

Rayonier

Performance Fibers

Fernandina Mill

December 14, 2007

DHL #24963576654

Mr. Jeff Koerner
Division of Air Resources
Department of Environmental Protection
2600 Blair Stone Road
MS 5505
Tallahassee, FL 32399-2400

RECEIVED

DEC 17 2007

BUREAU OF AIR REGULATION

RE: Number 6 Power Boiler (PB6)
Modification of Construction Permit No. 0890004-018-AC

Dear Mr. Koerner:

The above referenced permits have been issued to Rayonier Performance Fibers LLC, Fernandina Beach, Dissolving Sulfite Pulp Mill permitting the relocation and operation of a used boiler, designated No. 6 power boiler. These permits also permitted an increase in production. This application is not requesting any modifications to the provisions of that production increase. This application requests four minor modifications to (1) add the No. 6 boiler to the existing Title V permit; (2) modify the construction permit to allow an increase in the steaming rate up to the rate expected given the permitted heat input and the efficiency measured as required by that permit; (3) allow the use of Spent Sulfite Liquor (SSL) as a fuel replacing some No. 6 fossil fuel oil; (4) remove the now remanded and vacated provisions of boiler MACT. In addition to these modifications, a trial of burning waste treatment system is requested. The trial plan is appended to the application.

Simultaneous processing of the construction and the Title V operating permit is being requested because these modifications are fairly simple, noncontroversial and Rayonier would like to save the time of separate processing. These are minor modifications because there will be no change to the emissions limits affecting PSD pollutants (criteria pollutants). The only change in limits is to remove the now vacated boiler MACT limits for PM, Hg and HCl. The limit on steam produced will increase from 310,000 to 330,000 lbs/hour on a 24 hour average and from 265,000 to 286,000 lbs/hour on an annual average. But the steam limit has no emission impact as explained later. Spent sulfite liquor is added as a fuel to cover those emergencies when the recovery boiler has malfunctioned and is being repaired. The addition of methylene chloride is now required because the mill has changed one of its pulp testing methods to one that uses that substance and that use causes an emission from a new emission unit, a lab hood vent, at greater than 1000 lbs/year.

Registered to ISO 9001:2000



Certificate No. A2072

10 Gum Street • P.O. Box 2002 • Fernandina Beach, FL 32035-2002
Telephone (904) 261-3611 • Fax (904) 277-1411

Increase in short and long term steaming rate.

Condition A.1.a of the construction permit limits the maximum 24 hour average continuous steam production rate to 310,000 lbs/hr based on 525 MMBtu/hr heat input. Condition A.1.b. limits the maximum 12 month rolling average steam production rate to 265,000 lbs/hr based on 450 MMBtu/hr heat input. Condition A.28 required the determination of boiler thermal efficiency on 100 percent wood and 100 percent oil.

The application was made assuming a heat efficiency of 65% while burning wood, the predominate fuel. The efficiency determination required by Condition A.28 reported 70 percent heat efficiency while burning wood and 84 percent on oil. A 525 MMBtu/hr heat input from wood should enable 330,000 lb/hr of steam of 900 psi steam. Likewise, 450 MMBtu heat input should yield 286,000 lbs/hr steam on a 12 month rolling average basis. A calculation sheet is attached to this letter presenting these calculations.

All steam limits could be removed since they do not figure in the calculation of emissions. The mill does monitor steam produced and can calculate heat input from that data as a surrogate means to continuously monitor compliance. However, heat input is determined for compliance purposes by f-factors, measurements taken during stack testing and continuous O₂ measurements. If there is an applicable requirement for retaining the steaming limits and they can not be removed, at least they should be raised to 330,000 lb/hr 24 hour average and 286,000 lb/hr 12 month rolling average.

Burning Spent Sulfite Liquor (SSL)

Spent Sulfite Liquor, also known as red liquor, is the chemical material containing the various organic impurities removed from the wood chip after the cooking cycle is completed. Chemical constituents of the wood such as lignin, tannin and resins are dissolved in the sulfite cooking liquor as ammonium lignosulfonate.

There is reason to believe that up to 1200 gallons per hour of SSL can be fired to No 6 boiler without increasing any after control emissions of any pollutant. The Proximate and ultimate analyses of SSL are given in Attachment 7 of the permit. The existing SO₂ reduction device will only need to achieve a capture of about 70 percent to avoid increasing emissions over the permit given the sulfur content of SSL. This capture efficiency is easily achievable with the existing wet alkali scrubbers. Experience with burning SSL in the recovery boiler indicates that the ammonia in the SSL is instrumental in reducing NO_x emissions below that expected based simply on the nitrogen content of the fuel. CO and VOC are well controlled by the furnace design and type which isn't changing. The SSL will replace No. 6 oil and thus will reduce fossil fuel usage and therefore greenhouse gases will decrease. There is SO₂, NO_x, and CO continuous mass emission monitoring on this boiler. These alone will ensure the existing permit limits will not be exceeded.

Mr. Jeff Koerner
No.6 Boiler Permit Modification
December 14, 2007
Page 3

Removal of Boiler MACT Provisions (40 CFR Part 63, Subpart DDDDD)

This application does not recite the history of the Boiler MACT provisions, referenced above. This rule has been remanded to the EPA and vacated. A letter dated August 6, 2007 from Florida Department of Environmental Protection advised Permittees whose permits reference the vacated rule to apply for removal of the provisions based on this vacated rule. Conditions A.0.b, A.4.a, A 5.a, A.9, A.10, A19, A.20 and A.21, all reference the vacated rule and should be removed.

Effluent Treatment System Solids Burning Trial

The mill is interested in determining whether its effluent treatment system solids (sludge) could displace purchased bark as a fuel for power boiler number 6. To this end a sludge burning trial plan has been attached. Over 60% of the sludge is unbleached screening fiber fines which are similar to knots in composition. These fines are already part of the materials approved for burning in No. 6 boiler. There is a high probability of success of the trial based on the composition of the sludge and the bubbling fluidized bed design of the boiler. The parameters to be monitored and tested during the trial are included in the plan. Based on the results of the trial, the mill may request a revision of the Title V permit to allow displacement of bark or other bio-fuels with sludge at defined addition levels. The mill is requesting that the Department review the trial plan and inform Rayonier of the mechanism needed to receive approval for it. It is preferable that this be considered separately from the permit modifications requested.

If you have questions regarding this application please contact either Dave Rogers, (904)277-1346, email: david.rogers@rayonier.com or Dave Tudor (904)277-1452, email: david.tudor@rayonier.com.

Sincerely,

F. J. Perrett
General Manager

ATTACHMENT TO DECEMBER 14, 2007 LETTER FOR PERMIT MODIFICATION

Original Application

Emissions calculated on the basis of 525 mmBtu/hour heat input which yields 310,000 lb steam /hour at 65% efficiency

$$\frac{310 \text{ lb steam/hour} \times 1100 \text{ Btu/lb}}{0.65 \text{ efficiency}} = 524.6 \text{ mmBtu/hour}$$

Annual limit was based on emissions from 450 mmBtu/hour heat input which yields 265,000 lb steam/hour.

$$\frac{265,000 \text{ lb steam/hour} \times 1100 \text{ Btu/lb}}{0.65 \text{ efficiency}} = 448,461 \text{ rounded to } 450 \text{ mmBtu/hour}$$

Modification Application

Keeping the same heat input and emissions 525 mmBtu/hour heat input yields 340,000 lb steam/hour at 70% efficiency.

$$\frac{525,000,000 \text{ Btu/hour} \times 0.70 \text{ efficiency}}{1100 \text{ Btu/lb}} = 334,000 \text{ lb steam/hour}$$

Annually 450 mmBtu/hour heat input yields 286,000 lbs steam/hour at 70% efficiency.

$$\frac{450,000,000 \text{ Btu/hour} \times 0.70 \text{ efficiency}}{1100 \text{ Btu/lb}} = 286,000 \text{ lb steam/hour}$$

APPLICATION TABLE OF CONTENTS

I. APPLICATION INFORMATION	1
II. FACILITY INFORMATION	8
A. GENERAL FACILITY INFORMATION	8
Facility Regulatory Classifications.....	9
C. FACILITY ADDITIONAL INFORMATION	12
III. EMISSIONS UNIT INFORMATION - PB06	14
A. GENERAL EMISSIONS UNIT INFORMATION	15
B. EMISSIONS UNIT CAPACITY INFORMATION.....	17
D. SEGMENT (PROCESS/FUEL) INFORMATION	19
D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)	20
D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)	21
E. EMISSIONS UNIT POLLUTANTS	22
F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	23
F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	24
F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	25
F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	26
F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	27
F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	28
F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	29
F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	30
F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	31
F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	32
F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	33
F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -	34
G. VISIBLE EMISSIONS INFORMATION.....	35
H. CONTINUOUS MONITOR INFORMATION.....	36
H. CONTINUOUS MONITOR INFORMATION (CONTINUED).....	37
I. EMISSIONS UNIT ADDITIONAL INFORMATION	38
ATTACHMENT 1 - Facility Plot Plan	41
ATTACHMENT 2 - Facility Flow Diagram	42
ATTACHMENT 3 - List of Pollutants Emitted by Facility	43
ATTACHMENT 4 - Area Map	44
ATTACHMENT 5 - Description and Rule Applicability Analysis	45
ATTACHMENT 6 - PB06 Process Flow Diagram	46
ATTACHMENT 7 - PB06 Fuel Analysis	47
ATTACHMENT 8 - PB06 Detailed Description of Control Equipment	48
ATTACHMENT 9 - PB06 Operation and Maintenance Plan	49
ATTACHMENT 10 - PB06 - Description of Stack Sampling Facilities	56
ATTACHMENT 11 - Effluent Treatment System Solids [Sludge] Burning Trial Plan ..	58



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option)
– Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: Rayonier Performance Fibers LLC	
2. Site Name: Fernandina Beach Dissolving Sulfite Pulp Mill	
3. Facility Identification Number: 0890004	
4. Facility Location... Street Address or Other Locator: Foot of Gum Street City: Fernandina Beach County: Nassau Zip Code: 32034	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: David E. Tudor	
2. Application Contact Mailing Address... Organization/Firm: Rayonier Inc. Street Address: Post Office Box 2002 City: Fernandina Beach State: FL Zip Code: 32035	
3. Application Contact Telephone Numbers... Telephone: (904) 277 - 1452 ext. Fax: (904) 277 - 1411	
4. Application Contact Email Address: david.tudor@rayonier.com	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	12/17/07
2. Project Number(s):	0890004-021-1c
3. PSD Number (if applicable):	

APPLICATION INFORMATION

4. Siting Number (if applicable):	
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APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

Air construction permit.

Air Operation Permit

Initial Title V air operation permit.

Title V air operation permit revision.

Title V air operation permit renewal.

Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

Air construction permit and Title V permit revision, incorporating the proposed project.

Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This application is for a four minor changes in construction permit No. 0890004-018-AC.

(1) add No. 6 boiler to the existing Title V permit

(2) to increase the steaming limit on No. 6 boiler to reflect the heat efficiency determined in required efficiency tests. The efficiency used for the original application was lower that determined by test. Therefore, without changing the heat input more steam can be produced without a change in emissions or emission limits.

(3) The addition of SSL, a sulfite pulping liquor as an auxiliary fuel to replace No. 6 fossil fuel oil.

(4) To remove the provisions of 40 CFR Part 63 Subpart DDDDD which has been remanded and vacated by the District of Columbia Federal District Court.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
PB06	Bubbling Bed 450 mmBtu/hr boiler	AC & AV	NA


Application Processing Fee

Check one: Attached - Amount: \$ _____ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

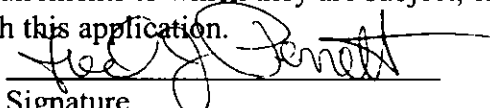
Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : F. J. Perrett
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Rayonier Performance Fibers LLC Street Address: Post Office Box 2002 City: Fernandina Beach State: FL Zip Code: 32035
3. Owner/Authorized Representative Telephone Numbers... Telephone: (904)277-1405 ext. Fax: (904)277-1411
4. Owner/Authorized Representative Email Address: jack.perrett@rayonier.com
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. 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. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained 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 and all other requirements identified in this application to which the facility is subject. 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 the facility or any permitted emissions unit.</i>  Signature <u>11-14-07</u> Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: F. J. Perrett
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: Rayonier Performance Fibers LLC Street Address: P. O. Box 2002 City: Fernandina Beach State: FL Zip Code: 32035
4. Application Responsible Official Telephone Numbers... Telephone: (904)277-1405 - ext. Fax: (904)277-1411
5. Application Responsible Official Email Address: jack.perrett@rayonier.com
6. Application Responsible Official Certification: I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. 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. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained 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 and all other applicable requirements identified in this application to which the Title V source is subject. 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 the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.  Signature _____ Date <u>11-14-07</u>

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: David A. Buff Registration Number: 19011
2. Professional Engineer Mailing Address... Organization/Firm: Golder Associates Inc. Street Address: 6241 N.W. 23rd Street, Suite 500 City: Gainesville State: FL Zip Code: 32653
3. Professional Engineer Telephone Numbers... Telephone: (325)336-5600 ext. 545 Fax: (352)336-6603
4. Professional Engineer Email Address: dbuff@golder.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(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.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/> , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/> , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i> <i>David a. Buff</i> _____ Signature _____ Date (seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 14 East (km) 454.7 North (km) 3392.2		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
3. Governmental Facility Code: NA	4. Facility Status Code: A	5. Facility Major Group SIC Code: 26	6. Facility SIC(s): 2611
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: David Rogers
2. Facility Contact Mailing Address... Organization/Firm: Rayonier Performance Fibers LLC Street Address: Post Office Box 2002 City: Fernandina Beach State: FL Zip Code: 32035
3. Facility Contact Telephone Numbers: Telephone: (904)277-1346 ext. Fax: (904)261-0333
4. Facility Contact Email Address: <u>david.rogers@rayonier.com</u>

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name: F. J. Perrett
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Rayonier Performance Fibers LLC Street Address: P. O. Box 2002 City: Fernandina Beach State: FL Zip Code: 32035
3. Facility Primary Responsible Official Telephone Numbers... Telephone: (904)277-1405 ext. Fax: (904)277-1411
4. Facility Primary Responsible Official Email Address: jack.perrett@rayonier.com

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”

1.	<input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2.	<input type="checkbox"/> Synthetic Non-Title V Source	
3.	<input checked="" type="checkbox"/> Title V Source	
4.	<input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5.	<input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6.	<input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7.	<input type="checkbox"/> Synthetic Minor Source of HAPs	
8.	<input type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9.	<input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10.	<input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11.	<input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12.	Facility Regulatory Classifications Comment:	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
See Attachment 3		

FACILITY INFORMATION

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID Nos. Under Cap (if not all units)	4. Hourly Cap_(lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:
There are no Facility-wide caps proposed in the application.

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Attachment 1 <input type="checkbox"/> Previously Submitted, Date: _____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Attachment 2 <input type="checkbox"/> Previously Submitted, Date: _____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: 11/6/2002

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: Attachment 4 <input type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification: <input checked="" type="checkbox"/> Attached, Document ID: Included in cover letter with this application
3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: Included in cover letter with this application
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (revision application)
2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan (Required for all initial/revision/renewal applications): <input type="checkbox"/> Attached, Document ID: _____ Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) : <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
6. Requested Changes to Current Title V Air Operation Permit: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment

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EMISSIONS UNIT INFORMATION

Section [1] of [1]

III. EMISSIONS UNIT INFORMATION - PB06

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [1] of [1]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

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

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

Emissions Unit Description and Status

1. 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, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

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

2. Description of Emissions Unit Addressed in this Section: **This emission unit is a fluidized bed boiler burning a variety of fuels but mostly waste wood and bark. The boiler was constructed in 1983 and has not been reconstructed in this conversion.**

3. Emissions Unit Identification Number: **PB06**

4. Emissions Unit Status Code: C	5. Commence Construction Date: 11/2005	6. Initial Startup Date: 12/2006	7. Emissions Unit Major Group SIC Code: 2611	8. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--	---	--	--

9. Package Unit: **NA**

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **NA** MW

11. Emissions Unit Comment:

EMISSIONS UNIT INFORMATION

Section [1] of [1]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

The particulate emissions from this boiler are controlled by a large settling chamber followed by a large ESP capable of achieving 0.07 lb/mmBtu PM emissions. Sulfur dioxide emissions are controlled by an alkaline scrubber. The boiler relies mostly on staged combustion, flue gas recirculation and boiler design to achieve the NO_x limits. Should it be necessary to lower NO_x emissions to achieve the annual Cap, the boiler is designed to receive an SNCR system.

2. Control Device or Method Code(s): **005, 010, 129, 204, 025, 026, possibly 032**

EMISSIONS UNIT INFORMATION

Section [1] of [1]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: NA
2. Maximum Production Rate: NA
3. Maximum Heat Input Rate: 525 million Btu/hr See comment below.
4. Maximum Incineration Rate: NA pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 8760 hours/year
6. Operating Capacity/Schedule Comment: Maximum Heat Input Rate Comment: The annual average operating rate will not exceed 450 mmBtu/h. However, a maximum heat input rate of 525 mmBtu/hr will be needed for periods when the only other boiler at the facility is down.

EMISSIONS UNIT INFORMATIONSection[1] of [1] **PB06****C. EMISSION POINT (STACK/VENT) INFORMATION****(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: PB06		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: This is a single bubbling fluidized bed power boiler burning mostly biomass to produce steam for electrical generation and manufacturing process use. The emission exhaust through a single stack.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: PB06			
5. Discharge Type Code: V	6. Stack Height: feet 190 above ground	7. Exit Diameter: feet 10	
8. Exit Temperature: 150 °F	9. Actual Volumetric Flow Rate: 183,421 acfm	10. Water Vapor: 21.3 %	
11. Maximum Dry Standard Flow Rate: 144,352 dscfm		12. Nonstack Emission Point Height: feet NA	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) 30/39/30 Longitude (DD/MM/SS) 81/28/40	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

Section [1] of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATIONSegment Description and Rate: Segment 1_ of 5_

1. Segment Description (Process/Fuel Type): This fuel segment is for green bark at about 50% moisture.		
2. Source Classification Code (SCC): 10100901		3. SCC Units: tons burned
4. Maximum Hourly Rate: 52	5. Maximum Annual Rate: 451,425	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 0.03	8. Maximum % Ash: 2.27	9. Million Btu per SCC Unit: 9
10. Segment Comment: Approximately 60% is self produced as a byproduct.		

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type): This fuel segment is for knots and sidehill fines recovered as process byproduct at about 50% - 60% moisture.		
2. Source Classification Code (SCC): 10100901		3. SCC Units: tons burned
4. Maximum Hourly Rate: 5.3	5. Maximum Annual Rate: 46,269	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 0.40	8. Maximum % Ash: 0.41	9. Million Btu per SCC Unit: 9
10. Segment Comment: 100% of this fuel is produced as a pulping byproduct.		

EMISSIONS UNIT INFORMATION

Section[1] of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)Segment Description and Rate: Segment **3** of **5**

1. Segment Description (Process/Fuel Type): This segment is for Tire Derived Fuel.		
2. Source Classification Code (SCC): 10100801	3. SCC Units: tons burned	
4. Maximum Hourly Rate: 3.0	5. Maximum Annual Rate: 26,159	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 1.85	8. Maximum % Ash: 4.78	9. Million Btu per SCC Unit: 31
10. Segment Comment:		

Segment Description and Rate: Segment **4** of **5**

1. Segment Description (Process/Fuel Type): This segment is for No. 6 oil.		
2. Source Classification Code (SCC): 10100401	3. SCC Units: thousand gallons burned	
4. Maximum Hourly Rate: 1.4	5. Maximum Annual Rate: 11,927	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 2.5	8. Maximum % Ash: 0.12	9. Million Btu per SCC Unit: 150
10. Segment Comment: This segment includes small amounts of self-generated on-spec used oil.		

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

Segment Description and Rate: Segment **5** of **5**

1. Segment Description (Process/Fuel Type): This segment is for spent sulfite liquor concentrated to approximately 60% solids. This material is not listed in the SCC database. An SCC requiring description in the comment was chosen. The proximate and ultimate analysis can be found in the Attachment 7.		
2. Source Classification Code (SCC): 10201301	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 6.3	5. Maximum Annual Rate: 55,188	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: 5.5	8. Maximum % Ash: 0.93	9. Million Btu per SCC Unit: 9.486
10. Segment Comment: This is the spent sulfite liquor concentrated to 40% moisture. Preferentially and generally this material is burned in the recovery boiler. But at times when the recovery boiler is inoperable rather than waste the valuable energy in this fuel the applicant wishes to burn it in its new No. 6 bubbling bed boiler.		

Segment Description and Rate: Segment of

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

EMISSIONS UNIT INFORMATION

Section [1] of [1]

E. EMISSIONS UNIT POLLUTANTS**List of Pollutants Emitted by Emissions Unit**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	005	010	EL
PM10	010		EL
SO2	129		EL
NO_x	025	026	EL
CO	204		NS
Pb	010		NS

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control: 99.9% +	
3. Potential Emissions: 36.75 lb/hour 137.97 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year			
6. Emission Factor: 0.07 lb/mmBtu Reference: 40 CFR 63.7500 Table		7. Emissions Method Code: 0	
8. Calculation of Emissions: hrly: 525 mmBtu/hr x 0.07 lb/mmBtu = 36.75 lbs/hr ann: 450 mmBtu/hr x 0.07 lb/mmBtu x 1/2000 tons/lbs x 8760 hr/year = 137.97 TPY			
9. Pollutant Potential/Estimated Fugitive Emissions Comment:			

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1] of [1]

Page [2] of [12]

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -

ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: RULE 62-296.410(2)(b)(2)	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.2 lb/mmBTU	4. Equivalent Allowable Emissions: 105 lb/hour 394.2 tons/year
5. Method of Compliance: Settling Chamber followed by Electrostatic Precipitator	
6. Allowable Emissions Comment (Description of Operating Method): Normal operating mode this boiler will burn mostly bark and knots. 0.2 lb/mmBtu x 450 mmBtu/hr x 8760/2000 = 394.2 TPY 0.2 lb/mmBtu x 525 mmBtu/hr = 105.0 lb/hr	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE 40 CFR 60.42	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.1 lb/mmBtu	4. Equivalent Allowable Emissions: 52.5 lb/hour 197.1 tons/year
5. Method of Compliance: Settling Chamber followed by Electrostatic Precipitator	
6. Allowable Emissions Comment (Description of Operating Method): 0.1 lb/mmBtu x 450 mmBtu/hr x 8760/2000 = 197.1 TPY 0.1 lb/mmBtu x 525 mmBtu/hr = 52.5 lb/hr	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: RULE 40.CFR 63.7500	2. Future Effective Date of Allowable Emissions: 09/13/2007
3. Allowable Emissions and Units: 0.07 lb/mmBTU	4. Equivalent Allowable Emissions: 36.75 lb/hour 137.97 tons/year
5. Method of Compliance: Settling Chamber Electrostatic Precipitator	
6. Allowable Emissions Comment (Description of Operating Method): 0.07 lb/mmBtu x 450 mmBtu/hr x 8760/2000 = 137.97 TPY 0.07 lb/mmBtu x 525 mmBtu/hr = 36.75 lb/hr	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM10	2. Total Percent Efficiency of Control: 99.9% +
3. Potential Emissions: 36.75 lb/hour 137.97 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.07 lb/mmBtu Reference: assume same as PM	7. Emissions Method Code: 0
8. Calculation of Emissions: hrly: 525 mmBtu/hr x 0.07 lb/mmBtu = 36.75 lbs/hr ann: 450 mmBtu/hr x 0.07 lb/mmBtu x 1/2000 tons/lbs x 8760 hr/year = 137.97 TPY	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1] of [1]

Page [4] of [12]

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -

ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): There are no rule based PM10 emission limits applicable to this boiler. For purposes of calculating emission increases and decreases PM10 is considered equal to PM. The electrostatic precipitator will capture PM10 as well as PM.	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SO2	2. Total Percent Efficiency of Control: 99
3. Potential Emissions: 420 lb/hour 220.95 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.8 lb/mmBtu Reference: 40 CFR 60.43(1)	7. Emissions Method Code: 0
8. Calculation of Emissions: hrly: 525 mmBtu/hr x 0.8 lb/mmBtu = 420.00 lbs/hr ann: 450 mmBtu/hr x 0.1121 lb/mmBtu x 1/2000 tons/lbs x 8760 hr/year = 220.95 TPY	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section[1] of [1]

Page [6] of [12]

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -

ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: RULE 40 CFR 60.43	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.8 lb/mmBtu	4. Equivalent Allowable Emissions: 420 lb/hour 1,576.8 tons/year
5. Method of Compliance: Alkali scrubber	
6. Allowable Emissions Comment (Description of Operating Method): 0.8 lb/mmBtu x 450 mmBtu/hr x 8760/2000 = 1,576.8 TPY 0.8 lb/mmBtu x 525 mmBtu/hr = 420 lb/hr	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: ESCPD	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.1121 lb/mmBtu	4. Equivalent Allowable Emissions: 58.85 lb/hour 220.95 tons/year
5. Method of Compliance: Alkali scrubber and CEMS for SO₂	
6. Allowable Emissions Comment (Description of Operating Method): 0.1121 lb/mmBtu x 450 mmBtu/hr x 8760/2000 = 220.95 TPY 0.1121 lb mmBtu x 525 mmBtu/hr = 58.85 lb/hr Equivalent hourly and annual emissions are based on an annual averaging time.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: NO_x	2. Total Percent Efficiency of Control: See Comment.
3. Potential Emissions: 157.5 lb/hour 379.95 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.3 lb/mmBtu Reference: Hourly 40 CFR 60.44	7. Emissions Method Code: 0
8. Calculation of Emissions: hrly: 525 mmBtu/hr x 0.3 lb/mmBtu = 157.5 lbs/hr annual: 450 mmBtu/hr x 0.1928 lb/mmBtu x 8760/2000 = 379.95 TPY	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: NO_x control is based on methods and designs that prevent the pollutant from forming, or minimizing the fuel bound NO_x that does form. Therefore it is not possible to calculate a control efficiency as if there were collection of a pollutant.	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1] of [1]

Page [8] of [12]

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -

ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: RULE 40 CFR 60.44	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.3 lb/mmBtu	4. Equivalent Allowable Emissions: 157.5 lb/hour 591.3 tons/year
5. Method of Compliance: boiler design, staged combustion and flue gas recirculation	
6. Allowable Emissions Comment (Description of Operating Method): 0.3 lb/mmBtu x 450 mmBtu/hr x 8760/2000 = 591.3 TPY 0.3 lb/mmBtu x 525 mmBtu/hr = 157.5 lb/hr	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: ESPCSD	2. Future Effective Date of Allowable Emissions: 11/2005
3. Allowable Emissions and Units: 379.95 tons per year	4. Equivalent Allowable Emissions: 101.20 lb/hour 379.95 tons/year
5. Method of Compliance: CEMS for NO_x. The boiler will minimize NO_x formation by furnace design, flue gas recirculation and staged combustion. If these methods are inadequate the boiler is designed to have SNCR installed.	
6. Allowable Emissions Comment (Description of Operating Method): 0.1928 lb/mmBtu x 450 mmBtu/hr x 8760/2000 = 379.95 TPY 0.1928 lb/mmBTU x 525 mmBtu/hr = 101.20 lb/hr Equivalent hourly and annual emissions are based on an annual averaging time.	

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control: See Comment.
3. Potential Emissions: 105 lb/hour 394.2 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year	
6. Emission Factor: 0.2 lb/mmBtu Reference:	7. Emissions Method Code:
8. Calculation of Emissions: hrly: 525 mmBtu/hr x 0.2 lb/mmBtu = 105 lbs/hr annual: 450 mmBtu/hr x 0.2 lb/mmBtu X 8760/2000 = 394.2 TPY	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: CO control is based on methods and designs that prevent the pollutant from forming. Therefore it is not possible to calculate a control efficiency as if there were collection of a pollutant.	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -

ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): There is no rule based emission limit for CO for this boiler. CO emissions for this boiler are significantly less than experienced with the less efficient previous boilers that CO emissions decrease and PSD limits should not be of concern.	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –

POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: Pb		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 0.38 lb/hour 1.65 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year			
6. Emission Factor: see calculation and comment Reference: calculated from NCASI		7. Emissions Method Code:	
8. Calculation of Emissions: 451,425t bark/yr X 0.0073 lb Pb/ton bark = 3,295.4 lbs/yr 46,269 t knots/yr x 0.0013 lb Pb/ton knots = 60.2 lb/yr 3355.6 lb/yr /8760 = 0.38 lb/hr			
9. Pollutant Potential/Estimated Fugitive Emissions Comment: Pb emissions from burning bark and knots are based on the Pb in bark and wood, and assuming all Pb is emitted, where generally it stays with the bottom ash. Further this calculation does not consider the collection efficiency of the ESP. Thus this is a worst case projection.			

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -

ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): There are no regulation based emission limits for Pb applicable to this boiler.	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section[1] of [3]

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **1** of **2**

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 30 % Exceptional Conditions: 40 % Maximum Period of Excess Opacity Allowed: 2 min/hour	
4. Method of Compliance: Electrostatic Precipitator	
5. Visible Emissions Comment: 62-296.410(2)(b)(1)	

Visible Emissions Limitation: Visible Emissions Limitation **2** of **2**

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: 27 % Maximum Period of Excess Opacity Allowed: 6 min/hour	
4. Method of Compliance: Electrostatic Precipitator	
5. Visible Emissions Comment: 40 CFR 60.42	

Visible Emissions Limitation: Visible Emissions Limitation of

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

EMISSIONS UNIT INFORMATION

Section[1] of [1]

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: EM	2. Pollutant(s): SO₂
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Teledyne Instruments Model Number: 100E Serial Number: 1204	
5. Installation Date: 12/31/2006	6. Performance Specification Test Date: 2/19/2007
7. Continuous Monitor Comment: There is a rule requirement for a SO₂ CEM (40 CFR 60.45(a)). Also, a SO₂ CAP is requested for this boiler to avoid PSD review.	

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Teledyne Instruments Model Number: 200E Serial Number: 1285	
5. Installation Date: 12/31/2006	6. Performance Specification Test Date: 2/19/2007
7. Continuous Monitor Comment: There is no rule requirement for a NO_x CEM (40 CFR 60.45(b)(3)). However, a NO_x CAP is requested for this boiler to avoid PSD review. This monitor is proposed to document compliance with the emissions CAP.	

EMISSIONS UNIT INFORMATION

Section[1] of [1]

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 3 of 3

1. Parameter Code: FLOW	2. Pollutant(s): Volumetric flow rate
3. CMS Requirement: <input type="checkbox"/> Rule	<input checked="" type="checkbox"/> Other
4. Monitor Information... Manufacturer: SICK MAIHAK Model Number: OMD41 Serial Number: 6148023	
5. Installation Date: 12/31/2006	6. Performance Specification Test Date: 2/19/2007
7. Continuous Monitor Comment: There is no rule requirement for a flow monitor. However, annual CAPs for NO_x and SO₂ are requested for this boiler to avoid PSD review. This monitor is proposed to document compliance with the emissions CAP.	

Continuous Monitoring System: Continuous Monitor of

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

EMISSIONS UNIT INFORMATION

Section[1] of [1]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>6</u> previously Submitted, Date _____
2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>7</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>8</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>9</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section[1] of [1]

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

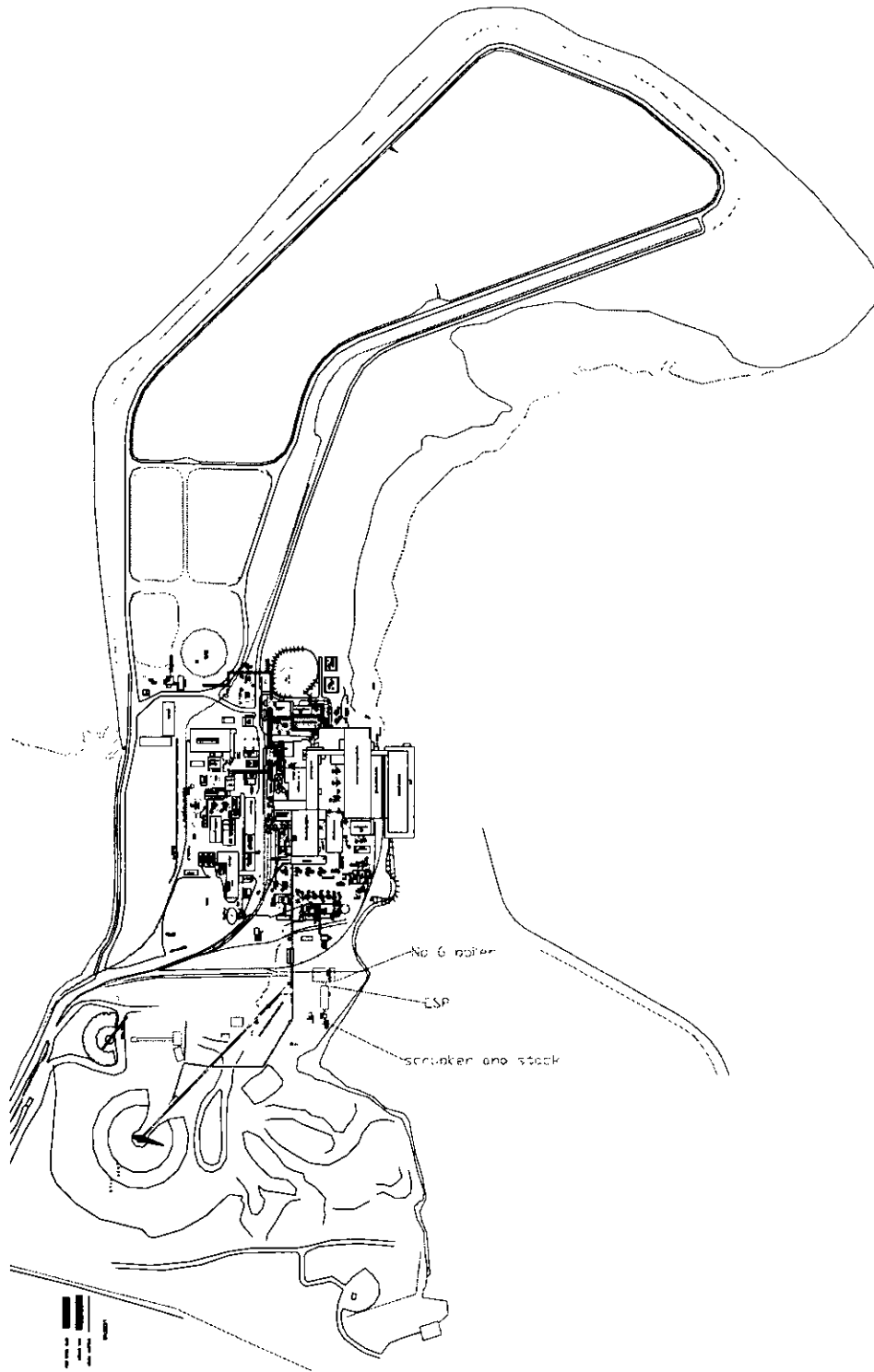
Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements <input type="checkbox"/> Attached, Document ID: _
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _ <input checked="" type="checkbox"/> Not Applicable
5. Acid Rain Part Application <input type="checkbox"/> Certificate of Representation (EPA Form No. 7610-1) <input type="checkbox"/> Copy Attached, Document ID: _____ <input type="checkbox"/> Acid Rain Part (Form No. 62-210.900(1)(a)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable

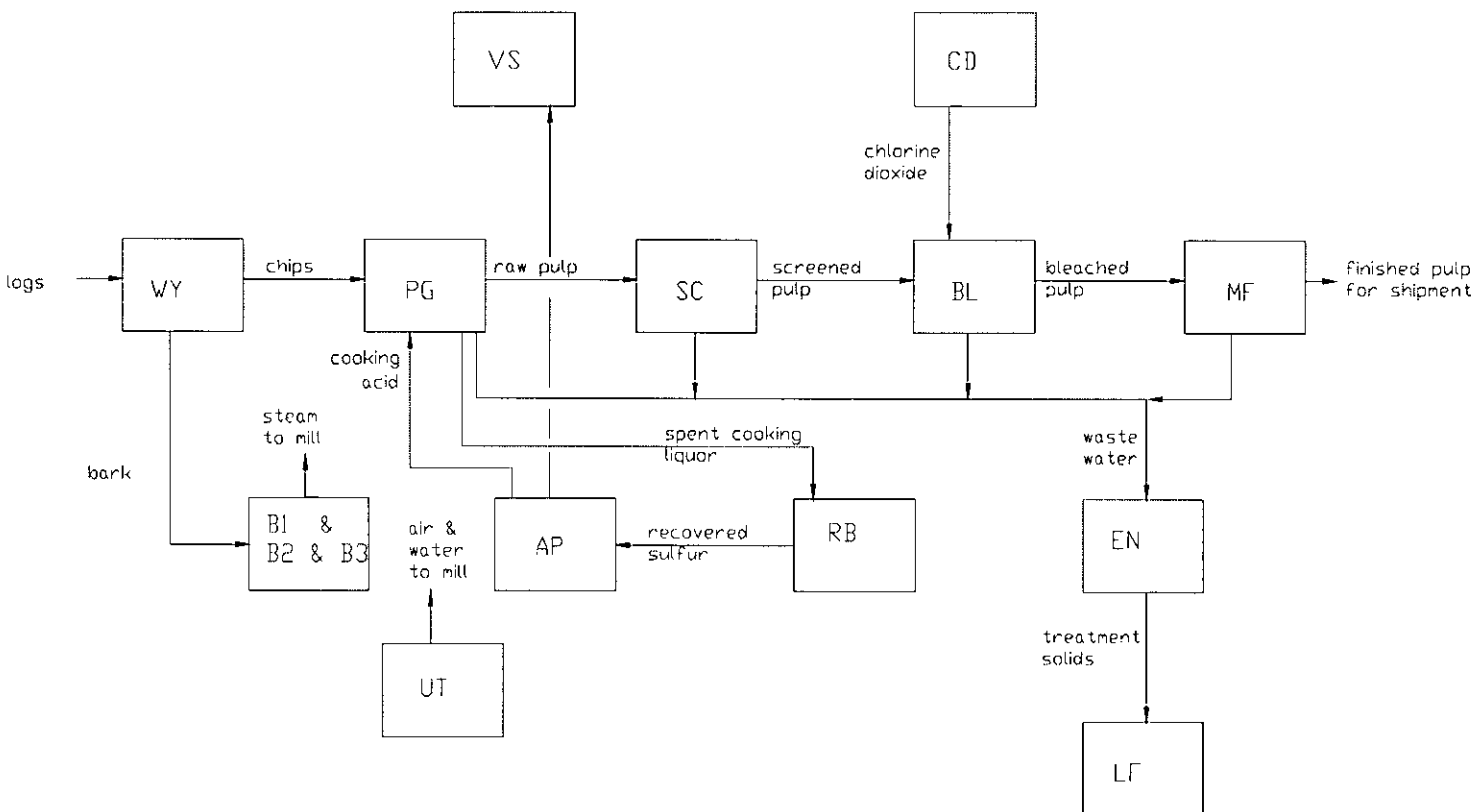
Additional Requirements Comment

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ATTACHMENT 1 - Facility Plot Plan



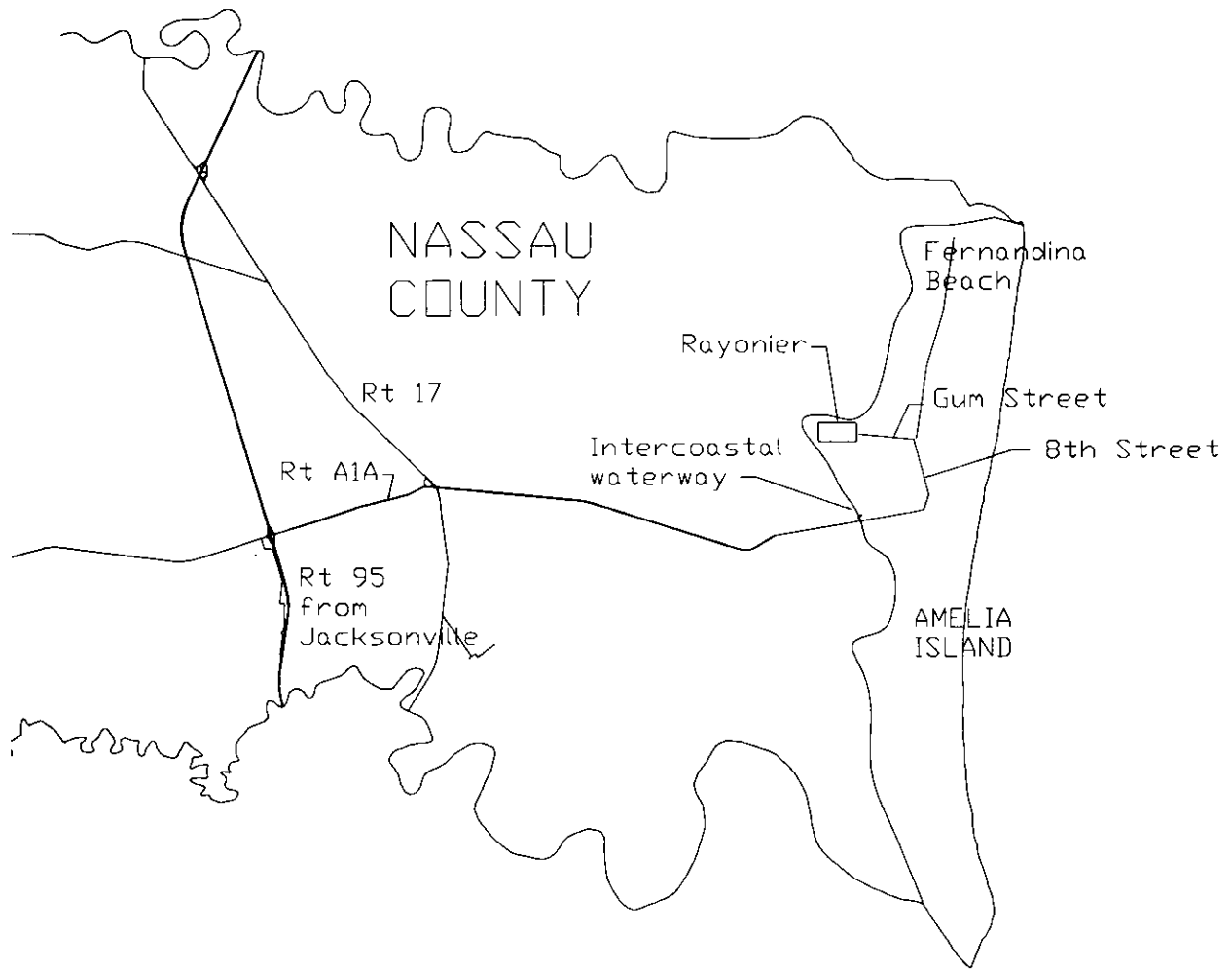
ATTACHMENT 2 - Facility Flow Diagram



ATTACHMENT 3 - List of Pollutants Emitted by Facility

PM10	(Particles)	A	N
SO2	(Sulfur Dioxide)	A	N
NOx	(Nitrogen Dioxide)	A	Y
CO	(Carbon Monoxide)	A	N
VOC	(Volatile Organic Compounds)	A	N
HAPS	(Total Hazardous Air Pollutant)	A	N
H115	(Methanol)	A	N
H038	(Chlorine)	A	N
H043	(Chloroform)	A	N
PB	(Lead)	B	N
H047	(Cobalt)	B	N
H120	(MEK)	A	N
H001	(Acetaldehyde)	A	N
H106	(HCl)	B	N
H095	(Formaldehyde)	B	N
H006	(Acrolein)	B	N
H118	(Chloromethane)	B	N
H163	(Styrene)	B	N
CFC	(totalCFCs)	B	N
H128	(Methylene chloride)	B	N
H033	(Carbon Tetrachloride)	B	N
H017	(Benzene)	B	N
H123	(Methyl Isobutyl Ketone)	B	N
H169	(Toluene)	B	N
H041	(Chlorobenzene)	B	N
H085	(Ethyl benzene)	B	N
H187	(Xylene)	B	N
H166	(1,1,2,2-tetrachloroethane)	B	N
H061	(1,4, dichlorobenzene)	B	N
H174	(1,2,4-trichlorobenzene)	B	N
H165	(TCDD)	B	N
H2S	(Hydrogen sulfide)	B	N
H167	(Tetrachloroethene)	B	N
H176	(Trichloroethylene)	B	N
H119	(1,1,1-trichloroethane)	B	N
H104	(Hexane)	B	N
H0323	(Carbon disulfide)	B	N
H117	(Bromomethane)	B	N
	(Chlorine dioxide)	A	N
H113	(Manganese)	B	N
H114	(Mercury)	B	N
H133	(Nickel)	B	N
H148	(Phosphorous)	B	N

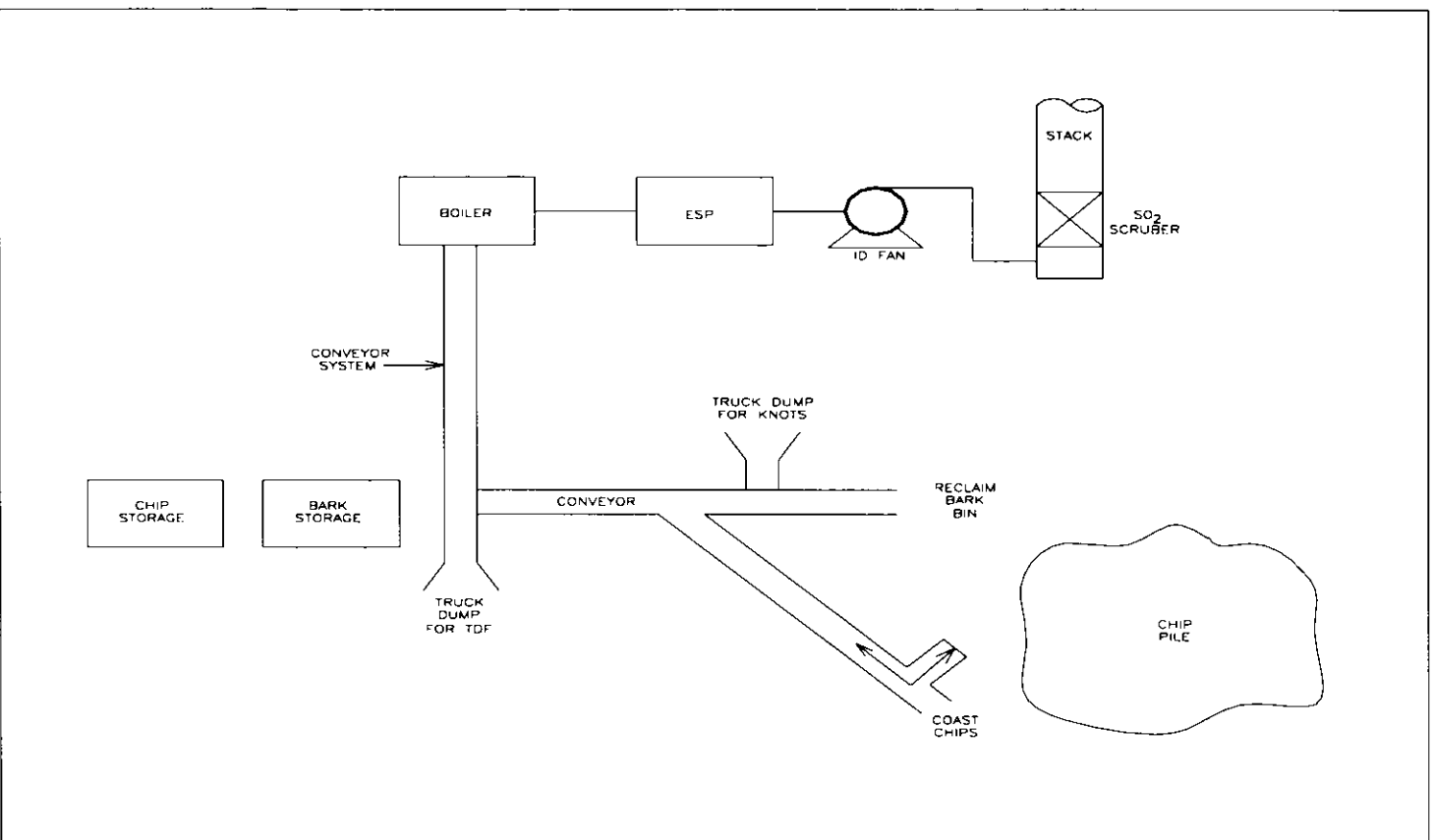
ATTACHMENT 4 - Area Map



ATTACHMENT 5 - Description and Rule Applicability Analysis

See Cover Letter with this application for Description and Analysis of these changes to an existing construction permit.

ATTACHMENT 6 - PB06 Process Flow Diagram



ATTACHMENT 7 - PB06 Fuel Analysis

Four main fuels will be fired in power boiler No. 6: bark, oil, knots, landscape waste and Tire Derived Fuel. The proximate and ultimate analyses for each is given below.

Fuel	Bark	Knots	TDF	#6 Fuel Oil	SSL
Proximate Analysis					
Fixed Carbon	9.95	4.94	27.5		19.33
Volatiles	40.19	27.71	65.5		39.37
Sulfur	0.03	0.40	1.85		5.01
Ash	2.27	0.41	4.78		0.93
Moisture	47.59	66.94	0.37		40.37
Ultimate Analysis					
Carbon	28.07	19.49	83.00	85.70	28.89
Hydrogen	3.00	2.10	7.50	10.50	3.20
Oxygen	18.82	10.49	0.50	0.92	19.61
Nitrogen	0.22	0.17	0.37	0.92	1.99
Chlorine	0.01	0.01			0.02
Sulfur	0.03	0.4	1.85	2.50	5.01
Ash	2.27	0.41	4.78	0.08	0.93
Moisture	47.59	66.94	2.00		40.37

ATTACHMENT 8 - PB06 Detailed Description of Control Equipment

Particulate Emission Control Equipment

Ash Hopper. There is a settling chamber ahead of the electrostatic precipitator. This piece of equipment is referred to as the ash hopper. It allows large particles to settle and reduce the ash and grain loading to the ESP. This hopper has a screw conveyor bottom to remove this ash for disposal.

Electrostatic Precipitator. This unit is a rigid electrode and collector plate design having four fields with a dedicated transformer/rectifier (T/R) set for each field. To minimize re-entrainment each field has its own ash-hopper with a screw conveyor discharge.

An opacity monitor is not required by rule, but one has been installed following the electrostatic precipitator and before the scrubber. This will be used to control boiler operation in addition to other control instruments and equipment. This monitor does not monitor the emissions as they exit the stack because there is a wet scrubber prior to stack top exhaust. The opacity monitor can not operate in a saturated gas stream.

Sulfur Dioxide Emission Control Equipment

Alkaline Wet Scrubber. After the Induced Draft Fan there is an SO₂ gas scrubber. A spray of 4,000 gpm of recirculated alkaline water cascades from showers over chevrons and louver-type packings. This type scrubber has a low pressure drop of about 2 inches WG. It removes 90% or more of the SO₂ in the inlet. The alkalinity of the wood ash also achieves some SO₂ capture.

Nitrogen Oxides Emission Control Equipment

Initially no collection equipment will be installed, however, provision have been made to install this control equipment. The boiler furnace has been lengthened to increase residence time allowing a lower flame temperature through staged combustion which decreases NO_x formation. Also flame temperature and the rate of oxidation are controlled through flue gas recirculation. Should it be necessary, the boiler is capable of receiving a SNCR installation.

ATTACHMENT 9 - PB06 Operation and Maintenance Plan

Number 6 Power Boiler Rayonier Performance Fibers, LLC. Fernandina Mill

Brief Description of the Boiler

No. 6 power boiler is a reconstruction of the Smurfit Jacksonville Mill No. 10 Combustion Engineering [CE VU-40] power boiler originally built in 1982, modified to burn high moisture fuels. No. 6 power boiler has a nominal steam production capacity of 265,000 lb/hr at 900 psig and 875°F. Routinely the boiler burns bark and wood waste. It is capable of supplementing with No. 6 fuel oil to a maximum capability of 310,000 lb/hr steam production when the recovery boiler is out of service. The combustion is accomplished in a Bubbling Fluidized Bed [BFB]. It has the capability of burning bark, wood waste, reject knots, tire derived fuel [TDF] and the mill's on-specification used oil.

In addition to the very efficient BFB combustion, No. 6 power boiler is equipped with a new electrostatic precipitator, a relocated scrubber and the nozzles for a selective non-catalytic reduction [SNCR] system. The SNCR system will not be installed nor operated unless the nitrogen oxide emissions are higher than expected. A new continuous emissions monitoring system [CEMS] is installed to measure opacity, carbon monoxide, sulfur dioxide, nitrogen dioxides and oxygen.

Maintenance and Inspection

All systems and equipment are set up for routine preventative maintenance inspections and or calibrations.

Operators inspect all critical equipment for any type of defect on a daily basis. Deficiencies that cannot be corrected by the operator are to be appropriately recorded and reported so that necessary repairs may be made in a timely manner.

A complete inspection of all aspects of the boiler will be made during each maintenance repair shutdown.

The results of the inspections will:

Identify and analyze potentially unsafe conditions during simulated inspections

Recommend corrective action

Detect hidden hazardous conditions during inspections

Communicate findings effectively, both verbally and in writing

The inspections involve ensuring the safe operation of the boiler by performing periodic inspections and by close monitoring of all repair work. The boiler to be installed will be built to a standardized nationwide construction code, the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.

The inspections will be performed by an inspector commissioned by the National Board of Boiler and Pressure Vessel Inspectors

Monitoring of Operations and Records

Records of the duration and occurrence of startups, shutdowns, and malfunctions of the boiler and associated air emission control systems and any period during which the continuous monitoring system is inoperative shall be recorded and the record maintained for a period of five years. A record of boiler downtime due to any maintenance activity shall be maintained.

The continuous emissions monitoring system shall be continuously monitored. When an excursion of a parameter is indicated, corrective action will be immediately initiated.

The daily feed rate of bark & wood waste, No. 6 fuel oil, knots and any other fuel shall be measured and recorded.

Sulfur Dioxide Emissions Control Systems

Brief Description of the System

The oxides of sulfur found in the flue gases are removed with a wet scrubber. The wet scrubber is a venturi type device. Flue gas is accelerated through a nozzle and deluged with a scrubbing liquid. The scrubbing liquid is a solution of caustic soda.

Spray nozzles are arranged in the tower to spray the scrubbing liquor into the flue gas. The spray nozzles are full cone non-clogging nozzles.

When the scrubbing liquor comes in contact with sulfur dioxide in the flue gas, the sulfur dioxide is converted and then removed from the aqueous stream.

The scrubber features a high amount of active surface area with random dumped packing. The packing material breaks the liquid streams into multiple, even surface films that create intimate gas/liquid contact at a low-pressure drop. The Scrubber is expected to remove greater than 90% of the Sulfur Dioxide entering the vessel.

Maintenance and Inspection

All systems and equipment are set up for routine preventative maintenance inspections and or calibrations.

Operators inspect all critical equipment for any type of defect on a daily basis. Deficiencies that cannot be corrected by the operator are to be appropriately recorded and reported so that necessary repairs may be made in a timely manner.

A complete inspection of all aspects of the scrubber will be made during each maintenance repair shutdown.

Scrubber spray chambers and nozzles will be inspected regularly to ensure they are not plugged. The packing section will be inspected often to ensure against solids buildup that would plug portions of the pack.

The scrubber mist eliminator will also be inspected on a regular basis. The catchment on a chevron baffle can become filled with solids, rendering it ineffective.

The scrubber recirculation system will be kept reasonably clean to ensure the solution is capable of gas absorption; to minimize buildup of solids in packed and mist eliminator sections; and to prevent plugging of spray chambers and nozzles.

A continuous addition of water, up to five pct of the total recirculation rate will be added to the recirculation tank and simultaneously overflowed to waste treatment.

The recirculation tank will also be kept clean of sediment. These solids are easily stirred up and will inevitably contribute to plugging of spray nozzles, packing sections and the mist eliminator section.

Monitoring of Operations and Records

A log will be maintained of all observations, deviations and corrective actions taken for a period of five years.

The wet scrubber will be equipped with devices to continuously measure the scrubber water flow rate and the differential pressure drop across the scrubber demister pads. The wet scrubber monitoring devices used to continuously measure the scrubber water flow rate and the

differential pressure drop across the scrubber demister pads shall be observed with a frequency of not less than once per day.

Each monitoring device will be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. If the manufacturer's written requirements or recommendations are not available, Rayonier will establish the written procedures.

Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the control device is operating.

Nitrogen Dioxide Emissions Control Systems

Selective Non-Catalytic Reduction

Brief Description of the System

The design of the bubbling fluidized bed combustor minimizes nitrogen oxide formation. However, nozzle ports for an SNCR [selective non-catalytic reduction] system are provided on the boiler in case the NOX emissions are higher than expected. The remainder of the SNCR system will be installed only if there are unforeseen problems with NOX emissions.

Maintenance and Inspection

None planned.

Monitoring of Operations and Records

A CEM for nitrogen compounds is installed on the boiler's final emissions. Records of the duration and occurrence of startups, shutdowns, and malfunctions of the boiler and associated air emission control systems and any period during which the continuous monitoring system is inoperative shall be recorded and the record maintained for a period of five years. A record of SNCR downtime due to any maintenance activity shall be maintained if installed.

The continuous emission monitoring system (CEMS) will be installed for the determination of a gas or particulate matter concentration or emission rate using pollutant analyzer measurements and a conversion equation, graph, and computer program to produce results in units of the applicable emission limitation or standard. The system will measure emissions of NOx, SO₂, CO₂, oxygen and opacity.

The CEM system will comply with all Federal and State requirements that may apply. Specifically, the system complies with 40CFR60. The CEM system will meet all monitoring and reporting requirements outlined in the Title V Permit.

Performance Specifications will be used for evaluating the acceptability of the CEMS at the time of or soon after installation and whenever specified in the regulations. All performance tests must be completed within 30 days after the emission source has begun operation. These reports should contain all pertinent data regarding performance testing.

Quality assurance procedures will be used to evaluate the effectiveness of quality control (QC) and quality assurance (QA) procedures and the quality of data produced by the CEM that will be used for determining compliance with the emission standards on a continuous basis as specified in the applicable regulation.

Particulate Control Devices

Electrostatic Precipitator

Brief Description of the System

The dust laden gases are drawn into one side of the Electrostatic Precipitator Chamber where high voltage electrodes impart a negative charge to the particles entrained in the gas. These negatively charged particles are then attracted to a grounded collecting surface, which is positively charged. The gas then leaves the box up to 99 % cleaner than when it entered. Inside the Electrostatic Precipitator Chamber, the particles from the continuing flow of dust build up on the collecting plates. At periodic intervals, the plates are rapped, causing the particles to fall into hoppers. The particles are then removed from the hoppers, by a rotary screw arrangement. The Design Basis for the Electrostatic Precipitator is listed in the table below:

Volume (ACFM)	240,000
Temperature (°F)	400
H2O in flue gas (% by vol.)	15
Inlet to precipitator (gr/dscf)	2.5
Emission Rate (lbs/MMBTU)	0.025
Heat Input (MMBTU/hr)	450

Maintenance and Inspection

The air emission Electrostatic Precipitator system, and the collection systems are to be inspected daily for leakage, for defects which would affect operation, and for potential defects which would affect operation.

A daily inspection will be performed for the following:

- Inspection of rapper operation
- Inspection of T-R set operation
- Inspection of ash removal system operation

Corrective action measures will be implemented on the occurrence of an abnormal condition. Abnormal conditions will include the following: a T-R set failure, rapper system failure, ash transport system failure, and high ash hopper level.

Each Major Unit Overhaul

- Check and correct plate electrode alignment
- Inspect for collection surface fouling
- Inspect T-R set mechanical condition

Inspect internal structural components

Corrective action measures will be devised and implemented on the occurrence of an abnormal condition. The appropriate measures for remediation will be implemented in a timely manner.

Monitoring of Operations and Records

The operator has a graphic display for continuous monitoring of the system and trends of those operating parameter. Appropriate alarms are provided for out of range operations. All meters are set up on the mill's preventative maintenance system for transmitter calibrations. The operator has instantaneous and averaged readouts.

We will maintain a written or electronic record of all inspections and any action resulting from the inspection. Maintenance and inspection records will be kept for five (5) years and available upon request.

An audible Precipitator Malfunction Alarm is available for the operator. The precipitator malfunction alarm will continuously monitor T-R set failure and rapper control malfunction. Corrective action measures will be implemented on the occurrence of a precipitator malfunction alarm. The appropriate measures for remediation will be implemented in a timely manner.

Approximately once each month the data is automatically down loaded, consolidated into 15-minute averages and stored in the mill's data management system. The 15-minute averages are stored for 5 years

ATTACHMENT 10 - PB06 – Description of Stack Sampling Facilities

The Stack and Sampling Platforms and Ports have been designed at the submittal of this application. However, the stack sampling facilities will meet the Requirements of Appendix SS1 to the Title V Permit. The applicable portions of that document are referenced below.

1. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. Emissions units must provide these facilities at their expense. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E. A permanent stack sampling facility will be installed and maintained.
2. Sampling Ports.
 - a. All sampling ports will have a minimum inside diameter of 3 inches.
 - b. The ports shall be capable of being sealed when not in use.
 - c. The sampling ports will be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
3. At least two sampling ports, 90 degrees apart, will be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, will be installed. On horizontal circular ducts, the ports will be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
4. On rectangular ducts, the cross sectional area will be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports will be provided which allow access to each sampling point. The ports will be located so that the probe can be inserted perpendicular to the gas flow.
5. Work Platforms.
 - a. Minimum size of the working platform will be 24 square feet in area. Platforms will be at least 3 feet wide.
 - b. On circular stacks with 2 sampling ports, the platform will extend at least 110 degrees around the stack.
 - c. On circular stacks with more than two sampling ports, the work platform will extend 360 degrees around the stack.
 - d. All platforms will be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports will be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.
6. Access to Work Platform.
 - a. Ladders to the work platform exceeding 15 feet in length will have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
 - b. Walkways over free-fall areas will be equipped with safety rails and toe boards.
7. Electrical Power.
 - a. A minimum of two 120-volt AC, 20-amp outlets will be provided at the sampling platform within 20 feet of each sampling port.

b. If extension cords are used to provide the electrical power, they will be kept on the plant's property and be available immediately upon request by sampling personnel.

8. Sampling Equipment Support.

a. A three-quarter inch eyebolt and an angle bracket will be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.

i. The bracket will be a standard 3 inch x 3 inch x one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter will be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket will be located 14 inches above the centerline of the sampling port.

ii. A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt will be located 15 and one-half inches above the centerline of the sampling port.

iii. The three-quarter inch eyebolt will be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt will be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt will be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain will be attached to it to bring the free end of the chain to within safe reach from the platform.

b. A complete monorail or dualrail arrangement may be substituted for the eyebolt and bracket.

c. When the sample ports are located in the top of a horizontal duct, a frame will be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

ATTACHMENT 11 - Effluent Treatment System Solids [Sludge] Burning Trial Plan

The trial will consist of adding two mill-generated sludges to the No. 6 boiler as fuels. One will be primary sludge with no secondary sludge return from the aeration stabilization basin [ASB]. The second will be primary sludge with maximum [~30%] secondary sludge returned from the ASB. Both sludges will be pressed to approximately 70% moisture or less. The boiler operation and total input & output heat rates will be controlled as constant as possible during the different sampling stages of the trial. The mill requests a total of 2 weeks where we will burn sludge in the boiler. The first week will be spent determining the optimal operational method to burn sludge in the boiler. The second week will consist of a trial plan to determine the emissions impact of burning effluent treatment solids. The trial is laid out as follows:

Trial Monitoring and Sampling Sequence

Two weeks prior to stack test Day 0: 120-hour operational test burn of sludge at maximum sustainable addition rate (50 ODT/day) to verify boiler operation and ensure that the boiler can run at high load rates while firing sludge.

Day 0 – Stack tester travel day

Day 1 - Pre-trial –Baseline stack test (3 runs) @ maximum steaming rate with no sludge addition.

Day 1 –Post-test add sludge at maximum sustainable rate (50 ODT/day rate)

Day 2 –Test (3 runs) during maximum sustainable sludge addition rate (50 ODT/day rate) at maximum steaming rate on boiler.

Day 2 – Post-test. Switch to adding sludge with secondary solids at maximum sustainable rate (50 ODT/day rate).

Day 3–Test (3 runs) during maximum sustainable sludge addition rate including secondary biosolids (50 ODT/day rate) at maximum steaming rate on boiler.

Day 3 – Post-test remove sludge from boiler.

Continuous Parameters Monitored

Sulfur Dioxide Emissions [ppm, lb/hr, lb/MMBTU].

Nitrogen Dioxide Emissions [ppm, lb/hr, lb/MMBTU].

Opacity [%].

Carbon Monoxide [ppm, lb/hr, lb/MMBTU].

Oxygen [%].

Flu gas velocity [cuft/min]
Flue gas temperature [degF]
Heat input rate via f-factor.
Steam production [lb/hr].
Steam temperature [degF].
Steam pressure [psig].
ESP total power (Watts)
Scrubber recirculation rate(gpm) and pH

Three Stack Tests – Parameters for each

Particulate Matter [Test method 5/5B]
VOC [Test method 25A]
Dioxins [Test method 23]
Hydrogen Chloride [Test method 26]
HAP metals (arsenic, beryllium, cadmium, chromium, lead, manganese, nickel & selenium)
[Test method 29]
Mercury [Method 101A, 29 or ASTM D-6784-02]
Dioxin/Furan in sludge and boiler ash

Measured Parameters

Sludge addition rate [lb as is / hr]
Sludge dryness [%OD]
Bark addition rate
Knots addition rate
Oil addition rate [plan for zero].
Spent Sulfite Liquor [SSL] addition rate [plan for zero].
Tire derived fuel [plan for monthly average].
Ash production rate [lb/hr].

Notifications

The FDEP will be notified greater than 30 days before the planned date of the stack testing and confirmed two weeks before the trial. Any unforeseen postponement will be provided to the Department immediately upon recognizing the need for the postponement.

Reporting

The final report of the trial will be provided within 30 days from mill receipt of the stack test and all analytical results. In no case will the report be provided more than 60 days after the trial.

		NAS		Pieces: 1/1
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Description: Rayonier application				
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