

# Rayonier

*Performance Fibers*

*Fernandina Mill*

February 5, 2008

Mr. Jeffery F. Koerner, P.E.  
Division of Air Resources Management  
Florida Department of Environmental Protection  
2600 Blair Stone Road, M.S. 5505  
Tallahassee, FL 32399-2400

**RECEIVED**

FEB 11 2008

**BUREAU OF AIR REGULATION**

RE: Rayonier Fernandina Beach Dissolving Sulfite Pulp Mill  
No. 6 Power Boiler Modification  
Project No. 0890004-021-AC

Dear Mr. Koerner:

I am responding to your January 16, 2008 Request for Further Information in regard to the above referenced permit application. The responses are in the same order as your questions in your January 16, 2008 letter.

1. Based on the meeting with you, Corrie Braum, David Rogers and David Tudor on December 5, 2007 when the issue of concurrent processing was discussed we decided to NOT request concurrent processing. Unfortunately all of the references to concurrent processing in our cover letter of December 14, 2007 were not removed. We are not requesting concurrent processing. For your information Rayonier has submitted an application to the Northeast District to modify the Title V as a separate proceeding and have asked them to schedule their work on that application to follow the construction permit application now in your review.
2. There is no intention to change any of the emission limits in the initial construction permit for No.6 boiler. Attached are corrected pages 27 and 28 of the application reflecting the 210 ton of sulfur dioxide limit in the permit.
3. Methylene chloride is not an issue for the construction permit. Please disregard any reference or request on methylene chloride.
4. There is no intention to change any of the emission limits in the initial construction permit for No.6 boiler. Attached is corrected page 31 of the application reflecting the 591.3 tons per year of carbon monoxide limit in the original construction permit.
5. New application page 34a is attached containing the emission calculations for VOC reflecting the limits in the original construction permit
6. No. 6 power boiler will comply with the NSPS and the air construction permit limits when firing spend sulfite liquor (SSL).

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Certificate No. A2072

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

7. 40 CFR Part 61 Subpart E does appear to apply if Rayonier decides to burn sludge in this boiler and requests a permit to do so. This application is only for a trial and during this trial will be testing the knots, bark and sludge for mercury. The sludge is mainly lost wood fiber waste with small amounts of biological material from digesting the dissolved substances cooked out of the wood. One would expect no more mercury emissions than that from burning wood waste because any sludge burned would be replacing either knots or bark, i.e. wood waste. We would not want this boiler to become subject to 40 CFR Part 61, Subpart E because of the trial requested. It is premature to reference in this trial permit. Once the trial burn is completed, Rayonier will make the decision whether to request permanent authorization to burn sludge. Only at that time would the boiler become subject to 40 CFR 61 Subpart E.

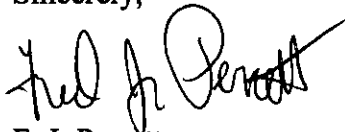
However, we will add to the trial plan to test knots, bark and sludge for mercury. If we find these are the same within the normal variability one expects from such tests then we can conclude there is no increase in mercury emissions, therefore this change is not a modification with an increase in emissions and not subject to a construction permit or PSD review. If there is an increase, burning sludge would be subject to a construction permit and possibly a PSD permit if the increase exceeds the PSD significant emission rate.

ODT stands for Oven Dried Tons, usually it refers to pulp. The other term common in this industry is ADT or air dried tons of pulp. The relationship between air dried and oven dried depends on the pulp, but usually about 10% is lost going from air dried to oven dried.

8. You are correct that the SO<sub>2</sub> emissions and fuel usage must be managed to achieve the SO<sub>2</sub> emissions cap. The SSL would have to be co-fired with other fuels, typically bark. There is no past operation for burning SSL in this boiler. We will not exceed 55,188 tons per year.

If you have questions regarding this application please contact either David Rogers, (904)277-1346, e-mail: [david.rogers@rayonier.com](mailto:david.rogers@rayonier.com) or Dave Tudor (904)557-8332, e-mail: [david.tudor@rayonier.com](mailto:david.tudor@rayonier.com).

Sincerely,



F. J. Perrett  
General Manager

**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: <b>SO2</b>	2. Total Percent Efficiency of Control: <b>99</b>
3. Potential Emissions: <b>420 lb/hour      210 tons/year</b>	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): <b>NA to tons/year</b>	
6. Emission Factor: <b>0.8 lb/mmBtu</b>  Reference: <b>40 CFR 60.43(1)</b>	7. Emissions Method Code: <b>0</b>
8. Calculation of Emissions: <b>hrly: 525 mmBtu/hr x 0.8 lb/mmBtu = .00 lbs/hr</b>  <b>ann: 450 mmBtu/hr x 0.106545 lb/mmBtu x 1/2000 tons/lbs x 8760 hr/year =</b> <b>210 TPY</b>	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

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

**Allowable Emissions Allowable Emissions 2 of 3**

1. Basis for Allowable Emissions Code: <b>ESCPD</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.106545 lb/mmBtu</b>	4. Equivalent Allowable Emissions: <b>55.94 lb/hour 210 tons/year</b>
5. Method of Compliance: <b>Alkali scrubber and CEMS for SO<sub>2</sub></b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>0.106545 lb/mmBtu x 450 mmBtu/hr x 8760/2000 = 210 TPY</b> <b>0.106545 lb mmBtu x 525 mmBtu/hr = 55.94 lb/hr</b> <b>Equivalent hourly and annual emissions are based on an annual averaging time.</b>	

**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):	

**EMISSIONS UNIT INFORMATION      POLLUTANT DETAIL  
INFORMATION**

Section [1] of [2]

Page [9] of [12]

**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: <b>CO</b>	2. Total Percent Efficiency of Control: <b>See Comment.</b>
3. Potential Emissions: <b>157.5 lb/hour    591.3 tons/year</b>	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): <b>NA to tons/year</b>	
6. Emission Factor: <b>0.3 lb/mmBtu</b>  Reference:	7. Emissions Method Code:
8. Calculation of Emissions: <b>hrly: 525 mmBtu/hr x 0.3 lb/mmBtu = 157.5 lbs/hr</b>  <b>annual: 450 mmBtu/hr x 0.3 lb/mmBtu X 8760/2000 = 591.3 TPY</b>	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: <b>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.</b>	







# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

January 16, 2008

*Sent by Electronic Mail – Received Receipt Requested*

F.J. Perrett, General Manager  
Rayonier Performance Fibers, LLC  
P.O. Box 2002  
Fernandina Beach, FL 32035

**Re: Request for Additional Information**  
Fernandina Beach Dissolving Sulfite Pulp Mill  
Project No. 0890004-021-AC  
No. 6 Power Boiler Modifications

Dear Mr. Perrett:

On December 17, 2007, the Department received your application and sufficient fee for an air construction permit requesting minor revisions to air construction Permit No. 0890004-018-AC for the Power Boiler No. 6 at the Fernandina Beach Mill. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the items below require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. The cover letter suggests that the application to modify the permit for the No. 6 power boiler also includes a concurrent revision of the Title V permit. This is not the case and this was clarified by e-mail on January 16, 2008. The Department's NED office is currently processing a Title V revision.
2. The cover letter states there will be no change in emissions limits affecting any PSD pollutants. However, in the emissions unit pollutant detail information of the application for SO<sub>2</sub> (page 27 and 28) states that the potential emissions are 220.95 tons/year. Please explain the use of the "0.1121 lb/MMBtu" emissions factor to calculate the potential emissions. Air construction Permit No. 0890004-018-AC specifies an emissions limit of 210.0 tons/year for a 12 month rolling average. Please correct the application page.
3. The cover letter also suggests that the application includes the addition of additional methylene chloride emissions from a lab vent. This is not discussed in the application. Is this part of the air construction permit request? If yes, please provide additional information including a description, usage (maximum quantity) and emissions (potential).
4. Air construction Permit No. 0890004-018-AC established a CO emissions limit of 157.5 lb/hour for 30-day rolling average and 591.3 tons/yr for a 12-month rolling average. The permit emissions limits are based on 0.3 lb/MMBtu heat input. The emissions unit pollutant detail information for CO in the application (page 31) states the potential emissions will be 105 lb/hour and 394.2 tons/year, which are based on 0.2 lb/MMBtu heat input. Please explain and correct as necessary.
5. Please submit the corresponding application pages related to VOC emissions. These were not included.
6. Please confirm that the No. 6 Power Boiler will comply with the NSPS and air construction permit limits when firing spent sulfite liquor (SSL).



## REQUEST FOR ADDITIONAL INFORMATION

7. Will the sludge material that will be used during the trial burn be subject to 40 CFR 61 Subpart E? Please refer to EPA's applicability determination index. What does "ODT" mean?
8. Page 21 of the application identifies the following information for spent sulfite liquor (SSL):
  - 5.5% sulfur by weight
  - 6.3 tons per hour, maximum
  - 55,188 tons per year, maximum

Based on this information, the uncontrolled SO<sub>2</sub> emissions would be:

$(0.055 \text{ ton S / ton SSL})(6.3 \text{ ton SSL / hour})(2 \text{ tons SO}_2 / \text{ton S})(2000 \text{ lb / hour}) = 1386 \text{ lb/hour}$

$(0.055 \text{ ton S / ton SSL})(55,188 \text{ tons SSL / year})(2 \text{ tons SO}_2 / \text{ton S}) = 6070.68 \text{ tons/year}$

Since the SO<sub>2</sub> limits in the permit are 420 lb/hour and 210.0 tons/year, the equivalent control efficiency would have to be:

$(1386 \text{ lb/hour} - 420 \text{ lb/hour})(100\%) / (1386 \text{ lb/hour}) = 70\%$

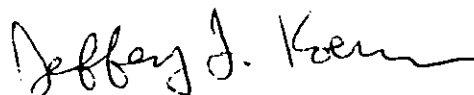
$(6070.68 \text{ tons/year} - 210.0 \text{ tons/year})(100\%) / (6070.68 \text{ tons/year}) = 96.5\%$

It appears that SO<sub>2</sub> emissions and fuel usage must be managed to achieve the SO<sub>2</sub> emissions cap. Please detail the periods of operation in which SSL would be fired. Will it typically be co-fired with other fuels? Based on past operation, what is the expected annual usage?

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days or to provide a written request for an additional period of time to submit the information.

If you have any questions regarding this matter, please contact the project engineer, Corrie Branum, at 850/921-8968.

Sincerely,



Jeffery F. Koerner, Program Administrator  
New Source Review Section

This letter was sent by electronic mail with received receipt requested to the following people:

Mr. F.J. Perrett, Rayonier Performance Fibers, LLC ([jack.perrett@rayonier.com](mailto:jack.perrett@rayonier.com))  
Mr. Dave Rogers, Rayonier Performance Fibers, LLC ([david.rogers@rayonier.com](mailto:david.rogers@rayonier.com))  
Mr. Dave Tudor, Rayonier Performance Fibers, LLC ([david.tudor@rayonier.com](mailto:david.tudor@rayonier.com))  
Mr. David Buff, Golder Associates, Inc. ([dbuff@golder.com](mailto:dbuff@golder.com))  
Mr. Chris Kirts, NED Office ([Christopher.Kirts@dep.state.fl.us](mailto:Christopher.Kirts@dep.state.fl.us))  
Ms. Rita Felton-Smith NED Office ([Rita.Felton@dep.state.fl.us](mailto:Rita.Felton@dep.state.fl.us))