.8	180.	610.	86121524	
	2.2	120.	457.	87102724	
8-Hour High	4.0	170.	533.	83121908	140
	4.3	170.	533.	84011308	
	4.5	110.	457.	85071716	
	4.6	180.	610.	86121524	
	4.3	110.	457.	87050816	

Note: YY = Year.  
MM = Month.  
DD = Day.  
HH = Hour.  
FARC = Florida Air Reference Concentration.

\* All receptor coordinates are relative to the TRS Incinerator stack location.

## **6.0 BEST AVAILABLE CONTROL TECHNOLOGY**

### **6.1 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. To bring consistency to the BACT process, the EPA developed the so called "top-down" approach to BACT determinations. As mentioned previously, this approach has been challenged in court and a settlement agreement reached which requires EPA to initiate formal rulemaking on the top down approach. Nonetheless, in the absence of formal rules related to this approach, the "top-down" approach is followed in the G-P BACT analysis.

The first step in a top-down 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 modification at G-P, PM(TSP)/PM10, NO<sub>x</sub>, CO, VOC, TRS and Be require BACT analysis. Only the digester system and the No. 4 Recovery Boiler (RB4) requires BACT analysis as these are the only emissions unit being physically modified as part of the project. The following sections present the BACT analysis for each applicable pollutant and for each emissions unit being modified.

### **6.2 DIGESTER SYSTEM**

The digester system at G-P, as at all kraft pulp mills, produces TRS emissions which must be controlled. The new replacement digesters, Nos. 11 and 12, must meet federal NSPS, as described in Section 3.0. The NSPS require that non-condensable TRS gases be combusted in a recovery boiler meeting NSPS for TRS, a lime kiln meeting NSPS for TRS, 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.

G-P employs a TRS incinerator on the existing digester system which is designed to combust the TRS gases from the system at 1,200°F for at least 0.5 seconds. The new replacement digesters will utilize the existing non-condensable gas collection and incineration system. The only change will be that a TRS scrubber will be added prior to the incinerator in order to reduce the mass loading of TRS reaching the incinerator, thereby reducing potential SO<sub>2</sub> emissions from the incinerator (the sulfur in the TRS is converted to SO<sub>2</sub> in the incinerator). Therefore, the new digesters will meet the NSPS requirement.

Presented in Table 6-1 is a compilation of all BACT determinations for digester systems at kraft pulp mills during the last ten years. As indicated, all BACT determinations for new digesters have required incineration as the control method. G-P's proposed BACT is equivalent to these prior BACT determinations.

### **6.3 NO. 4 RECOVERY BOILER**

#### **6.3.1 PARTICULATE MATTER AND BERYLLIUM**

RB4 is currently equipped with a high-efficiency electrostatic precipitator (ESP) for PM(TSP)/PM10 control. ESPs have been demonstrated in practice to be the best and most appropriate control device for PM(TSP) and PM10 emissions. RB4 underwent BACT review for PM(TSP)/PM10 in 1991, related to an increase in throughput rate and physical changes to the boiler. The resulting BACT determination was 0.033 gr/dscf at 8 percent O<sub>2</sub>, and 83.2 lb/hr.

Beryllium in the exhaust gases of a recovery boiler will be in the form of particulate matter. In this context, control of PM(TSP)/PM10 emissions will also control Be emissions. Therefore, this discussion for PM(TSP)/PM10 will also apply for Be emissions.

Previous BACT determinations for PM emissions from kraft recovery boilers, issued within the past 5 years, are summarized in Table 6-2. This summary shows that all previous BACT determinations have been based on ESP control. Based on this fact, only the ESP control technology is considered further for BACT for PM(TSP)/PM10 emissions. Previous BACT

determinations have resulted in PM emission limits ranging from 0.021 gr/dscf to 0.033 gr/dscf at 8 percent O<sub>2</sub>. Nearly all of these determinations have been for new recovery boilers.

PM test data from RB4 has shown the existing ESP achieves low levels of PM emissions (refer to Table 6-3). The last three PM compliance tests on RB4 have resulted in PM emissions for individual test runs ranging from 0.005 gr/dscf to 0.035 gr/dscf at 8 percent O<sub>2</sub>. Corresponding mass emission rates ranged from 10.7 to 77.9 lb/hr.

Based on these test results, G-P is proposing a BACT emission level of 0.033 gr/dscf at 8 percent O<sub>2</sub> and 83.2 lb/hr. This emission rate is equal to the current emission limit, which was determined to be BACT in 1991. It has been shown through the compliance testing that the PM emissions from RB4 can be variable and can range up to the current emission limit. G-P's RB4 and associated ESP was constructed in 1976 and is now nearly 20 years old. The ESP was rebuilt in 1991, but is still an existing ESP. The recovery boiler/ESP and its age are important considerations in the BACT determination. The proposed BACT emission level will provide G-P with an adequate margin of safety above current actual emissions, which can reasonably be met at all times in the future. The existing ESP control is also proposed as BACT for beryllium emissions.

## **6.3.2 NITROGEN OXIDES**

### **6.3.2.1 Pollutant Formation**

NO<sub>x</sub> 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<sub>2</sub>). NO<sub>x</sub> formed from the fuel nitrogen is termed "fuel" NO<sub>x</sub>, and that formed from the nitrogen in the combustion air is termed "thermal" NO<sub>x</sub>.

Black liquor fired in recovery boilers has low nitrogen content, typically less than 0.1 percent. As a result, fuel NO<sub>x</sub> is minimal from recovery boilers. Thermal NO<sub>x</sub> is the primary emission from a recovery boiler.

In general, kraft recovery boilers have relatively low NO<sub>x</sub> emissions. Low combustion temperatures and staged combustion (creating a reducing atmosphere in the lower portion of the

boiler) inhibit the formation of  $\text{NO}_x$ . 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.

### **6.3.2.2 Alternative $\text{NO}_x$ Control Technologies**

Combustion control is the only control technology used on recovery boilers to date. All BACT/LAER determinations issued within the past 5 years for  $\text{NO}_x$  are summarized in Table 6-4. Review of this table shows that all determinations have been based on combustion control and boiler design and operation.

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  $\text{NO}_x$ . 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,  $\text{NO}_x$  emissions potentially can be controlled by a post-combustion  $\text{NO}_x$  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  $\text{NO}_x$  reduction system uses a vanadium pentoxide catalyst to promote the reaction of ammonia with the  $\text{NO}_x$ . 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<sub>x</sub> 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<sub>x</sub>. A large amount of uncertainty is associated with the use of this NO<sub>x</sub> 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 G-P recovery boiler would require extensive and costly retrofitting. NO<sub>x</sub> emissions from recovery boilers generally are low. Based on these considerations, post-combustion control techniques for NO<sub>x</sub> were not considered further.

#### **6.3.2.3 Proposed BACT for NO<sub>x</sub>**

Combustion control is the only feasible NO<sub>x</sub> control technique applicable to the existing G-P recovery boiler. RB4 underwent BACT review for NO<sub>x</sub> in 1991, related to an increase in throughput rate and physical changes to the boiler. The resulting BACT determination was 100 ppmvd at 8 percent O<sub>2</sub> and 210.6 lb/hr. An NO<sub>x</sub> emission limit of 100 ppmvd, corrected to 8 percent oxygen (210.6 lb/hr), on an annual average basis, is also proposed as BACT for the current modification.

Review of information contained in the BACT/LAER Clearinghouse documents (Table 6-4) indicates that previous NO<sub>x</sub> BACT emission limits have ranged from 75 ppmvd to 120 ppmvd at 8 percent O<sub>2</sub>. The most recent BACT determinations have been in the 110 to 115 ppmvd range. These determination have been for new recovery boilers, which can be designed to achieve lower NO<sub>x</sub> levels.

NO<sub>x</sub> test data from RB4 has shown the existing recovery boiler achieves low levels of NO<sub>x</sub> emissions. The last three NO<sub>x</sub> compliance tests on RB4 have resulted in NO<sub>x</sub> emissions for individual test runs ranging from 43 to 67 ppmvd at 8 percent O<sub>2</sub> (refer to Table 6-3). Corresponding mass emission rates ranged from 72.0 to 128 lb/hr.

Based on these test results, G-P is proposing a BACT emission level of 100 ppmvd at 8 percent O<sub>2</sub> and 210.6 lb/hr. This emission rate is equal to the current emission limit, which was determined to be BACT in 1991. It has been shown through the compliance testing that the NO<sub>x</sub> emissions from RB4 can be variable and can range near to the current emission limit. The proposed BACT emission level will provide G-P with an adequate margin of safety above current actual emissions, which can reasonably be met at all times in the future.

### **6.3.3 BACT FOR 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 minimize CO and VOC emissions.

Because of the mutually dependent formation characteristics of NO<sub>x</sub> 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<sub>x</sub> emissions by lowering combustion temperatures and excess combustion air are counterproductive relative to 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<sub>x</sub>, SO<sub>2</sub>, and TRS, which are the primary pollutants emitted from recovery boilers.

RB4 underwent BACT review for NO<sub>x</sub> in 1991, related to an increase in throughput rate and physical changes to the boiler. The resulting BACT determination for CO was 800 ppmvd,

1-hour average, and 400 ppmvd, annual average, at 8 percent O<sub>2</sub>. These correspond to CO mass emission rates of 1,025.4 lb/hr, 1-hour average, and 512.7 lb/hr, annual average. For VOC, the resulting BACT determination in 1991 was 0.52 lb/ton of black liquor solids (BLS) fed to the recovery boiler, and 54.6 lb/hr. These existing BACT emission limits are proposed as BACT for the current modification.

Previous BACT/LAER determinations for CO and VOC emissions from recovery boilers are summarized in Tables 6-5 and 6-6. All previous determinations have been based on good combustion practices. As a result, no other control technologies for control of CO and VOC will be considered.

Previous BACT determinations for CO have ranged from 200 to 400 ppmvd at 8 percent O<sub>2</sub>. No averaging times for these limits are specified in the BACT Clearinghouse information. Most of these are for new recovery boilers.

The proposed BACT for G-P's RB4 is good combustion practices to minimize CO and VOC, while emphasizing control of NO<sub>x</sub>, SO<sub>2</sub>, and TRS.

The last three CO compliance tests on RB4 have resulted in CO emissions for individual test runs ranging from 33 to 756 ppmvd at 8 percent O<sub>2</sub> (refer to Table 6-3). Corresponding mass emission rates ranged from 33 to 798 lb/hr. These data indicate the variability that can be experienced in actual CO emissions. G-P proposes a CO level of 400 ppmvd, at 8 percent O<sub>2</sub>, on an annual average basis. The proposed maximum 1-hour emission level is 800 ppmvd at 8 percent O<sub>2</sub>. These emission levels compare favorably with the previous BACT/LAER determinations, as well as with the actual test data from RB4.

Previous BACTs for VOC have been reported in various units. Most can be expressed in lb/MMBtu heat input. Determinations have ranged from 0.048 to 0.095 lb/MMBtu, and from 0.69 to 2.0 lb/ton ADUP. G-P's current VOC limit is equivalent to 0.043 lb/MMBtu and 0.71 lb/ton ADUP (based on 1,850 TPD ADUP). Actual emissions from RB4 have generally been very low (less than 5 lb/hr) based on EPA Method 25A testing. G-P proposes a VOC level of 0.52 lb/ton BLS or 0.043 lb/MMBtu (54.6 lb/hr), which compares favorably with the previous BACT/LAER determinations.



#### 6.3.4 BACT FOR TRS

The TRS generated in recovery furnaces is 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.

RB4 received a construction permit in 1991 related to an increase in throughput rate and physical changes to the boiler. The changes included complete revamping of the combustion air system, including a new configuration for the primary and secondary air nozzles, and addition of tertiary air nozzles. Through these changes, G-P was able to agree to a lower TRS limit of 11.4 ppmvd @ 8 percent oxygen (previous limit was 17.5 ppmvd). A TRS emission limit of 11.4 ppmvd, corrected to 8 percent oxygen (17.8 lb/hr) is proposed as BACT for the current modification.

Review of information contained in the BACT/LAER Clearinghouse documents (Table 6-7) indicates that previous BACT emission limits for TRS have all been set at 5.0 ppmvd at 8 percent oxygen. TRS test data from RB4 has shown the existing recovery boiler achieves low levels of TRS emissions. The last three TRS compliance tests on RB4 have resulted in TRS emissions for individual test runs ranging from <0.2 to 4.2 ppmvd at 8 percent O<sub>2</sub> (refer to Table 6-3). Corresponding mass emission rates ranged from <0.3 to 5.9 lb/hr. Data from the continuous TRS monitor installed on RB4 showed that in 1994, the TRS emissions averaged 2.40 ppmvd with a maximum 12-hour average of 11.2 ppmvd.

Based on these test results, G-P is proposing a BACT emission level for TRS of 11.4 ppmvd at 8 percent O<sub>2</sub> and 17.8 lb/hr. This emission rate is equal to the current emission limit. The continuous TRS monitor data has shown that the TRS emissions from RB4 can be variable and can range up to the current emission limit. The proposed BACT emission level will provide G-P with an adequate margin of safety above current actual emissions, which can reasonably be met at all times in the future.

Table 6-1. Summary of BACT Determinations for TFS Emissions From Digester Systems in Pulp Mills

Company	State	Permit#	Permit Issue date	New Source? (a)	Throughput (Units)	Emission Limit	Ctrl Equip	Removal Eff (%)
Union Camp	SC	1900-0046	01-May-89	Yes	1463 ADP t/day	None	Incineration	—
Mead Coated Board	AL	211-0004	01-Oct-88	Yes	—	None	Incineration	—
Alabama River Pulp	AL	106-0010	22-Jan-90	—	5.5 MM lb BLS/day	None	Incineration	—

(a) Indicates if emission unit subject to BACT was new construction (yes) or a modification (no).

Source: BACT/RACT/LAER Clearinghouse Database, Feb. 1995.

Table 6-2. Summary of BACT Determinations for PM Emissions From Recovery Boilers in Pulp Mills.

Company	State	Permit#	Permit	New	Throughput (Units)	Emission Limit		Control	Removal
			Issue date	Source? (a)		gr/dscf @ 8% O <sub>2</sub>	lb/hr	Equipment	Eff (%)
Pennotech Papers Inc.	PA	24-306-003	09-Dec-92	No	630.00 ADP t/day	0.027	gr/dscf @ 8% O <sub>2</sub>	ESP	92.9
Leaf River Forest	MS	2200-00005	14-Jul-92	No	6.40 MM lb BLS/day	0.04	gr/dscf @ 8% O <sub>2</sub>	—	—
Boise Cascade	AL	102-0001	01-Jul-92	Yes	32600 lb BLS/day	0.0210	gr/dscf @ 8% O <sub>2</sub>	ESP	99.7
James River Corp	WA	PSD-88-3	26-Sep-91	Yes	523 MMBtu/hr	0.033	gr/dscf @ 8% O <sub>2</sub>	ESP + H/R scrubber	99.5
Georgia-Pacific	FL	PSD-FL-171	12-Jun-91	No	—	0.033	gr/dscf @ 8% O <sub>2</sub>	ESP	—
Gulf States Paper	AL	105-0001	12-Mar-91	Yes	3.3 MM lb BLS/day	0.025	gr/dscf @ 8% O <sub>2</sub>	ESP	99.7
Chesapeake Corp	VA	40126	01-Mar-91	No	62.5 ton BLS/hr	0.030	gr/dscf @ 8% O <sub>2</sub>	ESP	99.8
Riverwood International	GA	2631-011-10630	21-Dec-90	Yes	3.50 MM lb BLS/day	0.027	gr/dscf @ 8% O <sub>2</sub>	ESP	99.9
Longview Fibre	WA	X81-10A	27-Jul-90	—	1100 ADP t/day	0.027	gr/dscf @ 8% O <sub>2</sub>	ESP	99.8
Alabama River Pulp	AL	106-0010	22-Jan-90	—	5.5 MM lb BLS/day	0.025	gr/dscf @ 8% O <sub>2</sub>	ESP	99.6
Great Southern Paper	GA	2361-049-10296	08-Dec-89	—	63.56 ton BLS/hr	46	lb/hr	ESP	99.6

(a) Indicates if emission unit subject to BACT was new construction (yes) or a modification (no)

Source: BACT/RACT/LAER Clearinghouse Database, Feb. 1995.

Table 6-3. Summary of Source Test Data From No. 4 Recovery Boiler, Georgia-Pacific Palatka Mill

Test Date	Run #	Particulate Matter		Nitrogen Dioxide		Carbon Monoxide		VOC		TRS	
		gr/dscf @8% O2	lb/hr	ppmvd @8% O2	lb/hr	ppmvd @8% O2	lb/hr	ppmvd @8% O2	lb/hr	ppmvd @8% O2	lb/hr
02/15/94	1	0.007	15.0	59	104	440	472	<3	<1.0	2.6	3.2
02/15/94	2	0.006	13.6	58	101	756	798	<5	<1.7	3.7	4.8
02/15/94	3	<u>0.007</u>	<u>14.7</u>	<u>62</u>	<u>109</u>	<u>404</u>	<u>428</u>	<u>&lt;2</u>	<u>&lt;0.7</u>	<u>0.7</u>	<u>0.9</u>
	Average	0.007	14.4	60	105	533	566	<3	<1.1	2.3	3.0
02/19/93	1	0.007	16.1								
02/19/93	2	0.006	12.1								
02/19/93	3	<u>0.005</u>	<u>10.7</u>								
	Average	0.006	12.9								
02/17/93	1			43	72	193	197	<10	<4.4	<0.2	<0.2
02/17/93	2			50	84	33	33	<10	<4.4	<0.3	<0.3
02/17/93	3			<u>43</u>	<u>72</u>	<u>80</u>	<u>82</u>	<u>&lt;10</u>	<u>&lt;4.4</u>	<u>&lt;0.3</u>	<u>&lt;0.3</u>
02/17/93	4			45	76	102	104	<10	<4.4	<0.3	<0.3
	Average										
03/11/92	1	0.029	65.2	61	121			8.1	4.0	2.3	3.4
03/11/92	2	0.026	55.5	65	125			7.1	3.6	4.2	5.9
03/11/92	3	<u>0.035</u>	<u>77.9</u>	<u>67</u>	<u>128</u>			<u>4.2</u>	<u>2.1</u>	<u>1.9</u>	<u>2.6</u>
	Average	0.030	66.2	65	125			6.5	3.2	2.8	4.0
Allowable Limit		0.033	83.2	100	210.6	800	1,025.4	--	54.6	11.4	17.8

Source: KBN, 1995.

Table 6-4. Summary of BACT Determinations for NOx Emissions From Recovery Boilers in Pulp Mills.

Company	State	Permit#	Permit Issue date	New Source? (a)	Throughput (Units)	Emission Limit	Control Equipment
Penntech Papers Inc.	PA	24-806-003	09-Dec-92	No	630.00 ADP t/day	110 ppmvd @ 8% O2	Design
Leaf River Forest	MS	2200-00005	14-Jul-92	No	6.40 MM lb BLS/day	110 ppmvd @ 8% O2	Combustion Control
Boise Cascade	AL		01-Jul-92	Yes	32600 lb BLS/day	115 ppmvd @ 8% O2	—
James River Corp	WA	PSD-88-8	26-Sep-91	Yes	523 MMBtu/hr	2.13 lb/ ADUT	—
Georgia-Pacific	FL	PSD-FL-171	12-Jun-91	No	—	100 ppmvd @ 8% O2	—
Leaf River Forest	MS	2200-00005	09-Apr-91	No	6.00 MM lb BLS/day	80 ppmvd @ 8% O2	—
Gulf States Paper	AL	105-0001	12-Mar-91	Yes	3.3 MM lb BLS/day	90 ppmvd @ 8% O2	—
Chesapeake Corp	VA	40126	01-Mar-91	No	62.5 T/H BLS	112 ppmvd @ 8% O2	—
International Paper	LA		24-Feb-91	No	1117 ADP t/day	100 ppmvd @ 8% O2	—
Williamette Industries	LA	PSD-LA-562	04-Feb-91	No	1400 ADP t/day	206.1 lb/hr	—
Riverwood International	GA	2631-011-10630	21-Dec-90	Yes	3.50 MM lb BLS/day	120 ppm	—
James River Pennington	AL	101-0001 X024	16-Aug-90	—	5.4 MM lb BLS/day	115 ppmvd @ 8% O2	—
Longview Fibre	WA	X81-10A	27-Jul-90	—	1100 ADP t/day	95 ppmvd @ 8% O2	—
Alabama River Pulp	AL	106-0010	22-Jan-90	—	5.5 MM lb BLS/day	75 ppmvd @ 8% O2	—
Great Southern Paper	GA	2361-049-10296	08-Dec-89	—	3.05 MM lb BLS/day	120 lb/MMBtu	—

(a) Indicates if emission unit subject to BACT was new construction (yes) or a modification (no)

Source: BACT/RACT/LAER Clearinghouse Database, Feb. 1995.

Table 6-5. Summary of BACT Determinations for CO Emissions From Recovery Boilers in Pulp Mills.

Company	State	Permit#	Permit Issue date	New Source? (a)	Throughput (Units)	Emission Limit	Control Equipment
Penntech Papers Inc.	PA	24-806-003	09-Dec-92	No	630.00 ADP t/day	300 ppmvd @ 8% O <sub>2</sub>	Design
Leaf River Forest	MS	2200-00005	14-Jul-92	No	6.40 MM lb BLS/day	300 ppmvd @ 8% O <sub>2</sub>	Combustion Control
James River Corp	WA	PSD-88-8	26-Sep-91	Yes	523 MMBtu/hr	2755 TPY	—
Georgia-Pacific	FL	PSD-FL-171	12-Jun-91	No	—	400 ppmvd @ 8% O <sub>2</sub>	Combustion Control
Leaf River Forest	MS	2200-00005	09-Apr-91	No	6.00 MM lb BLS/day	300 ppmvd @ 8% O <sub>2</sub>	—
Gulf States Paper	AL	105-0001	12-Mar-91	Yes	3.3 MM lb BLS/day	300 ppmvd @ 8% O <sub>2</sub>	—
Chesapeake Corp	VA	40126	01-Mar-91	No	62.5 Tons/hr BLS	250 ppmvd @ 8% O <sub>2</sub>	—
International Paper	LA		24-Feb-91	No	1117 ADP t/day	250 ppmvd	—
Willamette Industries	LA	PSD-LA-562	04-Feb-91	No	1400 ADP t/day	350 lb/hr	—
Riverwood International	GA	2631-011-10630	21-Dec-90	Yes	3.50 MM lb BLS/day	146.5 lb/hr	—
Longview Fibre	WA	X81-10A	27-Jul-90	—	1100 ADP t/day	300 ppmvd @ 8% O <sub>2</sub>	—
Alabama River Pulp	AL	106-0010	22-Jan-90	—	5.5 MM lb BLS/day	200 ppmvd @ 8% O <sub>2</sub>	—
Great Southern Paper	GA	2361-049-10296	08-Dec-89	—	63.56 Tons/hr BLS	11 lb/ton ADP	—

(a) Indicates if emission unit subject to BACT was new construction (yes) or a modification (no)

Source: BACT/RACT/LAER Clearinghouse Database, Feb. 1995.

Table 6-6. Summary of BACT Determinations for VOC Emissions From Recovery Boilers in Pulp Mills.

Company	State	Permit#	Permit Issue date	New Source? (a)	Throughput (Units)	Emission Limit
Penntech Papers Inc.	PA	24-306-003	09-Dec-92	No	630.00 ADP t/day	18.2 lb/hr
James River Corp	WA	PSD-88-3	26-Sep-91	Yes	523 MMBtu/hr	219 TPY
Georgia-Pacific	FL	PSD-FL-171	12-Jun-91	No	—	0.5200 lb/ ton BLS
Gulf States Paper	AL	105-0001	12-Mar-91	Yes	3.3 MM lb BLS/day	0.048 lb/MMBtu
Chesapeake Corp	VA	40126	01-Mar-91	No	62.5 Tons/hr BLS	0.048 lb/MMBtu
International Paper	LA		24-Feb-91	No	1117 ADP t/day	50.0 ppmv
Williamette Industries	LA	PSD-LA-562	04-Feb-91	No	1400 ADP t/day	116.6 lb/hr
Longview Fibre	WA	X81-10A	27-Jul-90	—	1100 ADP t/day	1 T/day
Alabama River Pulp	AL	106-0010	22-Jan-90	—	5.5 MM lb BLS/day	0.048 lb/MMBtu

Note: (a) Indicates if emission unit subject to BACT was new construction (yes) or a modification (no)

Source: BACT/RACT/LAER Clearinghouse Database, Feb. 1995.

Table 6-7. Summary of BACT Determinations for TRS Emissions From Recovery Boilers in Pulp Mills.

Company	State	Permit#	Permit Issue date	New Source? (a)	Throughput (Units)	Emission Limit	Control Equipment
La Pacific	CA	NAC-263	18-Oct-93	Yes	—	5.0 ppm	Process Design
Penntech Papers Inc.	PA	24-306-003	09-Dec-92	No	630.00 ADP t/day	5.0 ppmvd @ 8% O <sub>2</sub>	—
Leaf River Forest	MS	2200-00005	14-Jul-92	No	6.40 MM lb BLS/day	5.0 ppm @ 8% O <sub>2</sub>	Combustion Control
James River Corp	WA	PSD-88-3	26-Sep-91	Yes	523 MMBtu/hr	5.0 ppm @ 8% O <sub>2</sub>	Caustic Liqour Scrubber
Gulf States Paper	AL	105-0001	12-Mar-91	Yes	3.3 MM lb BLS/day	5.0 ppm @ 8% O <sub>2</sub>	—
Chesapeake Corp	VA	40126	01-Mar-91	No	62.5 Tons/hr BLS	5.0 ppm @ 8% O <sub>2</sub>	—
International Paper	LA		24-Feb-91	No	1117 ADP t/day	5.0 ppm @ 8% O <sub>2</sub>	—
Riverwood International	GA	2631-011-10630	21-Dec-90	Yes	3.50 MM lb BLS/day	5.0 ppm	—
Longview Fibre	WA	X81-10A	27-Jul-90	—	1100 ADP t/day	3.0 ppm @ 8% O <sub>2</sub>	—
Alabama River Pulp	AL	106-0010	22-Jan-90	—	5.5 MM lb BLS/day	5.0 ppm @ 8% O <sub>2</sub>	—
Great Southern Paper	GA	2361-049-10296	08-Dec-89	—	63.56 Tons/hr BLS	4.74 lb/hr	—

(a) Indicates if emission unit subject to BACT was new construction (yes) or a modification (no)

Source: BACT/RACT/LAER Clearinghouse Database, Feb. 1995.



## 7.0 ADDITIONAL IMPACT ANALYSIS

### 7.1 INTRODUCTION

G-P is proposing to modify its existing facility in Palatka, Florida. The facility is subject to the PSD new source review requirements for PM(TSP)/PM10, NO<sub>x</sub>, CO, VOC, TRS, and Be. The additional impact analysis and the Class I area analysis address these pollutants.

The analysis addresses the potential impacts on vegetation, soils, and wildlife of the surrounding area and the nearby Class I area due to G-P's proposed modification. The nearest Class I area is the Okefenokee National Wilderness Area (NWA), located in the Okefenokee National Wildlife Refuge located approximately 111 kilometers (km) northwest of the G-P Palatka plant. The next closest Class I area to G-P is Wolf Island, located approximately 150 km from G-P. Due to the distance from G-P, the Okefenokee Class I area would potentially receive much higher impacts than Wolf Island. Therefore, only the Okefenokee NWA is addressed in this analysis.

The analysis will demonstrate that the increase in impacts due to the proposed increase in emissions is extremely low. Regardless of the existing conditions in the vicinity of the site or in the Class I areas, the proposed project will not cause any adverse impacts due to the predicted low impacts upon these areas.

### 7.2 SOIL, VEGETATION, AND AORV ANALYSIS METHODOLOGY

In the foregoing analysis, the maximum air quality impacts predicted to occur in the vicinity of the G-P plant and in the Class I area due to the increase in emissions are used. The Industrial Source Complex Short-Term (ISCST) model (Version 93109) was used to compute both maximum concentration and total deposition. Maximum impacts in the vicinity of the G-P plant and in the Class I areas were predicted at the same receptor grids as discussed in Section 5.0. Meteorological data used in the ISCST2 consisted of the same 5-year record used for the AAQS and PSD impact assessment, which consists of surface observations from Jacksonville and upper-air data from Waycross for the years 1983 to 1987. Emissions from the G-P plant and stack and operating data are provided in Section 5.0. Information on particle sizes was obtained from AP-42 and was included in the deposition modeling. The particle size distribution data used for the modeling analysis for the G-P sources are presented in Attachment D.

The analysis involved predicting worst-case maximum short- and long-term concentrations of pollutants in the vicinity of the plant and in the Class I areas and comparing the maximum predicted concentrations to lowest observed effect levels for AQRVs or analogous organisms. In conducting the assessment, several assumptions were made as to how pollutants interact with the different matrices, i.e., vegetation, soils, wildlife, and aquatic environment.

A screening approach was used to evaluate potential effects which compared the maximum predicted ambient concentrations of air pollutants of concern with effect threshold limits for both vegetation and wildlife as reported in the scientific literature. A literature search was conducted which specifically addressed the effects of air contaminants on plant species reported to occur in the vicinity of the plant and the Class I area. It was recognized that effects threshold information is not available for all species found in the Okefenokee NWA, although studies have been performed on a few of the common species and on other similar species which can be used as models. In conducting the assessment, both direct (fumigation) and indirect (soil accumulation/uptake) exposures were considered for flora, and direct exposure (inhalation) was considered for wildlife.

For particulate pollutants, the annual deposition amount (in g/m<sup>2</sup>) due to the proposed increase in emissions was assumed to partition into the soil to a depth of 10 cm (USDA, 1984). For the Okefenokee Class I area, a bulk soil density of 0.65 g/cc was assumed (USDA, 1984); for the G-P plant area, a bulk soil density of 1.40 g/cc was assumed (USDA, 1985). From this soil concentration, it was assumed that equal partitioning would ensue into dry plant matter. These values are considered to be quite conservative due to the assumption that all of the elements would be 100 percent available for plant uptake and would be internalized in plant tissue at a concentration equal to that of the soil.

### **7.3 IMPACTS TO SOILS, VEGETATION, AND VISIBILITY IN VICINITY OF G-P PLANT**

#### **7.3.1 PREDICTED AIR QUALITY IMPACTS**

The results of the ambient air quality modeling for the proposed G-P modification, in the vicinity of the plant, are presented in Table 7-1. Maximum predicted concentrations are presented for the annual, 24-hour, 8-hour, 3-hour, and 1-hour averaging times.

### 7.3.2 IMPACTS TO SOILS

Air contaminants can affect soils through fumigation by gaseous forms, accumulation of compounds transformed from the gaseous state, or by the direct deposition of particulate matter or particulate matter to which certain contaminants are absorbed. The soils in the vicinity of the G-P plant are generally a combination of sandy, poorly drained soils classified as Myakka-Zolfo-Immokalee and some organic soils classified as Terra Cecia-Shenks (USDA, 1985).

Beryllium toxicity in plants in the form of reduced growth has been reported in nutrient cultures of  $>2$  ppm Be content. Beryllium concentrations in soils are reported to range from  $<1$  to 7 ppm. However, only a small amount is actually available for absorption by plants (Gough *et al.*, 1979).

The maximum predicted Be deposition near the G-P site due to the proposed modification is  $0.17$  g/m<sup>2</sup>. The maximum soil concentration is  $1.96 \times 10^{-5}$  ug Be/g. This predicted value is well below the threshold for plant effects.

### 7.3.3 IMPACTS TO VEGETATION

#### Vegetation Analysis

In general, the effects of air pollutants on vegetation occur primarily from SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, and PM. Effects from minor air contaminants such as fluoride, chlorine, hydrogen chloride, ethylene, ammonia, hydrogen sulfide, CO, and pesticides have also been reported in the literature. The effects of air pollutants are dependent both on the concentration of the contaminant and the duration of the exposure. The term "injury," as opposed to damage, is commonly used to describe all plant responses to air contaminants and will be used in the context of this analysis. Air contaminants are thought to interact primarily with plant foliage which is considered to be the major pathway of exposure. For purposes of this analysis, it was assumed that 100 percent of each air contaminant of concern is accessible to the plants.

Injury to vegetation from exposure to various levels of air contaminants can be termed acute, physiological, or chronic. Acute injury occurs as a result of a short-term exposure to a high contaminant concentration and is typically manifested by visible injury symptoms ranging from chlorosis (discoloration) to necrosis (dead areas). Physiological or latent injury occurs as the result of a long-term exposure to contaminant concentrations below that which results in acute

injury symptoms. Chronic injury results from repeated exposure to low concentrations over extended periods of time, often without any visible symptoms, but with some effect on the overall growth and productivity of the plant. In this assessment, 100 percent of the particular air pollutant in the ambient air was assumed to interact with the vegetation. This is a conservative approach.

### **Nitrogen Dioxide**

A review of the literature indicates great variability in NO<sub>2</sub> dose-response relationship in vegetation. Acute NO<sub>2</sub> injury symptoms are manifested as water-soaked lesions, which first appear on the upper surface, followed by rapid tissue collapse. Low-concentration, long-term exposures as frequently encountered in polluted atmospheres often do not induce the lesions associated with acute exposures but may still result in some growth suppression. Citrus trees exposed to 470 µg/m<sup>3</sup> of NO<sub>2</sub> for 290 days showed injury (Thompson *et al.*, 1970). Sphagnum exposed for 18 months at an average concentration of 11.7 µg/m<sup>3</sup> showed reduced growth (Press *et al.*, 1986)

The maximum ground-level NO<sub>2</sub> concentrations (1-hour and annual average) predicted to occur in the vicinity of the plant during the operation of the proposed project are 36.7 µg/m<sup>3</sup> and 0.61 µg/m<sup>3</sup>, respectively (Table 7-1). These maximum predicted concentrations are well below reported effects levels.

### **Carbon Monoxide**

Concentrations of CO even in polluted atmospheres are not detrimental to vegetation (EPA, 1976). CO has not been found to produce detrimental effects on plants at concentrations below 100 ppm (114,500 µg/m<sup>3</sup>) for exposures from 1 to 3 weeks (EPA, 1976). The predicted maximum concentrations shown in Table 7-1 are well below levels reported to cause detrimental effects.

### **Particulates**

The maximum predicted concentrations of PM (in the form of TSP) due to the proposed project are 4.61 µg/m<sup>3</sup> for 24-hour and 0.51 µg/m<sup>3</sup> annual average (see Table 7-1). By comparing predicted concentrations with the few injury threshold values reported in the literature (Darley,

1966; Krause and Kaiser, 1977), no potential effects on vegetation are predicted, because these concentrations are below the values reported to adversely affect plants.

#### **7.3.4 IMPACTS UPON VISIBILITY**

All air emission sources affected by the proposed modification are existing sources. No increase in permitted emissions is requested, although actual emissions are predicted to increase slightly. All these sources are in compliance with opacity regulations and should remain in compliance after the modification. As a result, no adverse impacts upon visibility are expected.

#### **7.3.5 IMPACTS DUE TO ASSOCIATED POPULATION GROWTH**

There will be a small, temporary increase in the number of workers during the construction period. There will be no significant increase in permanent employment at G-P as a result of the proposed project. Therefore, there will be no anticipated permanent impacts on air quality caused by associated population growth.

### **7.4 CLASS I AREA IMPACT ANALYSIS**

#### **7.4.1 DEFINITION OF AQRVS AND CRITERIA APPLIED TO OKEFENOKEE NWA**

The Okefenokee NWA is classified as a Class I area by the U.S. Fish and Wildlife Service (USFWS) for purposes of PSD new source review. The U.S. Department of the Interior (National Park Service) in 1978 administratively defined air quality related values (AQRVs) for such areas 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 upon 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 natural 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)

#### **7.4.2 AQRVS OF OKEFENOKEE NWA**

To date, specific AQRVs other than visibility have not been defined by USFWS for the Okefenokee NWA (Ellen Porter, USFWS, Denver, CO, pers. comm., 1994). For this analysis, therefore, the AQRVs of this Class I area are defined as those important attributes of the

Okefenokee NWA which are dependent upon the air environment, including water, soil, vegetation resources, and wildlife resources. Important aquatic, vegetation, and wildlife attributes of these areas which make the Okefenokee NWA significant are presented in Table 7-2. All terrestrial vegetation, including threatened and endangered plant species of the Okefenokee NWA, are dependent upon the air environment and are considered AQRVs. Some terrestrial wildlife and endangered and threatened wildlife are also considered AQRVs for Okefenokee NWA .

Threatened and endangered species associated with terrestrial habitats of the Okefenokee NWA are listed in Table 7-3.

#### **7.4.3 REPORTED AIR QUALITY EFFECTS ON OKEFENOKEE NWA**

No ecological effects to the attributes of the Okefenokee NWA have been reported to date (Sara Brown, USFWS, Folkston, GA; Robin Goodlow, USFWS, Brunswick, GA; and Ellen Porter, USFWS, Denver, CO, pers. comm., 1994). In 1991, a lichen study was completed (Wetmore, 1991) which did not find any damage to lichens from SO<sub>2</sub>. The trace element content including Cd, Cr, and Pb in six species of lichens and Spanish moss were considered normal. The range in concentrations of these trace metals found in lichens and Spanish moss from the Okefenokee National Wildlife Refuge is presented in Table 7-4. In addition, the general concern regarding potential effects of mercury (Hg) were raised. (Ellen Porter, USFWS, Denver, CO, pers. comm., 1994). The reported general effects on aquatic, vegetation, and wildlife resources from significant degradation in air quality are described in Table 7-5.

#### **7.4.4 PREDICTED AIR QUALITY IMPACTS IN THE CLASS I AREA**

The results of the air quality modeling for the increase in emissions due to the G-P modification are presented in Table 7-6. Predicted air quality concentrations are presented for Okefenokee NWA for the annual, 24-hour, 8-hour, 3-hour, and 1-hour averaging times. These concentrations reflect only the increase in emissions due to the proposed project.

#### **7.4.5 VEGETATION AQRVS ANALYSIS**

In general, the effects of air pollutants on vegetation occur primarily from SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, and PM. Effects from minor air contaminants such as fluoride, chlorine, hydrogen chloride, ethylene, ammonia, hydrogen sulfide, CO, and pesticides have been also reported in the literature. The effects of air pollutants are dependent both on the concentration of the contaminant and the duration of the exposure. The term "injury," as opposed to damage, is commonly used to

describe all plant responses to air contaminants and will be used in the context of this analysis. Air contaminants are thought to interact primarily with plant foliage which is considered to be the major pathway of exposure. For purposes of this analysis, it was assumed that 100 percent of each air contaminant of concern is accessible to the plants.

Injury to vegetation from exposure to various levels of air contaminants can be termed acute, physiological, or chronic. Acute injury occurs as a result of a short-term exposure to a high contaminant concentration and is typically manifested by visible injury symptoms ranging from chlorosis (discoloration) to necrosis (dead areas). Physiological or latent injury occurs as the result of a long-term exposure to contaminant concentrations below that which results in acute injury symptoms. Chronic injury results from repeated exposure to low concentrations over extended periods of time, often without any visible symptoms, but with some effect on the overall growth and productivity of the plant. In this assessment, 100 percent of the particular air pollutant in the ambient air was assumed to interact with the vegetation. This is a conservative approach.

### **Nitrogen Dioxide**

A review of the literature indicates great variability in  $\text{NO}_x$  dose-response relationship in vegetation. Acute  $\text{NO}_2$  injury symptoms are manifested as water-soaked lesions, which first appear on the upper surface, followed by rapid tissue collapse. Low-concentration, long-term exposures as frequently encountered in polluted atmospheres often do not induce the lesions associated with acute exposures but may still result in some growth suppression. Citrus trees exposed to  $470 \mu\text{g}/\text{m}^3$  for 290 days showed injury (Thompson *et al.*, 1970). Sphagnum moss exposed for 18 months at an average concentration of  $11.7 \mu\text{g}/\text{m}^3$  showed reduced growth (Press *et al.*, 1986).

The maximum ground-level  $\text{NO}_2$  concentrations (1-hour and annual average) predicted to occur at the Class I area boundary due to the increase in emissions are  $2.30$  and  $0.01 \mu\text{g}/\text{m}^3$  respectively. These values are well below reported effect concentrations and no effects are predicted to occur.

### **Carbon Monoxide**

Concentrations of CO even in polluted atmospheres are not detrimental to vegetation (EPA, 1976). CO has not been found to produce detrimental effects on plants at concentrations below

100 ppm (114,500  $\mu\text{g}/\text{m}^3$ ) for exposures from 1 to 3 weeks (EPA, 1976). The predicted increases in concentrations (Table 7-6) at the Class I area are well below values reported to cause detrimental effects.

#### **Particulates**

The maximum predicted increase in annual concentrations of PM (in the form of TSP) from the proposed project is 0.0047  $\mu\text{g}/\text{m}^3$  for Okefenokee NWA. No potential effects on vegetation are predicted, because these concentration are below the values reported to adversely affect plants (Darley, 1966; Krause and Kaiser, 1977).

#### **7.4.6 SOILS AQRV ANALYSIS**

Air contaminants can affect soils through fumigation by gaseous forms, accumulation of compounds transformed from the gaseous state, or by the direct deposition of particulate matter or particulate matter to which certain contaminants are absorbed. Gaseous fumigation of soils does not directly affect the soil but rather the organisms found in the soil. Concentrations several orders of magnitude higher than the predicted value are required before any adverse effects from fumigation are observed. It is more likely that effects on soils and the organisms (plants and animals) found in the soils could occur from the deposition of trace elements over the life of the project. Thus, this analysis of effects on soils specifically addresses the deposition of trace elements and potential pathways for movements into the vegetation.

Beryllium toxicity in plants in the form of reduced growth has been reported in nutrient cultures of  $>2$  ppm Be content. Beryllium concentrations in soils are reported to range from  $<1$  to 7 ppm. However, only a small amount is actually available for absorption by plants (Gough *et al.*, 1979). The maximum predicted deposition at the Class I Area due to the proposed project is  $<1 \times 10^{-6}$  g/m<sup>2</sup>. This deposition is consider negligible, and no effects are predicted.

#### **7.4.7 WILDLIFE AQRV ANALYSIS**

##### **Nitrogen Dioxide and Particulate Matter**

The predicted NO<sub>2</sub> and particulate concentrations are also well below the lowest observed effects levels in animals (Table 7-7) poses no risk to wildlife AQRVs in the Class I area. Because predicted levels are below those known to cause effects to vegetation, there is also no risk to their habitat.



#### **7.4.8 VISIBILITY IMPACTS**

The visibility impacts of the proposed project's emission increase only are provided in Table 7-8. The impacts due to the total emissions from the affected emission units are provided in Table 7-9. The modeling results indicate that the maximum visibility impacts caused by either the proposed modification only or the total emissions do not exceed the screening criteria inside or outside the Class I area. As a result, the proposed project is predicted to have no adverse effects to visibility in the Class I area.

#### **7.4.9 SUMMARY**

In summary, it is apparent that very large margins of safety exist for all matrices examined with respect to the effects of the predicted increase in emissions on the Class I areas. No significant adverse effects will occur to the AQRVs in the Okefenokee NWA due to the modification of the G-P plant.

Table 7-1. Maximum Predicted Ambient Air Quality Concentrations From the Proposed Modification Only in the Vicinity of the Georgia-Pacific Plant

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ )		
	NO <sub>2</sub>	CO	PM
Highest 1-hour	36.7	100.74	—
Highest 3-hour	24.4	45.8	—
Highest 8-hour	—	26.6	—
Highest 24-hour	—	—	4.61
Annual	0.61	—	0.51

Table 7-2. Important Aquatic, Vegetational, and Wildlife Resource Attributes or AQRVs of Okefenokee NWA Dependent Upon the Air Environment

Attribute	Location
<b><u>Aquatic</u></b>	
Blackwater rivers, ponds, sloughs	Okefenokee NWA
<b><u>Vegetation</u></b>	
Ecological communities including:	
Cypress wetlands	Okefenokee NWA
Wet flatwoods	Okefenokee NWA
Bay-shrub bogs	Okefenokee NWA
Basin marshes	Okefenokee NWA
Mixed hardwood swamp	Okefenokee NWA
Unique ecological communities	
Old-growth cypress swamp	Okefenokee NWA
Unique plants	
Threatened and endangered species	Okefenokee NWA
Ephiphytic plants including orchids and bromeliads	Okefenokee NWA
Air quality bioindicators - lichens	Okefenokee NWA
<b><u>Wildlife</u></b>	
Birds, mammals, reptiles and amphibians	Okefenokee NWA
Threatened and endangered species (see Table 7-3)	Okefenokee NWA

Note: NWA = National Wilderness Area.

Source: KBN, 1995.

Table 7-3. Federal and State Listed Endangered and Threatened Animals in the Okefenokee NWA  
Dependent Upon the Air Environment

Species	Designated Status	
	State <sup>a</sup>	USFWS <sup>b</sup>
Florida Black Bear	S4	C2
Arctic Peregrine Falcon	S1	-
Bachman's Warbler	E	E
Bald Eagle	E	E
Piping Plover	S1/S2	T
Red-Cockaded Woodpecker	E	E
Wood Stork	S2	E
American Alligator	-	T(S/A)
Eastern Indigo Snake	S3	T

<sup>a</sup> State (Georgia) Status:

- E = endangered.
- S1 = regionally endangered.
- S2 = regionally threatened.
- S3 = regionally of concern.
- S4 = regionally apparently secure.

<sup>b</sup> USFWS Status:

- C2 = candidate for listing, with some evidence of vulnerability, but for which not enough data exist to support listing.
- E = endangered.
- T = threatened.
- T(S/A) = threatened due to similarity of appearance.

Sources: U.S. Fish and Wildlife Service.  
Georgia Freshwater Wetlands and Heritage Inventory Program.

Table 7-4. Reported Representative Trace Metal Concentrations in Lichens and Spanish Moss in Okefenokee National Wildlife Refuge

Species	Concentration (ppm dry weight)					
	Cd	Cr	Pb	Mn	Cu	Zn
<u>Lichens</u>						
<i>Usnea baileyi</i> <sup>a</sup>	ND — 0.3	ND — 0.3	2.6 — 4.9	12.3 — 50.7	1.0 — 1.6	16.3 — 29.7
<i>Usnea mutabilis</i> <sup>a</sup>	ND	0.2	4.9	55.1	1.8	20.7
<i>Parmelia rampoddensis</i> <sup>a</sup>	ND — 0.6	0.3 — 0.6	4.7 — 10.0	8.0 — 88.0	1.4 — 3.2	21.9 — 31.6
<i>Parmelia tinctorum</i> <sup>a</sup>	0.5	0.5	7.3	25.0	2.6	25.9
<i>Cladina substygia</i> <sup>b</sup>	ND	0.2 — 0.6	1.9 — 2.3	7.4 — 12.0	0.9 — 1.1	9.1 — 10.7
<i>Cladina leporina</i> <sup>b</sup>	ND	1.4 — 1.6	7.5 — 7.8	7.9 — 9.2	1.4 — 1.5	11.4 — 11.6
<u>Spanish Moss</u>						
<i>Tillandsia usneoides</i>	ND — 0.5	0.7 — 1.0	4.6 — 8.4	37.3 — 284.3	2.4 — 3.7	17.3 — 31.4

<sup>a</sup> Range in means.<sup>b</sup> Range in single values.

Source: Wetmore, 1991.

**Table 7-5. Reported General Effects on Aquatic, Vegetation, and Wildlife Resources From Significant Degradation in Air Quality**

Attribute	Potential Effects and Associated Air Quality Change
Aquatic Resources	Acidification of waters and subsequent changes (loss and replacement) of ecological components; sensitive systems have low buffering capacity
Vegetation Resources	Most common effects include reduced growth, injury, and species replacement; species show specific sensitivity
Wildlife Resources	Potential effects include avoidance and increased body burdens of contaminants

Source: KBN, 1995.

Table 7-6. Predicted Increase in Maximum Concentrations at the Okefenokee Class I Area Due to the Proposed Modification

Averaging Time	Concentration ( $\mu\text{g}/\text{m}^3$ ).		
	NO <sub>2</sub>	CO	PM
Highest 1-hour	2.30	7.62	—
Highest 3-hour	1.14	4.23	—
Highest 8-hour	—	2.12	—
Highest 24-hour	—	—	0.105
Annual	0.01	—	0.0047

Table 7-7. Lowest Observed Effect Levels of NO<sub>2</sub> and Particulates in Animals

Pollutant	Reported Effect	Concentration ( $\mu\text{g}/\text{m}^3$ )	Exposure
Nitrogen Dioxide	Respiratory stress in mice	1,917	3 hours
	Respiratory stress in guinea pigs	95 to 950	8 hr/day for <sup>a</sup> 122 days
Particulates	Respiratory stress in rats	120 (PbO <sub>3</sub> )	continually for 2 months
	Reduced defenses against respiratory disease in rats	100 (NiCl <sub>2</sub> )	2 hours

<sup>a</sup> Used to compare as a range between 3-hour and 24-hour averaging times.

<sup>b</sup> Used to compare with annual averaging times.

Source: Adapted from Newman (1980) and Newman and Schreiber (1988).



TABLE 7-8  
 Visual Effects Screening Analysis for  
 Source: GA-PACIFIC PALATKA PROJECT ONLY  
 Class I Area: OKEFENOKEE NWR

\*\*\* Level-1 Screening \*\*\*  
 Input Emissions for

Particulates	8.63	G	/S
NOx (as NO2)	18.01	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

\*\*\*\* Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	40.00	km
Source-Observer Distance:	111.00	km
Min. Source-Class I Distance:	111.00	km
Max. Source-Class I Distance:	150.00	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (\*) indicate plume impacts that exceed screening criteria

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

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	111.0	84.	2.00	.152	.05	.001
SKY	140.	84.	111.0	84.	2.00	.029	.05	-.001
TERRAIN	10.	84.	111.0	84.	2.00	.026	.05	.000
TERRAIN	140.	84.	111.0	84.	2.00	.007	.05	.000

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

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	65.	103.6	104.	2.00	.160	.05	.001
SKY	140.	65.	103.6	104.	2.00	.030	.05	-.001
TERRAIN	10.	60.	101.5	109.	2.00	.034	.05	.000
TERRAIN	140.	60.	101.5	109.	2.00	.009	.05	.000

TABLE 7-9  
 Visual Effects Screening Analysis for  
 Source: GA-PACIFIC PALATKA TOTAL PLANT  
 Class I Area: OKEFENOKEE NWR

\*\*\* Level-1 Screening \*\*\*  
 Input Emissions for

Particulates	16.04	G	/S
NOx (as NO2)	35.07	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

\*\*\*\* Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	40.00 km
Source-Observer Distance:	111.00 km
Min. Source-Class I Distance:	111.00 km
Max. Source-Class I Distance:	150.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	6
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (\*) indicate plume impacts that exceed screening criteria

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

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	111.0	84.	2.00	.283	.05	.002
SKY	140.	84.	111.0	84.	2.00	.055	.05	-.002
TERRAIN	10.	84.	111.0	84.	2.00	.048	.05	.000
TERRAIN	140.	84.	111.0	84.	2.00	.012	.05	.000

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

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	70.	105.5	99.	2.00	.297	.05	.002
SKY	140.	70.	105.5	99.	2.00	.057	.05	-.003
TERRAIN	10.	60.	101.5	109.	2.00	.063	.05	.001
TERRAIN	140.	60.	101.5	109.	2.00	.016	.05	.001

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**ATTACHMENT A**  
**CURRENT ACTUAL AND FUTURE MAXIMUM EMISSIONS**

**NO. 4 RECOVERY BOILER**

**NO. 4 SMELT TANK**

**NO. 4 LIME KILN**

**TRS INCINERATOR**

**TALL OIL PLANT**

**CURRENT ACTUAL EMISSIONS**

Table A-1. Current Actual Emissions from No. 4 Lime Kiln, Georgia-Pacific, Palatka Operations

Regulated Pollutant	No. 4 Lime Kiln (No. 6 Fuel Oil Fired)			Annual Emissions (TPY)
	Emission Factor	Reference	Activity Factor <sup>a</sup>	
Particulate (TSP)	20 lb/hr	1	7,996 hr/yr	80.0
Particulate (PM10)	20 lb/hr	1	7,996 hr/yr	80.0
Sulfur dioxide	0.80 lb/hr	1	7,996 hr/yr	3.20
Nitrogen oxides	31.4 lb/hr	1	7,996 hr/yr	125.5
Carbon monoxide	2.4 lb/hr	1	7,996 hr/yr	9.60
Volatile Organic Compds.	0.8 lb/hr	1	7,996 hr/yr	3.20
Sulfuric acid mist	4 % of SO <sub>2</sub> as SO <sub>3</sub>	2	--	0.16
Total reduced sulfur	1.1 lb/hr	3	7,996 hr/yr	4.40
Lead	530 lb/MMton CaO	4	128,000 TPY CaO	0.034
Mercury	5.8 lb/MMton CaO	4	128,000 TPY CaO	0.00037
Beryllium	23 lb/MMton CaO	4	128,000 TPY CaO	0.0015
Fluorides	--	--	--	--
Asbestos	--	--	--	--
Vinyl chloride	--	--	--	--

<sup>a</sup> Activity factor based on average of 1993 and 1994 operation.

References

1. Based on average of stack test results from 2/17/94, 2/20/93 and 2/4/92.
2. AP-42: Compilation of Air Pollutant Emission Factors, Table 1.3-2: SO<sub>3</sub> is 4% of SO<sub>2</sub> emissions.
3. From continuous TRS monitor, average of 5.6 ppm during 1993-1994 and permit limit (20 ppm = 4.0 lb/hr).
4. NCASI Technical Bulletin No. 650, June 1993. Data for lime kiln burning oil and gas with scrubber control.

Table A-2. Current Actual Emissions from No. 4 Recovery Boiler, Georgia-Pacific, Palatka Operations

Regulated Pollutant	No. 4 Recovery Boiler			Annual Emissions (TPY)
	Emission Factor	Reference	Activity Factor <sup>a</sup>	
Particulate (TSP)	31.2 lb/hr	1	8,061 hr/yr	125.8
Particulate (PM10)	31.2 lb/hr	1	8,061 hr/yr	125.8
Sulfur dioxide	15 lb/hr	2	8,061 hr/yr	58.8
Nitrogen oxides	101.8 lb/hr	1	8,061 hr/yr	410.3
Carbon monoxide	309.2 lb/hr	1	8,061 hr/yr	1,246.2
Volatile Organic Compds.	2.9 lb/hr	1	8,061 hr/yr	11.7
Sulfuric acid mist	1.9 lb/hr	1	8,061 hr/yr	7.66
Total reduced sulfur	3.3 lb/hr	3	8,061 hr/yr	13.3
Lead	16 lb/10 <sup>12</sup> Btu	4	8.74 10 <sup>12</sup> Btu/yr	0.070
Mercury	7 lb/10 <sup>12</sup> Btu	4	8.74 10 <sup>12</sup> Btu/yr	0.031
Beryllium	0.5 lb/10 <sup>12</sup> Btu	4	8.74 10 <sup>12</sup> Btu/yr	0.0022
Fluorides	ND	5	--	--
Asbestos	--	--	--	--
Vinyl Chloride	--	--	--	--

<sup>a</sup> Activity factor based on average of 1993 and 1994 operation.

ND= Non-detectable

References

1. Based on average of stack test results from 1992, 1993 and 1994.
2. From continuous SO<sub>2</sub> monitor, avg. of 10.2 ppm during 1993 and 1994, and permit limit (75 ppmvd = 109.9 lb/hr)
3. From continuous TRS monitor, average of 2.1 ppm during 1993-1994, and permit limit (11.4 ppm = 17.8 lb/hr).
4. NCASI Bulletin No. 650, Table 11ED, non-direct contact evaporator.
5. From "Application of Combustion Modifications to Industrial Combustion Equipment" EPA-600/7-79-015a; one test from recovery boiler.



Table A-3. Current Actual Emissions from No. 4 Smelt Dissolving Tank, Georgia-Pacific, Palatka Operations

Regulated Pollutant	No. 4 Smelt Dissolving Tank			Annual Emissions (TPY)
	Emission Factor	Reference	Activity Factor <sup>a</sup>	
Particulate (TSP)	7.1 lb/hr	1	8,061 hr/yr	28.6
Particulate (PM10)	7.1 lb/hr	1	8,061 hr/yr	28.6
Sulfur dioxide	0.075 lb/ton BLS	2	742,500 tons BLS/yr	27.8
Nitrogen oxides	0.15 lb/ton BLS	2	742,500 tons BLS/yr	55.7
Carbon monoxide	--	--	--	--
Volatile Organic Compds.	0.192 lb/ton BLS	2	742,500 tons BLS/yr	71.3
Sulfuric acid mist	4 % of SO <sub>2</sub> as SO <sub>3</sub>	3	--	1.36
Total reduced sulfur	1.2 lb/hr	1	8,061 hr/yr	4.84
Lead	45 lb/MMton BLS	4	742,500 tons BLS/yr	0.017
Mercury	0.18 lb/MMton BLS	4	742,500 tons BLS/yr	6.68E-05
Beryllium	0.14 lb/MMton BLS	4	742,500 tons BLS/yr	5.20E-05
Fluorides	--	--	--	--
Asbestos	--	--	--	--
Vinyl Chloride	--	--	--	--

<sup>a</sup> Activity factor based on average of 1993 and 1994 operation.

References

1. Based on average of stack test results from 1992, 1993 and 1994.
2. From NCASI Technical Bulletin No. 646 (February 1993), Tables 16, 17 and 18.
3. AP-42: Compilation of Air Pollutant Emission Factors, Table 1.3-2: SO<sub>3</sub> is 4% of SO<sub>2</sub> emissions.
4. From NCASI Technical Bulletin No. 650 (June 1993), Table 14B.

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Table A-4. Current Actual Emissions from Tall Oil Plant, Georgia-Pacific, Palatka Operations

Regulated Pollutant	Tall Oil Plant			Annual Emissions (TPY)
	Emission Factor	Reference	Activity Factor <sup>a</sup>	
Particulate (TSP)	---	---	---	---
Particulate (PM10)	---	---	---	---
Sulfur dioxide	---	---	---	---
Nitrogen oxides	---	---	---	---
Carbon monoxide	---	---	---	---
Volatile Organic Compds.	2.9 lb/ton CTO	1	16,174 tons CTO/yr	23.5
Sulfuric acid mist	---	---	---	---
Total reduced sulfur	0.04 lb/ton CTO	2	16,174 tons CTO/yr	0.32
Lead	---	---	---	---
Mercury	---	---	---	---
Beryllium	---	---	---	---
Fluorides	---	---	---	---
Asbestos	---	---	---	---
Vinyl Chloride	---	---	---	---

<sup>a</sup> Activity factor based on average of 1993 and 1994 operation.

CTO= Crude Tall Oil

References

1. Emission factor from NCASI Technical Bulletin 677 (September 1994), Table XI. A. 3.
2. Based on stack test result of 7/23/92.

Table A-5. Current Actual Emissions from TRS Incinerator, Georgia-Pacific, Palatka Operations

Regulated Pollutant	TRS Incinerator (Natural Gas Fired)				TRS Incinerator (Methanol Burning)				Total Annual Emissions (TPY)
	Emission Factor	Reference	Activity Factor <sup>a</sup>	Annual Emissions (TPY)	Emission Factor	Reference	Activity Factor <sup>a</sup>	Annual Emissions (TPY)	
Particulate (TSP)	5.3 lb/hr	1	8,760 hr/yr	23.2					23.2
Particulate (PM10)	5.3 lb/hr	1	8,760 hr/yr	23.2					23.2
Sulfur dioxide	488 lb/hr	4	8,760 hr/yr	2,137.4					2,137.4
Nitrogen oxides	100 lb/MMscf gas	2	18.3 MMft <sup>3</sup> /yr	0.92	14 lb/1000 gal	3	120 Mgal/yr	0.84	1.76
Carbon monoxide	20 lb/MMscf gas	2	18.3 MMft <sup>3</sup> /yr	0.18	1.9 lb/1000 gal	3	120 Mgal/yr	0.11	0.30
Volatile Org. Compds.	8 lb/MMscf gas	2	18.3 MMft <sup>3</sup> /yr	0.07	0.5 lb/1000 gal	3	120 Mgal/yr	0.03	0.10
Sulfuric acid mist	4 % of SO <sub>2</sub> as SO <sub>3</sub>	--	--	104.7					104.7
Total reduced sulfur	0 lb/hr	1	8,760 hr/yr	0.00					0.00
Lead	--	--	--	--					--
Mercury	--	--	--	--					--
Beryllium	--	--	--	--					--
Fluorides	--	--	--	--					--
Asbestos	--	--	--	--					--
Vinyl Chloride	--	--	--	--					--

<sup>a</sup> Activity factor based on average of 1993 and 1994 operation.

## References

1. Based on average of stack test results from 1/25/90 and 2/18/94.
2. From AP-42, Table 1.4-1, 1.4-2, and 1.4-3, for natural gas burning.
3. Emission factors for methanol burning are not published in USEPA AP-42, therefore factors for propane were used to estimate the emissions (AP-42, Table 1.5-1).
4. Based on average of stack test results from 1/25/90 and 2/18/94.

**FUTURE MAXIMUM EMISSIONS**

I. No. 4 Recovery Boiler

- A. PM(TSP), PM10, NO<sub>x</sub>, CO, VOC, TRS, SO<sub>2</sub>, and H<sub>2</sub>SO<sub>4</sub> mist  
Maximum emissions based on permitted limits as follows:

	<u>lb/hr</u>	<u>TPY</u>
PM/PM10	83.2	364.4
SO <sub>2</sub>	109.9	481.4
NO <sub>x</sub>	210.6	922.4
CO	1,025.4	2,245.6
VOC	54.6	239.1
TRS	17.8	78.0
H <sub>2</sub> SO <sub>4</sub> mist	3.2	14.2

B. Trace Metals

1. Fluorides

From "Application of Combustion Modifications to Industrial Combustion Equipment," EPA-600/7-79-015a. Represents one test from recovery boiler. Fluorides were found to be below detectable limits.

2. Lead, Mercury, and Beryllium

From NCASI Technical Bulletin No. 650, Table 11 ED, for a non-direct contact evaporator recovery boiler. Emission factors are as follows:

Lead - 16 lb/10<sup>12</sup> Btu

Mercury - 7 lb/10<sup>12</sup> Btu

Beryllium - 0.5 lb/10<sup>12</sup> Btu

Example: 1,277.7 MMBtu/hr x 16 lb/10<sup>12</sup> Btu = 0.020 lb/hr = 0.090 TPY

II. No. 4 Smelt Dissolving Tank

- A. PM(TSP), PM10, and TRS based on permitted allowable limits as follows:

	<u>lb/hr</u>	<u>TPY</u>
PM(TSP)/PM10	12.6	55.2
TRS	3.4	14.9

B. SO<sub>2</sub>, NO<sub>x</sub>, and VOC

Factors from NCASI Technical Bulletin No. 646, Table 16, 17, and 18.

Factors are: SO<sub>2</sub> - 0.075 lb/ton black liquor solids (BLS)

NO<sub>x</sub> - 0.15 lb/ton BLS

VOC - 0.192 lb/ton BLS

Examples for SO<sub>2</sub>: 210,000 lb/hr BLS x 0.075 lb/ton = 7.9 lb/hr = 34.5 TPY

- C. Sulfuric Acid Mist  
From AP-42, Table 1.3-2 for fossil fuel combustion, SO<sub>3</sub> emissions represent approximately 4% of SO<sub>2</sub> emissions.

$$\begin{aligned} \text{From II.B above, SO}_2 \text{ emissions} &= 7.9 \text{ lb/hr} \\ \text{Sulfuric Acid} &= 7.9 \text{ lb/hr} \times 0.04 \times 98/80 = 0.39 \text{ lb/hr} \\ &= 1.70 \text{ TPY} \end{aligned}$$

(MW sulfuric acid = 98; MW SO<sub>3</sub> = 80)

- D. Lead, Mercury, Beryllium  
Factors based on NCASI Technical Bulletin No. 650, Table 14B.  
Factors are: Lead - 45 lb/MM ton BLS  
Mercury - 0.18 lb/MM ton BLS  
Beryllium - 0.14 lb/MM ton BLS

Example calculation for lead:

$$\begin{aligned} 210,000 \text{ lb/hr BLS} &= 105 \text{ TPH BLS} \\ 105 \text{ TPH} \times 45 \text{ lb/MM tons} &= 0.0047 \text{ lb/hr} \\ &= 0.021 \text{ TPY} \end{aligned}$$

III. No. 4 Lime Kiln

- A. PM(TSP), PM10, SO<sub>2</sub>, TRS, NO<sub>x</sub>, CO, VOC from permitted allowables:

	<u>lb/hr</u>	<u>TPY</u>
PM/PM10	26.0	113.9
SO <sub>2</sub>	10.9	47.7
TRS	4.0	17.5
NO <sub>x</sub>	50.3	220.3
CO	7.3	32.0
VOC	17.2	75.3

- B. Sulfuric Acid Mist  
From AP-42, Table 1.3-2 for fossil fuel combustion, SO<sub>3</sub> emissions represent approximately 4% of SO<sub>2</sub> emissions.

$$\begin{aligned} \text{From II.B above, SO}_2 \text{ emissions} &= 10.9 \text{ lb/hr} \\ \text{Sulfuric Acid} &= 10.9 \text{ lb/hr} \times 0.04 \times 98/80 = 0.53 \text{ lb/hr} = 2.34 \text{ TPY} \end{aligned}$$

- C. Lead, Mercury, Beryllium  
Factors based on NCASI Technical Bulletin No. 650.  
Factors are: Lead - 530 lb/MM ton CaO  
Mercury - 5.8 lb/MM ton CaO  
Beryllium - 23 lb/MM ton CaO

Example calculation for lead:

$$19.44 \text{ TPH CaO} \times 530 \text{ lb/MM tons} = 0.010 \text{ lb/hr} = 0.045 \text{ TPY}$$

IV. Tall Oil Plant

A. VOC

Factor from NCASI Technical Bulletin No. 677, Table X1.A.3.

Factor is 2.9 lb/ton crude tall oil.

$4.58 \text{ tons/hr} \times 2.9 \text{ lb/ton} = 13.3 \text{ lb/hr}$

$20,020 \text{ TPY} \times 2.9 \text{ lb/ton} \div 2,000 \text{ lb/ton} = 29.0 \text{ TPY}$

B. TRS

Emissions based on permit allowable of 0.23 lb/hr and 0.50 TPY.

V. TRS Incinerator

A. PM(TSP)/PM10 and TRS

Emissions based on permitted allowables:

PM(TSP)/PM10 - 5.5 lb/hr, 24.1 TPY

TRS - 0.12 lb/hr, 0.53 TPY

B. SO<sub>2</sub>

Maximum 3-hr emissions based upon permit allowable of 1,200 lb/hr.

Maximum 24-hr emissions based on permit application for TRS incinerator, which showed 784 lb/hr.

Maximum annual emissions based upon average of 388 lb/hr or 1,699.4 TPY.

This represents approximately 50% removal of TRS by the TRS scrubber prior to incineration.

C. NO<sub>x</sub>, CO, VOC

Emissions based AP-42 factors for natural gas and methanol burning.

D. Sulfuric Acid Mist

As for RB4, SDT4, etc., sulfuric acid mist based on 4% of SO<sub>2</sub> as SO<sub>3</sub>, and converting to H<sub>2</sub>SO<sub>4</sub>.

**ATTACHMENT B**

**DESIGN INFORMATION FOR NEW TRS SCRUBBER**



**TRS Scrubber Design Data**

Scrubber Type: Packed Tower

Scrubber Dimensions: 36 ft diameter with 14 feet packing depth

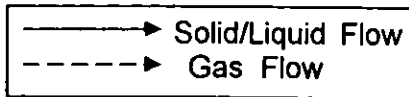
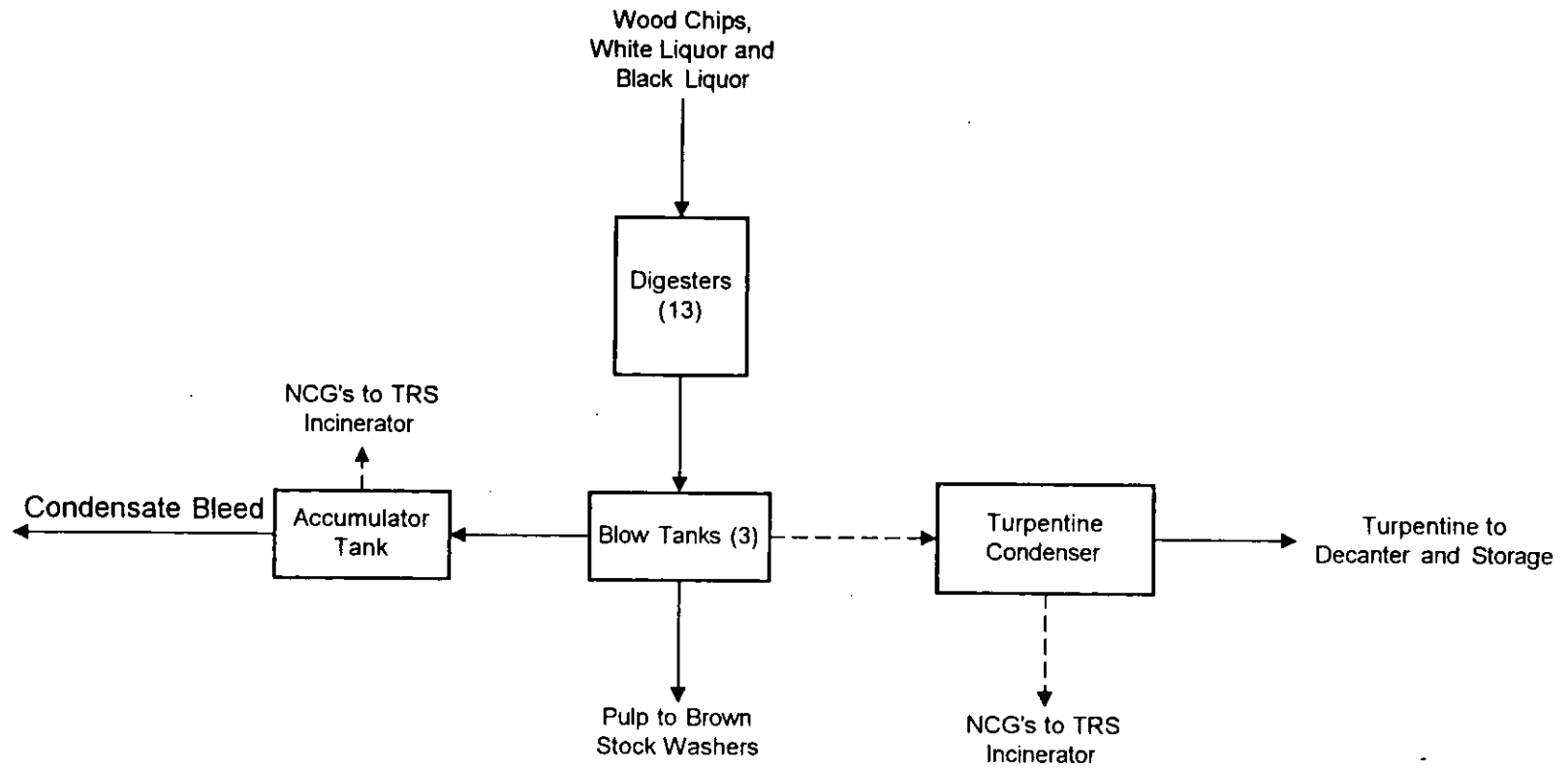
Construction: Stainless steel

NCG Flow to Scrubber: 1,430 acfm @ 130°F

Scrubbing Liquor Flow Rate: 120 gpm (based on white liquor)

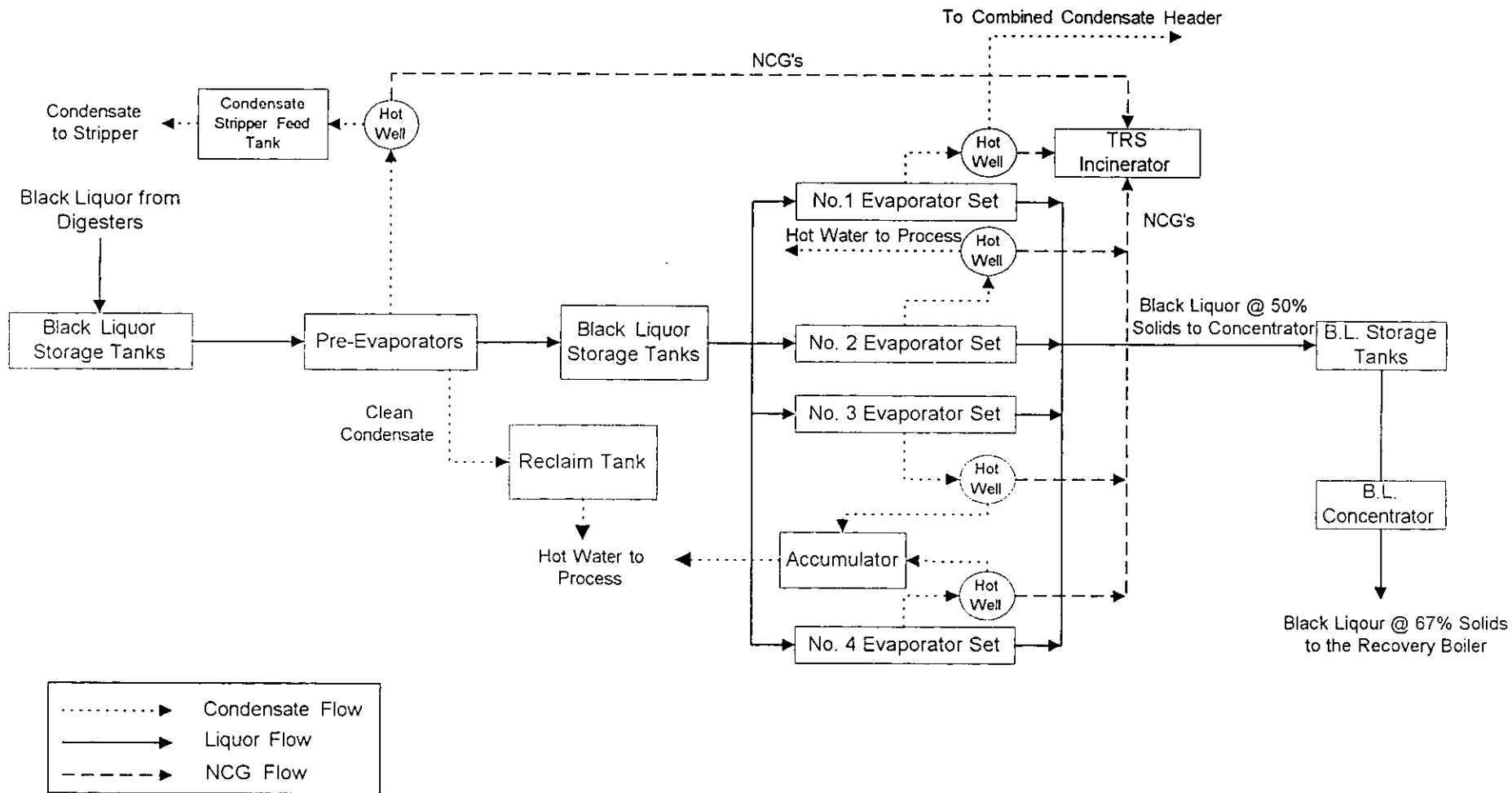
TRS Removal Efficiency: 50%

**ATTACHMENT C**  
**EMISSION UNIT FLOW DIAGRAMS**



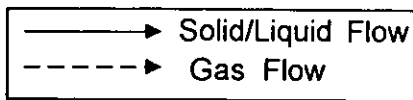
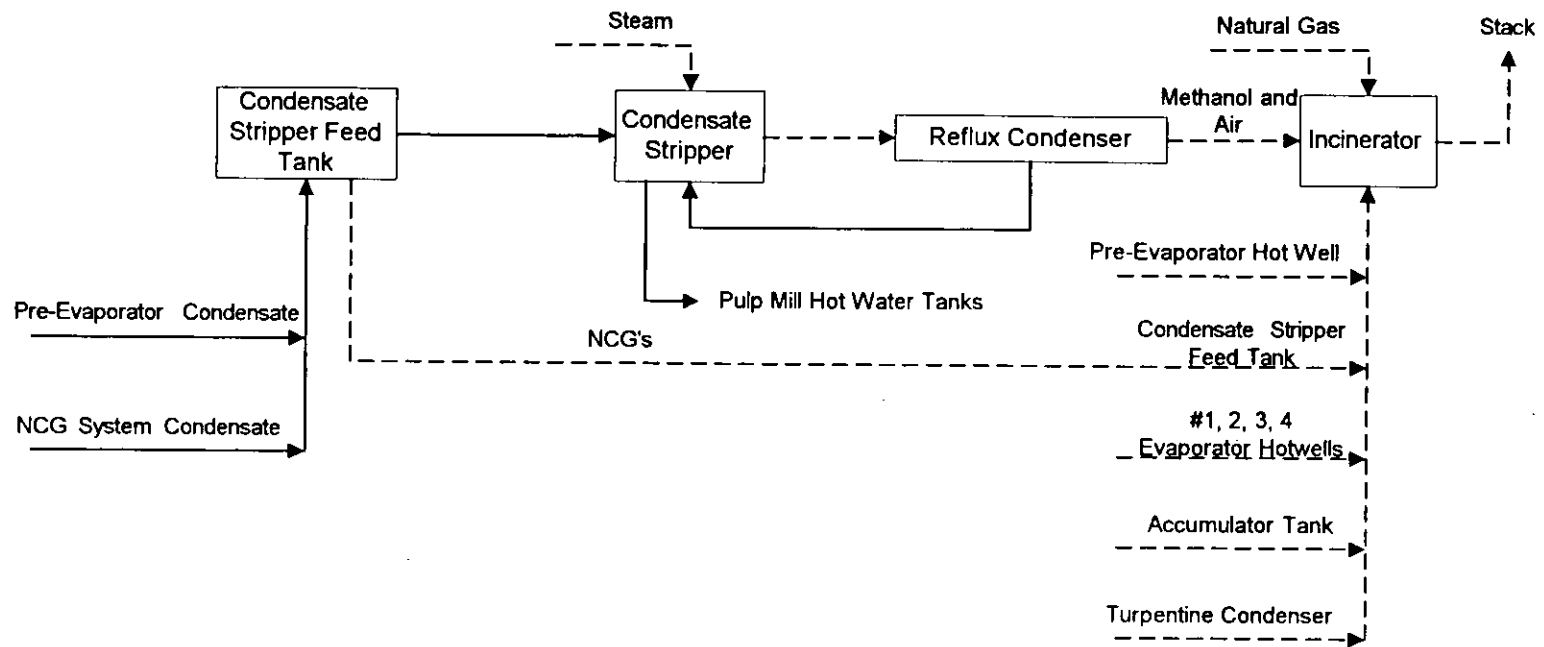
Flow Diagram of Digester System for Georgia Pacific

Process Area:	Chemical Recovery	Georgia Pacific	Revision: #3	File Name: NCG1.vsd
Emission Unit:	Digesters	Palatka	Date: 2/14	KBN Engineering



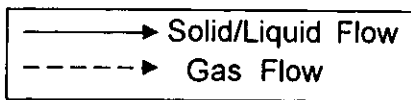
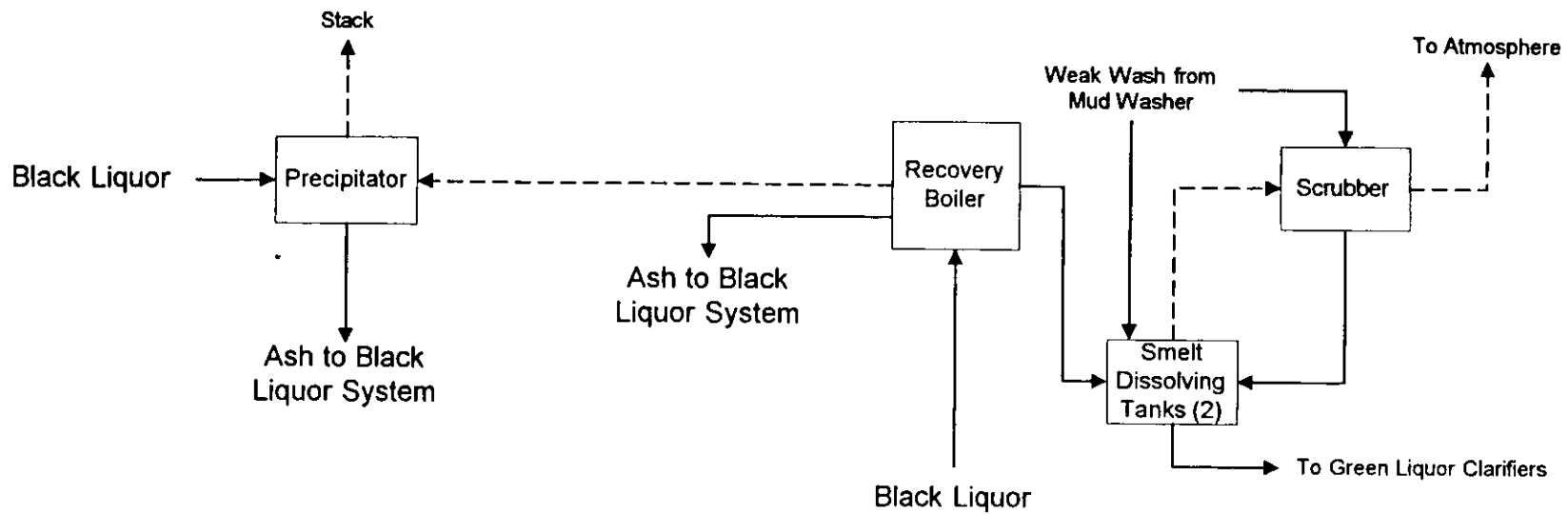
Flow Diagram of Multiple Effect Evaporator System, Georgia-Pacific Palatka Mill

Process Area:	Chemical Recovery	Georgia Pacific	Revision: #4	File Name: evap1.vsd
Emission Unit:	Evaporators	Palatka	Date: 3/6	KBN Engineering



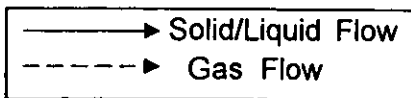
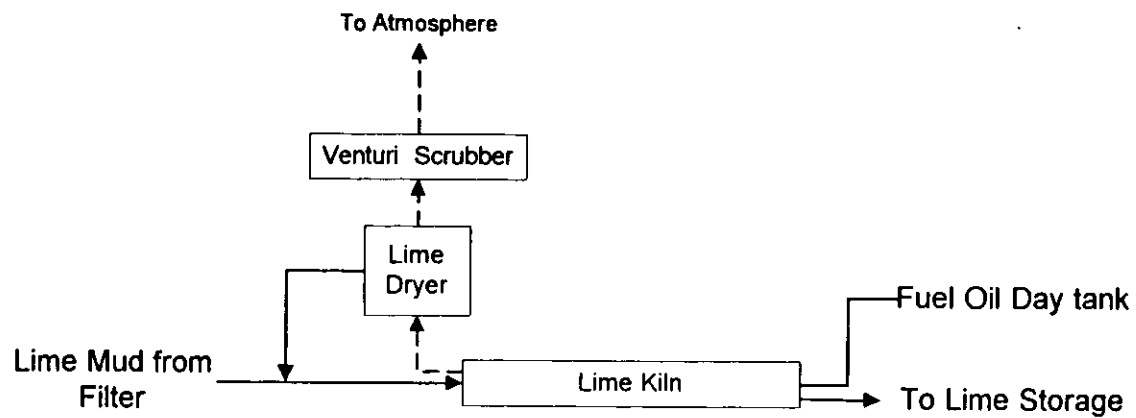
Flow Diagram of Condensate Stripper System and TRS Incinerator, Georgia-Pacific Palatka Mill

Process Area:	Chemical Recovery	Georgia Pacific	Revision: #3	File Name: NCG1.vsd
Emission Unit:	TRS Insinerator, Condensate Stripper and NCG System	Palatka	Date: 2/14	KBN Engineering



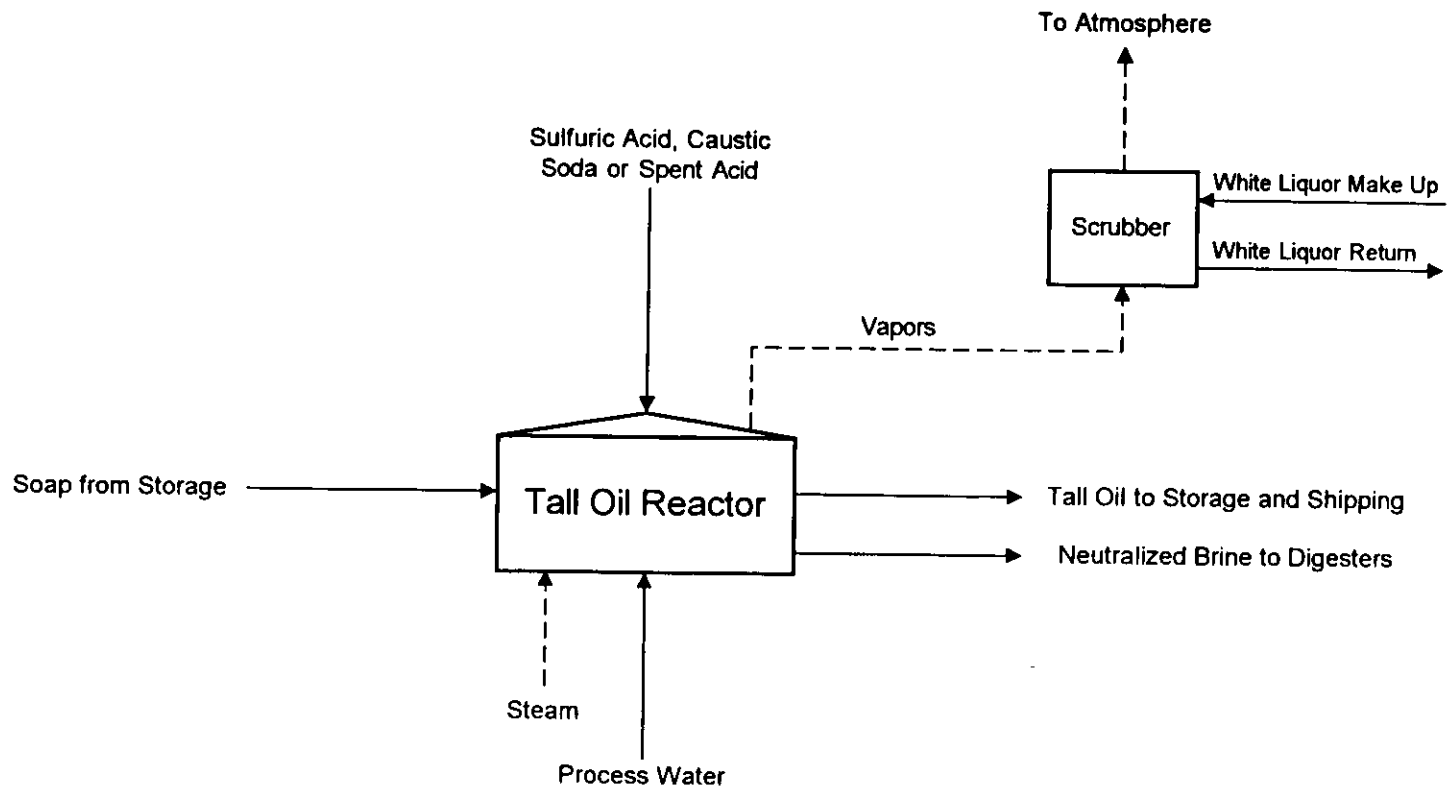
Flow Diagram of No.4 Recovery Boiler and No.4 Smelt Dissolving Tanks, Georgia-Pacific Palatka Mill

Process Area:	Chemical Recovery	Georgia Pacific	Revision: #3	File Name: rec1.vsd
Emission Unit:	Recovery Boiler	Palatka	Date: 2/14	KBN Engineering



Flow Diagram of Lime Kiln, Georgia-Pacific Palatka Mill

Process Area:	Chemical Recovery	Georgia Pacific	Revision: #3	File Name:Lime1.vsd
Emission Unit:	Lime Kiln	Palatka	Date: 2/14	KBN Engineering



Flow Diagram of the Tall Oil System, Georgia-Pacific Palatka Mill

Process Area:	By-Products	Georgia Pacific	Revision: #3	File Name: rec1.vsd
Emission Unit:	Tall Oil	Palatka	Date: 2/14	KBN Engineering



**ATTACHMENT D**

**PARTICLE SIZE DISTRIBUTIONS USED IN DEPOSITION MODELING**

## Particle Size Distribution for Recovery Boiler Used in the Deposition Analysis

Particle Diameter (um)		Test Results					Reflection Coefficient
Lower Limit	Upper Limit	Mean Mass	Range % Mass Average	Cummulative % Mass Average	Settling Velocity (cm/s)	(m/s)	
0	0.625	0.394	0.296	0.296	0.000461	0.00000461	1.00
0.625	1	0.827	0.128	0.424	0.0020	0.00002	1.00
1	1.25	1.130	0.089	0.513	0.0038	0.00004	1.00
1.25	2.5	1.942	0.160	0.673	0.0112	0.00011	1.00
2.5	6	4.477	0.046	0.719	0.0596	0.00060	1.00
6	10	8.162	0.029	0.748	0.1982	0.00198	0.98
10	15	12.661	0.040	0.788	0.4769	0.00477	0.90
15	30	23.297	0.212	1.000	1.6147	0.01615	0.34

a. Particle size category percentages based on AP-42

## Particle Size Distribution for Smelt Dissolving Tank Used in the Deposition Analysis

Particle Diameter (um)			Test Results				Reflection Coefficient
Lower Limit	Upper Limit	Mean Mass	Range % Mass	Cummulative % Mass	Settling Velocity		
			Average	Average	(cm/s)	(m/s)	
0	0.625	0.394	0.387	0.387	0.000461	0.00000461	1.00
0.625	1	0.827	0.160	0.547	0.0020	0.00002	1.00
1	1.25	1.130	0.088	0.635	0.0038	0.00004	1.00
1.25	2.5	1.942	0.178	0.813	0.0112	0.00011	1.00
2.5	6	4.477	0.071	0.884	0.0596	0.00060	1.00
6	10	8.162	0.011	0.895	0.1982	0.00198	0.98
10	15	12.661	0.004	0.899	0.4769	0.00477	0.90
15	30	23.297	0.101	1.000	1.6147	0.01615	0.34

a. Particle size category percentages based on AP-42

## Particle Size Distribution for Lime Kiln Used in the Deposition Analysis

Particle Diameter (um)			Test Results				Reflection Coefficient
Lower Limit	Upper Limit	Mean Mass	Range % Mass	Cummulative % Mass	Settling Velocity		
			Average	Average	(cm/s)	(m/s)	
0	0.625	0.394	0.543	0.543	0.000461	0.00000461	1.00
0.625	1	0.827	0.246	0.789	0.0020	0.00002	1.00
1	1.25	1.130	0.061	0.850	0.0038	0.00004	1.00
1.25	2.5	1.942	0.110	0.960	0.0112	0.00011	1.00
2.5	6	4.477	0.022	0.982	0.0596	0.00060	1.00
6	10	8.162	0.001	0.983	0.1982	0.00198	0.98
10	15	12.661	0.006	0.989	0.4769	0.00477	0.90
15	30	23.297	0.011	1.000	1.6147	0.01615	0.34

a. Particle size category percentages based on AP--42