

DEP
NORTHEAST DISTRICT
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**AIR CONSTRUCTION PERMIT APPLICATION
FOR SLUDGE BURNING IN
NO. 6 POWER BOILER
RAYONIER PERFORMANCE FIBERS LLC
NASSAU COUNTY, FLORIDA**

Prepared For:

**Rayonier Performance Fibers LLC
PO Box 2002
Fernandina Beach, Florida 32035**

Prepared By:

**Golder Associates Inc.
6026 NW 1st Place
Gainesville, Florida 32607**

August 2009

0938-7544

DISTRIBUTION:

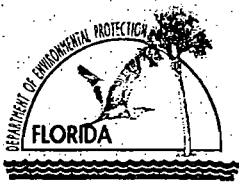
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2 Copies – Rayonier Performance Fibers LLC

1 Copy – Golder Associates Inc.

APPLICATION FOR AIR PERMIT

LONG FORM



Department of Environmental Protection

DEP
NORTHEAST DISTRICT
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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 any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

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

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 Rogers, Manager, Environmental Operations | |
| 2. Application Contact Mailing Address... Organization/Firm: Rayonier Performance Fibers LLC Street Address: Post Office Box 2002 City: Fernandina Beach State: FL Zip Code: 32035 | |
| 3. Application Contact Telephone Numbers... Telephone: (904) 277-1346 ext. Fax: (904) 261-0333 | |
| 4. Application Contact E-mail Address: David.Rogers@rayonier.com | |

Application Processing Information (DEP Use)

| | |
|------------------------------------|-----------------------------------|
| 1. Date of Receipt of Application: | 3. PSD Number (if applicable): |
| 2. Project Number(s): | 4. Siting Number (if applicable): |

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

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.


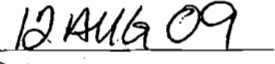
Application Comment

The purpose of this application is to include sludge as an allowable fuel to be burned in the No. 6 Power Boiler based on the trial burn performed under air construction Permit No. 0890004-021-AC.

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, General Manager |
| 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 E-mail Address: jack.perrett@rayonier.com |
| 5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i>  Signature  Date |

APPLICATION INFORMATION

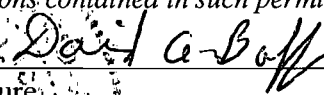
Application Responsible Official Certification

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

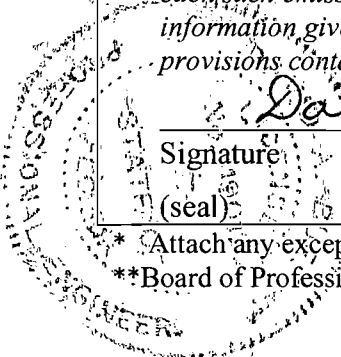
| |
|---|
| 1. Application Responsible Official Name: |
| 2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a 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, CAIR source, or Hg Budget source. |
| 3. Application Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code: |
| 4. Application Responsible Official Telephone Numbers... Telephone: () ext. Fax: () |
| 5. Application Responsible Official E-mail Address: |
| 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 _____ |

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: 6026 NW 1st Place City: Gainesville State: FL Zip Code: 32607 |
| 3. Professional Engineer Telephone Numbers... Telephone: (352) 336-5600 ext. 21145 Fax: (352) 336-6603 |
| 4. Professional Engineer E-mail 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> <p style="text-align: center;"> _____ Signature</p> <p style="text-align: right;"><u>8/11/09</u> Date</p> |

* Attach any exception to certification statement.
**Board of Professional Engineers Certificate of Authorization #00001670.



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) 30/39/44 Longitude (DD/MM/SS) 81/29/09 | |
| 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, Manager, Environmental Operations |
| 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 E-mail Address: David.Rogers@rayonier.com |

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: |
| 2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code: |
| 3. Facility Primary Responsible Official Telephone Numbers... Telephone: () ext. Fax: () |
| 4. Facility Primary Responsible Official E-mail Address: |

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 checked="" 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: | |

List of Pollutants Emitted by Facility

| 1. Pollutant Emitted | 2. Pollutant Classification | 3. Emissions Cap [Y or N]? |
|--|-----------------------------|----------------------------|
| Particulate Matter Total – PM | A | N |
| Particulate Matter less than 10 microns – PM10 | A | N |
| Particulate Matter less than 2.5 microns – PM2.5 | A | N |
| Sulfur Dioxide – SO2 | A | N |
| Nitrogen Oxides – NOx | A | Y |
| Carbon Monoxide – CO | A | N |
| Volatile Organic Compounds – VOC | A | N |
| Lead – Pb | B | N |
| Total Reduced Sulfur – TRS | B | N |
| Hydrogen Sulfide – H2S | B | N |
| Total Hazardous Air Pollutants – HAPS | A | N |
| H001 – Acetaldehyde | A | N |
| H006 – Acrolein | B | N |
| H017 – Benzene | B | N |
| H032 – Carbon Disulfide | B | N |
| H033 – Carbon Tetrachloride | B | N |
| H038 – Chlorine | A | N |
| H041 – Chlorobenzene | B | N |
| H043 – Chloroform | A | N |
| H047 – Cobalt | B | N |
| H061 – 1,4-dichlorobenzene | B | N |
| H085 – Ethyl Benzene | B | N |
| H095 – Formaldehyde | B | N |
| H104 – Hexane | B | N |
| H106 – Hydrochloric Acid | B | N |
| H113 – Manganese | B | N |
| H114 – Mercury | B | N |
| H115 – Methanol | A | N |
| H117 – Bromomethane | B | N |
| H118 – Chloromethane | B | N |
| H119 – 1,1,1-trichloroethane | B | N |
| H123 – Methyl Isobutyl Ketone | B | N |
| H128 – Methylene Chloride | B | N |
| H133 – Nickel | B | N |
| H148 – Phosphorus | B | N |
| H163 – Styrene | B | N |
| H165 – 2,3,7,8-tetrachlorodibenzo-p-dioxin | B | N |
| H166 – 1,1,2,2-tetrachloroethane | B | N |
| H167 – Tetrachloroethane | B | N |
| H169 – Toluene | B | N |
| H174 – 1,2,4-trichlorobenzene | B | N |
| H176 – Trichloroethylene | B | N |
| H187 – Xylene | B | N |

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's Under Cap (if not all units) | 4. Hourly Cap (lb/hr) | 5. Annual Cap (ton/yr) | 6. Basis for Emissions Cap |
|---------------------------------------|--|---|-----------------------|------------------------|----------------------------|
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7. Facility-Wide or Multi-Unit Emissions Cap Comment:
There are no facility-wide caps proposed in the application.

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: <u>RPF-FI-C1</u> <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: <u>RPF-FI-C2</u> <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 checked="" type="checkbox"/> Attached, Document ID: <u>RPF-FI-C3</u> <input type="checkbox"/> Previously Submitted, Date: _____ |

Additional Requirements for Air Construction Permit Applications

| |
|---|
| 1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (existing permitted facility) |
| 2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u> |
| 3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u> |
| 4. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility) |
| 5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable |
| 6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable |
| 7. Source Impact Analysis (Rule 62-212.400(5), 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(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable |
| 9. Additional Impact Analyses (Rules 62-212.400(8) 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 |

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units:
 Attached, Document ID: _____ 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)
 Attached, Document ID: _____ 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)
 Attached, Document ID: _____
 Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
 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)
 Attached, Document ID: _____
 Equipment/Activities Onsite but Not Required to be Individually Listed
 Not Applicable
5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
 Attached, Document ID: _____ Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:
 Attached, Document ID: _____ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not an Acid Rain source)

Phase II NO_x Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable

New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not a CAIR source)

3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not a Hg Budget unit)

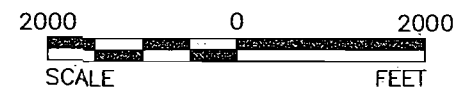
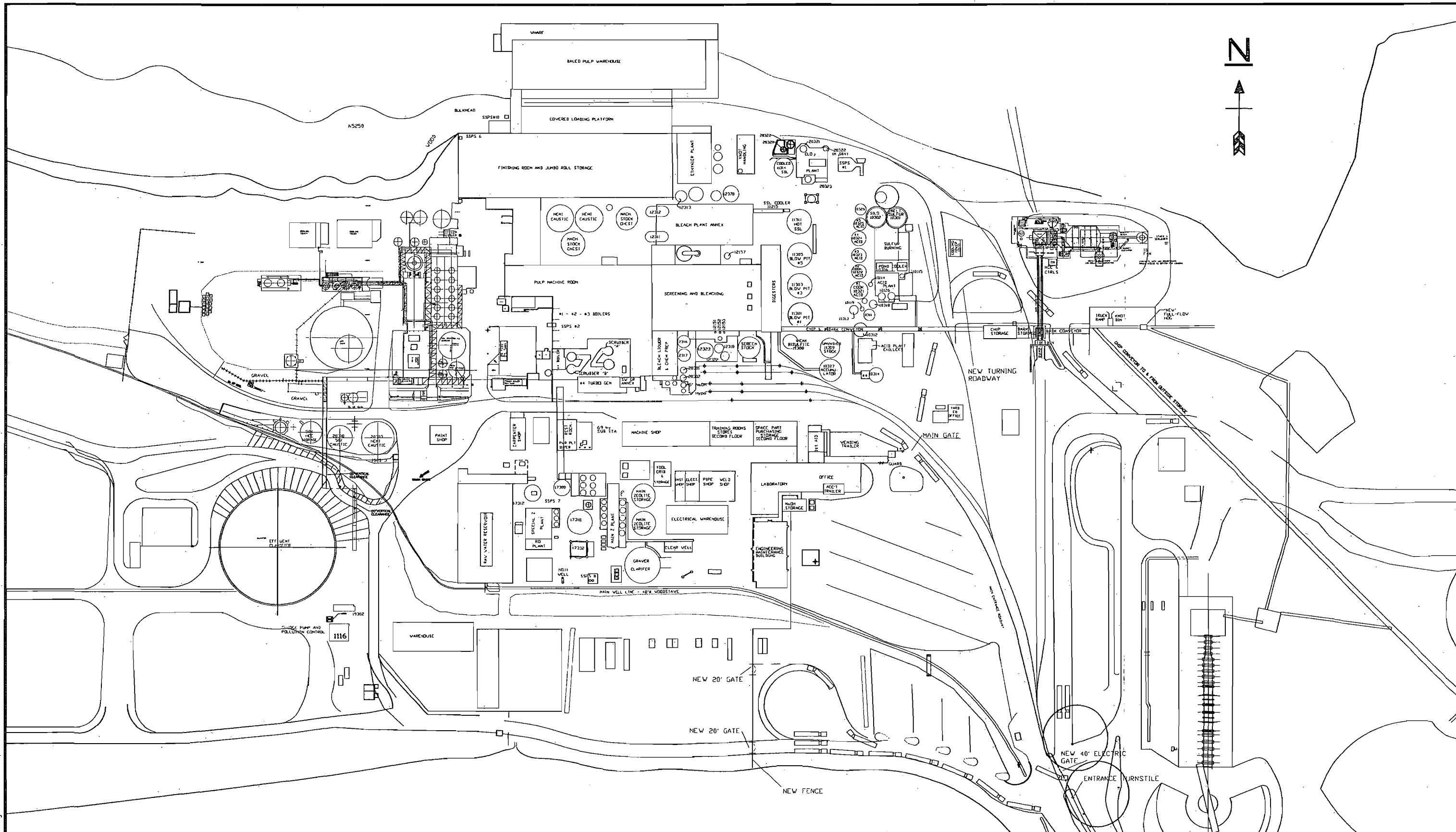
Additional Requirements Comment


Empty box for Additional Requirements Comment.

ATTACHMENT RPF-FI-C1

FACILITY PLOT PLAN

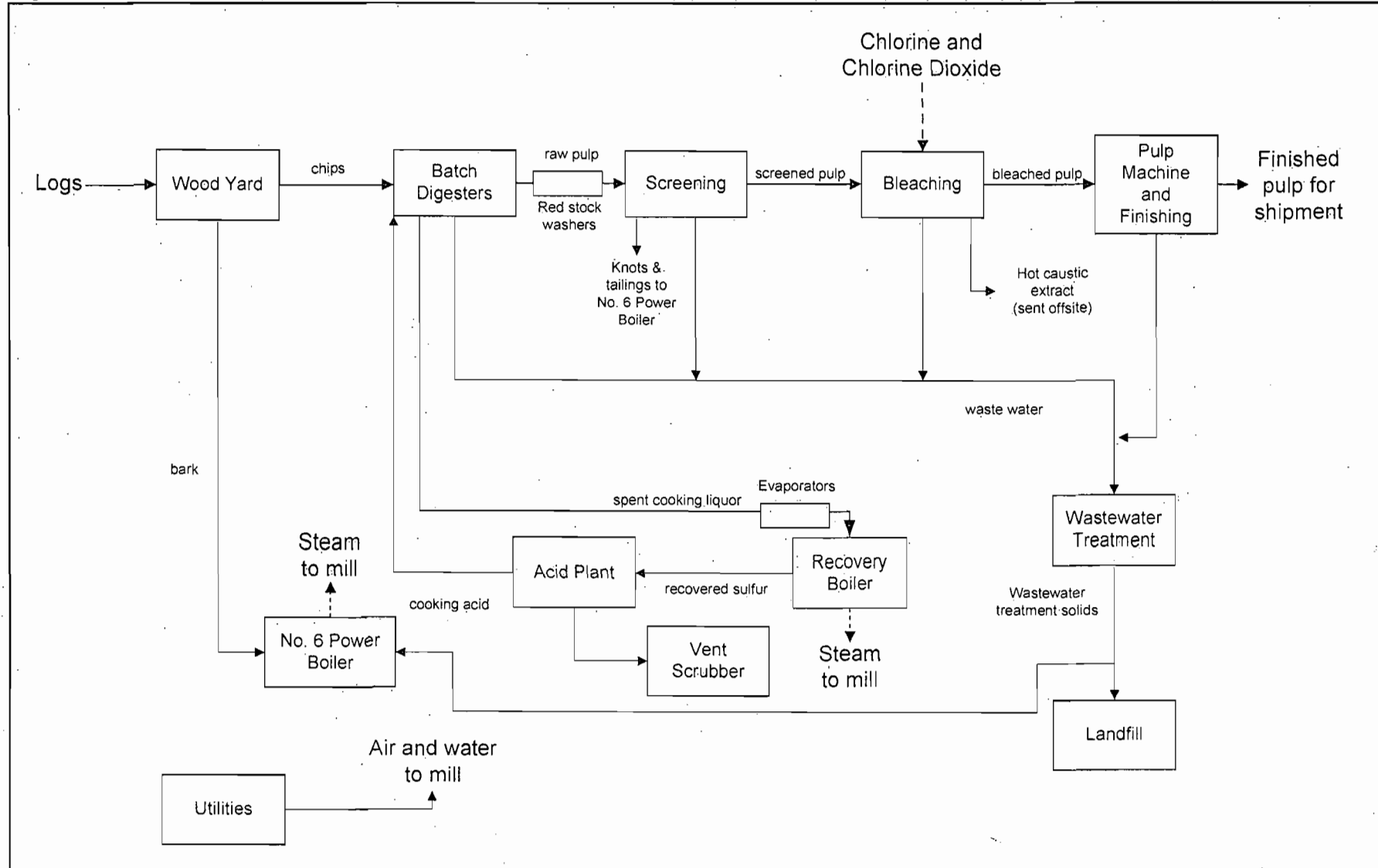
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| | | | | |
|--|-----------------|----------|-------|---|
|  Golder Associates GAINESVILLE, FLORIDA | SCALE | AS SHOWN | TITLE | FACILITY PLOT PLAN |
| | DATE | 06/18/09 | | |
| FILE No. | 09387544A001 | CHECK | NG | RAYONIER FACILITY - FERNANDINA BEACH, FLORIDA |
| PROJECT No. | 001-1001 REV. 0 | REVIEW | | |
| | | DESIGN | XXX | FIGURE |
| | | CADD | NRL | RPF-FI-C1 |

ATTACHMENT RPF-FI-C2

PROCESS FLOW DIAGRAM



Attachment RPF-FI-C2
 Process Flow Diagram – Facility
 Rayonier Performance Fibers LLC
 Fernandina Beach Mill

Process Flow Legend

- Solid/Liquid —————>
- Gas - - - - ->
- Steam - - - - ->

09387544\RPF-FI-C2.vsd
 Tab: FI-C2



ATTACHMENT RPF-FI-C3

**PRECAUTIONS TO PREVENT EMISSIONS
OF UNCONFINED PARTICULATE MATTER**

ATTACHMENT RPF – FI – C3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Reasonable precautions to include the following:

| Emissions Point Vent Number | Emissions Point Name | Description and Control Measures |
|-----------------------------|-----------------------------|---|
| WY001 | Chip pit blower | Fresh chips are pneumatically conveyed to a chip pile by a blower. Chipping technology minimizes the production of fines. Also, chips are made from freshly cut pine trees having a moisture content of about 50 percent. This moisture aids in keeping any dust that might be made airborne. |
| WY004 | Chip pile | Chipping technology minimizes the production of fines. Chips are made from freshly cut pine trees having a moisture content of about 50 percent. This moisture aids in keeping any dust that might be made airborne. Also, frequent rains keep the chip pile sufficiently wet to control windborne particulate. |
| WY006 | Bark pile | Bark has at least 50 percent moisture and is created in large pieces. Some of the bark must be hogged before burning. Therefore, little becomes airborne from the pile. Furthermore, frequent rains maintain the pile at sufficient moisture to suppress dusting. |
| AP003 | Molten sulfur handling Area | Fugitive emissions from the molten sulfur handling areas are regulated by Rule 62-296.411, F.A.C. These rules require curbing and drip pans at unloading areas. Cleanup of spills must occur periodically. Logs must be kept on spills. All of these actions are implemented. They provide the means of minimizing the release of unconfined particulate matter from this source. |

EMISSIONS UNIT INFORMATION

Section [1]
No. 6 Power Boiler

III. EMISSIONS UNIT INFORMATION

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 an initial, revised or renewal 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. 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 an 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 or 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. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes 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}
No. 6 Power Boiler

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 emissions unit is a fluidized bed boiler burning a variety of fuels but mostly wood and bark.

3. Emissions Unit Identification Number: **022**

| | | | |
|--|--|--|--|
| 4. Emissions Unit Status Code: A | 5. Commence Construction Date: 11/2005 | 6. Initial Startup Date: 12/2006 | 7. Emissions Unit Major Group SIC Code: 2611 |
|--|--|--|--|

8. Federal Program Applicability: (Check all that apply)
- Acid Rain Unit
 - CAIR Unit
 - Hg Budget Unit

9. Package Unit:
Manufacturer: **NA** Model Number:

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

11. Emissions Unit Comment:

EMISSIONS UNIT INFORMATION

**Section [1]
No. 6 Power Boiler**

Emissions Unit Control Equipment/Method: Control 1 of 7

1. Control Equipment/Method Description:
Gravity Collector – Medium Efficiency

2. Control Device or Method Code: **005**

Emissions Unit Control Equipment/Method: Control 2 of 7

1. Control Equipment/Method Description:
Electrostatic Precipitator – High Efficiency

2. Control Device or Method Code: **010**

Emissions Unit Control Equipment/Method: Control 3 of 4

1. Control Equipment/Method Description:
Scrubber

2. Control Device or Method Code: **129**

Emissions Unit Control Equipment/Method: Control 4 of 7

1. Control Equipment/Method Description:
Overfire Air

2. Control Device or Method Code: **204**

EMISSIONS UNIT INFORMATION

**Section [1]
No. 6 Power Boiler**

Emissions Unit Control Equipment/Method: Control 5 of 7

- | |
|--|
| 1. Control Equipment/Method Description: Staged Combustion |
| 2. Control Device or Method Code: 025 |

Emissions Unit Control Equipment/Method: Control 6 of 7

- | |
|---|
| 1. Control Equipment/Method Description: Flue Gas Recirculation |
| 2. Control Device or Method Code: 026 |

Emissions Unit Control Equipment/Method: Control 7 of 7

- | |
|---|
| 1. Control Equipment/Method Description: Should it be necessary to lower NOx emissions to achieve the annual NOx limit, the boiler is designed to accommodate an SNCR system. |
| 2. Control Device or Method Code: 107 |

Emissions Unit Control Equipment/Method: Control ____ of ____

- | |
|--|
| 1. Control Equipment/Method Description: |
| 2. Control Device or Method Code: |

EMISSIONS UNIT INFORMATION

Section [1]

No. 6 Power Boiler

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: | | | | | |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: | | | | | |
| 5. Discharge Type Code: V | | 6. Stack Height: 190 above ground feet | | 7. Exit Diameter: 10 feet | |
| 8. Exit Temperature: 402°F | | 9. Actual Volumetric Flow Rate: 248,000 acfm | | 10. Water Vapor: 24 % | |
| 11. Maximum Dry Standard Flow Rate: 115,000 dscfm | | | 12. Nonstack Emission Point Height: NA feet | | |
| 13. Emission Point UTM Coordinates... Zone: East (km): North (km): | | | 14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS) | | |
| 15. Emission Point Comment: Stack parameters based on August 2008 stack testing. | | | | | |

EMISSIONS UNIT INFORMATION

Section [1]
No. 6 Power Boiler

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 6

| | | |
|--|------------------------------------|---|
| 1. Segment Description (Process/Fuel Type): External Combustion Boiler; Fluidized Bed Combustion Boilers; Green bark at about 50% moisture. | | |
| 2. Source Classification Code (SCC): 1-01-009-12 | | 3. SCC Units: tons burned |
| 4. Maximum Hourly Rate: 58.33 | 5. Maximum Annual Rate: 438,000 | 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. Max hourly based on 525 MMBtu/hr (24-hr avg). Max annual based on 450 MMBtu/hr. | | |

Segment Description and Rate: Segment 2 of 6

| | | |
|---|-----------------------------------|---|
| 1. Segment Description (Process/Fuel Type): External Combustion Boiler; Fluidized Bed Combustion Boilers; Knots and sidehill fines recovered as process byproduct at about 50% - 60% moisture. | | |
| 2. Source Classification Code (SCC): 1-01-009-12 | | 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]
 No. 6 Power Boiler

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)**Segment Description and Rate:** Segment 3 of 6

| | | |
|---|--|--|
| 1. Segment Description (Process/Fuel Type): External Combustion Boilers; Coke; Tire Derived Fuel. | | |
| 2. Source Classification Code (SCC): 1-01-008-01 | | 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 6

| | | |
|---|--|---|
| 1. Segment Description (Process/Fuel Type): External Combustion Boiler; Residual Oil; No. 6 fuel oil. | | |
| 2. Source Classification Code (SCC): 1-01-004-01 | | 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. | | |

EMISSIONS UNIT INFORMATION

Section [1]
No. 6 Power Boiler

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

Segment Description and Rate: Segment 5 of 6

| | | |
|---|--|---|
| 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. | | |
| 2. Source Classification Code (SCC): 1-02-013-01 | | 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. | | |

Segment Description and Rate: Segment 6 of 6

| | | |
|---|--|--|
| 1. Segment Description (Process/Fuel Type): External Combustion Boiler; Fluidized Bed Combustion Boilers; Sludge | | |
| 2. Source Classification Code (SCC): 1-01-009-12 | | 3. SCC Units: tons burned |
| 4. Maximum Hourly Rate: 2.5 | 5. Maximum Annual Rate: 16,425 | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur: 1.49 | 8. Maximum % Ash: 10.13 | 9. Million Btu per SCC Unit: 15.43 |
| 10. Segment Comment: Maximum hourly rate based on 60 TPD (dry) wastewater sludge. Maximum annual rate based on 45 TPD (dry) wastewater sludge. All values are on dry basis. | | |

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [1] of [9]
Particulate Matter - PM

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|---|--|---|--|
| 1. Pollutant Emitted: PM | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 36.75 lb/hour 138.0 tons/year | | 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: 0.07 lb/MMBtu Reference: Permit No. 0890004-021-AC | | 7. Emissions Method Code: 0 | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: 525 MMBtu/hr x 0.07 lb/MMBtu = 36.75 lbs/hr Annual: 450 MMBtu/hr x 0.07 lb/MMBtu x 1/2000 tons/lbs x 8760 hr/year = 138.0 TPY | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: | | | |

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [1] of [9]
Particulate Matter - PM

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 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 | 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: EPA Method 5 | |
| 6. Allowable Emissions Comment (Description of Operating Method): Based on 62-296.410(2)(b)(2). In 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 | 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: EPA Method 5 | |
| 6. Allowable Emissions Comment (Description of Operating Method): Based on 40 CFR 60.42 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: OTHER | 2. Future Effective Date of Allowable Emissions: |
| 3. Allowable Emissions and Units: 0.07 lb/MMBtu | 4. Equivalent Allowable Emissions: 36.75 lb/hour 138.0 tons/year |
| 5. Method of Compliance: EPA Method 5 or 17 | |
| 6. Allowable Emissions Comment (Description of Operating Method): Permit No. 0890004-021-AC 0.07 lb/MMBtu x 450 MMBtu/hr x 8760/2000 = 138.0 TPY 0.07 lb/MMBtu x 525 MMBtu/hr = 36.75 lb/hr | |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|--|--|---|--|
| 1. Pollutant Emitted: PM10 | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 36.75 lb/hour 138.0 tons/year | | 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: 0.07 lb/MMBtu Reference: Assume 100% of PM | | 7. Emissions Method Code: | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: 525 MMBtu/hr x 0.07 lb/MMBtu = 36.75 lbs/hr Annual: 450 MMBtu/hr x 0.07 lb/MMBtu x 1/2000 tons/lbs x 8760 hr/yr = 138.0 TPY | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: 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. | | | |

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [2] of [9]
Particulate Matter – PM10

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 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): | |

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

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [3] of [9]
Sulfur Dioxide – SO2

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –

POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|--|--|---|--|
| 1. Pollutant Emitted: SO2 | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 420 lb/hour 210 tons/year | | 4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: 0.8 lb/MMBtu Reference: 40 CFR 60.43(a)(1) | | 7. Emissions Method Code: 0 | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: 525 MMBtu/hr x 0.8 lb/MMBtu = 420.0 lbs/hr Annual: 450 MMBtu/hr x 0.1065 lb/MMBtu x 1/2000 tons/lbs x 8760 hr/year = 210.0 TPY | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: Limits based on Permit No. 0890004-021-AC. | | | |

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [3] of [9]
Sulfur Dioxide – SO2

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 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 | 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: SO2 CEMS | |
| 6. Allowable Emissions Comment (Description of Operating Method): Based on 40 CFR 60.43 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 2

| | |
|--|---|
| 1. Basis for Allowable Emissions Code: ESPCSD | 2. Future Effective Date of Allowable Emissions: |
| 3. Allowable Emissions and Units: 210 tons/yr | 4. Equivalent Allowable Emissions: 47.95 lb/hour 210.0 tons/year |
| 5. Method of Compliance: CEMS for SO2 | |
| 6. Allowable Emissions Comment (Description of Operating Method): 0.1065 lb/MMBtu x 450 MMBtu/hr x 8760/2000 = 210.0 TPY 0.1065 lb/MMBtu x 525 MMBtu/hr = 47.95 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): | |

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [4] of [9]
Nitrogen Oxides – NOx

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|---|--|---|--|
| 1. Pollutant Emitted: NOx | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 157.5 lb/hour 380.0 tons/year | | 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: 0.3 lb/MMBtu Reference: Hourly 40 CFR 60.44(a)(2) | | 7. Emissions Method Code: 0 | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: 525 MMBtu/hr x 0.3 lb/MMBtu = 157.5 lbs/hr Annual: 450 MMBtu/hr x 0.1928 lb/MMBtu x 8760/2000 = 380.0 TPY | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: | | | |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 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 | 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: NOx CEMS | |
| 6. Allowable Emissions Comment (Description of Operating Method): Based on 40 CFR 60.44(a)(2) 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: |
| 3. Allowable Emissions and Units: 380.0 TPY | 4. Equivalent Allowable Emissions: 101.2 lb/hour 380.0 tons/year |
| 5. Method of Compliance: CEMS for NOx. | |
| 6. Allowable Emissions Comment (Description of Operating Method): 0.1928 lb/MMBtu x 450 MMBtu/hr x 8760/2000 = 380.0 TPY 0.1928 lb/MMBtu x 525 MMBtu/hr = 101.2 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, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|--|--|---|--|
| 1. Pollutant Emitted: CO | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 157.5 lb/hour 591.3 tons/year | | 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: 0.3 lb/MMBtu, 30-day rolling average Reference: Permit No. 0890004-021-AC | | 7. Emissions Method Code: 0 | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: 525 MMBtu/hr x 0.3 lb/MMBtu = 157.5 lbs/hr Annual: 450 MMBtu/hr x 0.3 lb/MMBtu x 8760/2000 = 591.3 TPY | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: | | | |

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [5] of [9]
Carbon Monoxide – CO

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

| | |
|--|---|
| 1. Basis for Allowable Emissions Code: OTHER | 2. Future Effective Date of Allowable Emissions: |
| 3. Allowable Emissions and Units: 0.3 lb/MMBtu, 30 day rolling average | 4. Equivalent Allowable Emissions: 157.5 lb/hour 591.3 tons/year |
| 5. Method of Compliance: CO CEMS | |
| 6. Allowable Emissions Comment (Description of Operating Method): Based on permit No. 0890004-021-AC Hourly: 525 MMBtu/hr x 0.3 lb/MMBtu = 157.5 lbs/hr (as a 30-day rolling avg.) Annual: 450 MMBtu/hr x 0.3 lb/MMBtu x 8760/2000 = 591.3 TPY | |

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, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|---|--|---|--|
| 1. Pollutant Emitted: Pb | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 0.015 lb/hour 0.056 tons/year | | 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: 2.86×10^{-5} lb/MMBtu Reference: Based on 2008 emission test | | 7. Emissions Method Code: 1 | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: $525 \text{ MMBtu/hr} \times 2.86 \times 10^{-5} \text{ lb/MMBtu} = 0.015 \text{ lbs/hr}$ Annual: $450 \text{ MMBtu/hr} \times 2.86 \times 10^{-5} \text{ lb/MMBtu} \times 8760/2000 = 0.056 \text{ TPY}$ | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: There are no regulation based emission limits for Pb applicable to this boiler. | | | |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 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): | |

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

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [7] of [9]
Hydrogen Chloride – HCl

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|---|--|---|--|
| 1. Pollutant Emitted: HCl | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 6.83 lb/hour 25.62 tons/year | | 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: 0.013 lb/MMBtu Reference: Based on 2008 emission test | | 7. Emissions Method Code: 1 | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: 525 MMBtu/hr x 0.013 lb/MMBtu = 6.83 lbs/hr Annual: 450 MMBtu/hr x 0.013 lb/MMBtu x 8760/2000 = 25.62 TPY | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: There are no regulation based emission limits for HCl applicable to this boiler. | | | |

EMISSIONS UNIT INFORMATIONSection [1]
No. 6 Power Boiler**POLLUTANT DETAIL INFORMATION**Page [7] of [9]
Hydrogen Chloride - HCl**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS****Complete Subsection F2 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): | |

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 POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [8] of [9]
Mercury - Hg

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|---|--|---|--|
| 1. Pollutant Emitted: Hg | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 0.004 lb/hour 0.015 tons/year | | 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: See calculation and comment. Reference: NCASI Technical Bulletin 858 | | 7. Emissions Method Code: 0 | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: $525 \text{ MMBtu/hr} \times 7.4 \times 10^{-6} \text{ lb/MMBtu} = 3.89 \times 10^{-3} \text{ lbs/hr}$ Annual: $450 \text{ MMBtu/hr} \times 7.4 \times 10^{-6} \text{ lb/MMBtu} \times 8760/2000 = 0.015 \text{ TPY}$ | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: Hg emissions from burning bark and knots are calculated using emission factors from NCASI Technical Bulletin 858, Table 20B. | | | |

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [8] of [9]
Mercury - Hg

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

| | |
|--|---|
| 1. Basis for Allowable Emissions Code: RULE | 2. Future Effective Date of Allowable Emissions: |
| 3. Allowable Emissions and Units: 3.2 kg/day | 4. Equivalent Allowable Emissions: 0.3 lb/hour 1.3 tons/year |
| 5. Method of Compliance: EPA Method 101A | |
| 6. Allowable Emissions Comment (Description of Operating Method): Based on 40 CFR 61, Subpart E Emission limit applies only when sludge is burned in No. 6 Power 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): | |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 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 operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

| | | | |
|--|--|---|--|
| 1. Pollutant Emitted: VOC | | 2. Total Percent Efficiency of Control: | |
| 3. Potential Emissions: 1.05 lb/hour 3.94 tons/year | | 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5. Range of Estimated Fugitive Emissions (as applicable): to tons/year | | | |
| 6. Emission Factor: 0.002 lb/MMBtu Reference: Permit No. 0890004-021-AC | | 7. Emissions Method Code: 0 | |
| 8.a. Baseline Actual Emissions (if required): tons/year | | 8.b. Baseline 24-month Period: From: To: | |
| 9.a. Projected Actual Emissions (if required): tons/year | | 9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years | |
| 10. Calculation of Emissions: Hourly: 525 MMBtu/hr x 0.002 lb/MMBtu = 1.05 lbs/hr Annual: 450 MMBtu/hr x 0.002 lb/MMBtu x 8760/2000 = 3.94 TPY | | | |
| 11. Potential, Fugitive, and Actual Emissions Comment: | | | |

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
No. 6 Power Boiler

Page [9] of [9]
VOC

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

| | |
|---|---|
| 1. Basis for Allowable Emissions Code: OTHER | 2. Future Effective Date of Allowable Emissions: |
| 3. Allowable Emissions and Units: 0.002 lb/MMBtu | 4. Equivalent Allowable Emissions: 1.05 lb/hour 3.94 tons/year |
| 5. Method of Compliance: EPA Method 25A | |
| 6. Allowable Emissions Comment (Description of Operating Method): Based on Permit No. 0890004-021-AC Hourly: 525 MMBtu/hr x 0.002 lb/MMBtu = 1.05 lbs/hr Annual: 450 MMBtu/hr x 0.002 lb/MMBtu x 8760/2000 = 3.94 TPY | |

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]
No. 6 Power Boiler

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G 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: VE30 | 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: EPA Method 9 | |
| 5. Visible Emissions Comment: Rule 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: EPA Method 9 | |
| 5. Visible Emissions Comment: 40 CFR 60.42(a)(2) | |

EMISSIONS UNIT INFORMATION

Section [1]
No. 6 Power Boiler

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 4

| | |
|---|---|
| 1. Parameter Code: EM | 2. Pollutant(s): SO2 |
| 3. CMS Requirement: | <input checked="" 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 imposed by permit for this boiler to avoid PSD review. | |

Continuous Monitoring System: Continuous Monitor 2 of 4

| | |
|--|---|
| 1. Parameter Code: EM | 2. Pollutant(s): NOx |
| 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 a rule requirement for a NOx CEM [40 CFR 60.45a]. A NOx cap is imposed by permit for this boiler to avoid PSD review. This monitor is also used to document compliance with the emissions cap. | |

EMISSIONS UNIT INFORMATION

Section [1]
No. 6 Power Boiler

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor 3 of 4

| | |
|---|---|
| 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 NOx and SO2 are imposed for this boiler to avoid PSD review. This monitor is used to document compliance with the emissions cap. | |

Continuous Monitoring System: Continuous Monitor 4 of 4

| | |
|--|---|
| 1. Parameter Code: EM | 2. Pollutant(s): CO |
| 3. CMS Requirement: | <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information... Manufacturer: Teledyne Instruments Model Number: 300E Serial Number: 1140 | |
| 5. Installation Date: 12/31/2006 | 6. Performance Specification Test Date: 2/19/2007 |
| 7. Continuous Monitor Comment: CO monitor required to determine compliance with emission limits. | |

EMISSIONS UNIT INFORMATION

Section [1]
No. 6 Power Boiler

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>RPF-EU1-11</u> <input type="checkbox"/> 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>RPF-EU1-12</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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>12/15/2007</u> |
| 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 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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>12/15/2007</u> <input type="checkbox"/> Not Applicable |
| 6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment B</u> 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 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 checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u> <input type="checkbox"/> Not Applicable |

EMISSIONS UNIT INFORMATION

**Section [1]
No. 6 Power Boiler**

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

| |
|--|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) 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 (Rules 62-212.400(4)(d) and 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 |

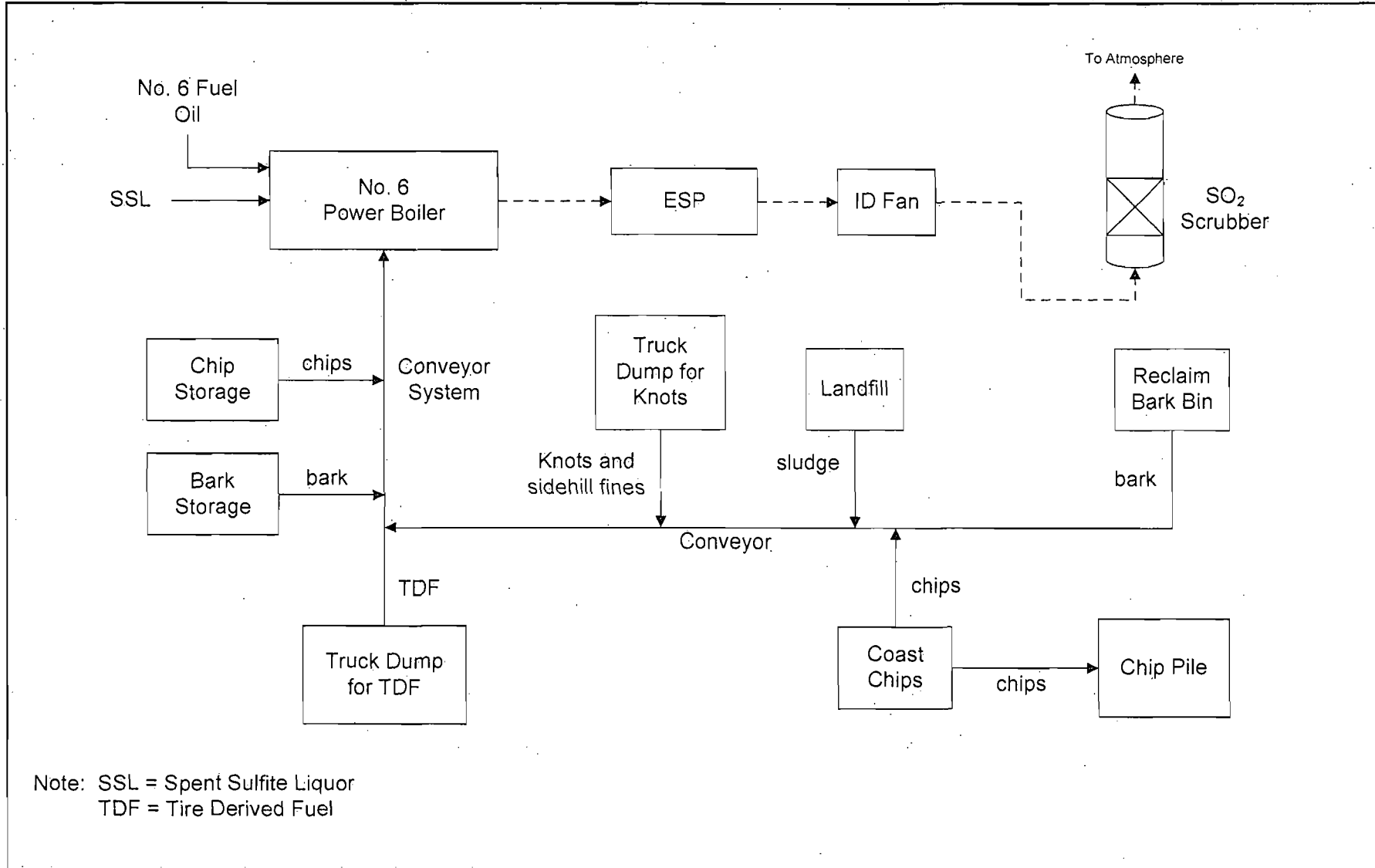
Additional Requirements for Title V Air Operation Permit Applications

| |
|---|
| 1. Identification of Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ |
| 2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable |

Additional Requirements Comment

ATTACHMENT RPF-EU1-II

PROCESS FLOW DIAGRAM



Attachment RPF-EU1-11
Process Flow Diagram for No. 6 Power Boiler
Rayonier Performance Fibers LLC
Fernandina Beach Mill

Process Flow Legend

- Solid/Liquid
- Gas
- Steam

09387544\RPF-EU1-11.vsd

Tab: EU1-11



ATTACHMENT RPF-EU1-I2

FUEL ANALYSIS

ATTACHMENT RPF-EU1-I2
NO. 6 POWER BOILER FUEL ANALYSES

Available proximate and ultimate fuel analyses for fuels burned in No. 6 Power Boiler are presented below.

| Fuel | Bark | Knots | TDF | No. 6 Fuel Oil | SSL | Sludge |
|---------------------------|-------------|--------------|------------|-----------------------|------------|---------------|
| 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 | 0.44 |
| Ash | 2.27 | 0.41 | 4.78 | | 0.93 | 2.97 |
| Moisture | 47.59 | 66.94 | 0.37 | | 40.37 | 70.68 |
| Ultimate Analysis | | | | | | |
| Carbon | 28.07 | 19.49 | 83.00 | 85.70 | 28.89 | 15.18 |
| Hydrogen | 3.00 | 2.10 | 7.50 | 10.50 | 3.20 | 1.68 |
| Oxygen | 18.82 | 10.49 | 0.50 | 0.92 | 19.61 | 8.75 |
| Nitrogen | 0.22 | 0.17 | 0.37 | 0.92 | 1.99 | 0.30 |
| Chlorine | 0.01 | 0.01 | | | 0.02 | 0.066 |
| Sulfur | 0.03 | 0.4 | 1.85 | 2.50 | 5.01 | 0.44 |
| Ash | 2.27 | 0.41 | 4.78 | 0.08 | 0.93 | 2.97 |
| Moisture | 47.59 | 66.94 | 2.00 | | 40.37 | 70.68 |

TDF = Tire-derived fuel.

SSL = Spent Sulfite Liquor.

All values are as received, wet basis.

ATTACHMENT A

ATTACHMENT A
SUPPLEMENTAL INFORMATION FOR
CONSTRUCTION PERMIT APPLICATION

1.0 PROJECT DESCRIPTION

Rayonier Performance Fibers LLC (Rayonier) currently operates the Fernandina Beach Mill under Title V operating permit No. 0890004-020-AV. Rayonier currently operates the No. 6 Power Boiler [emissions unit ID No. (EU) 022] at the mill, among other sources, to support the paper-making process. This boiler is permitted to burn biomass consisting of green bark, knots, chips, fines, and landscape byproducts; tire-derived fuel (TDF); No. 6 fuel oil and facility-generated on-specification used oil with a maximum sulfur content of 2.5 percent, by weight; spent sulfite liquor (SSL) with a maximum sulfur content of 5.5 percent; and No. 2 fuel oil for startup.

Rayonier is requesting the ability to add wastewater treatment (WWT) system sludge as an allowable fuel to be burned in the No. 6 Power Boiler. The request is based on trial burns of WWT system sludge performed under Air Construction Permit No. 0890004-021-AC. Rayonier is requesting to burn a maximum of 60 tons per day (TPD) (dry) of WWT sludge with a daily average of 45 TPD (dry). The sludge consists of primary WWT solids with approximately 30-percent secondary sludge returned from the aeration stabilization basin. The sludge is pressed to have varying moistures that range from 60 percent to 80 percent prior to firing in the No. 6 Power Boiler.

The maximum design heat input rates to the No. 6 Power Boiler will not change as a result of the proposed project. The permitted annual average operating rate to the power boiler is currently 450 million British thermal units per hour (MMBtu/hr). The maximum heat input rate based on a 24-hour average is 525 MMBtu/hr.

The burning of sludge will require no physical changes to be made to the No. 6 Power Boiler. The capacity of the boiler will not be affected by this change. Sludge from the WWT system will be loaded onto the existing biomass feed conveying system through an existing frontend loader dump hopper. The sludge will commingle with the biomass on the conveyor and then will be fed into the No. 6 Power Boiler along with the biomass.

The trial burn plan previously developed to determine whether an emissions increase would occur due to sludge burning in the boiler is described in Attachment B. Included are emission test results for

both baseline testing (without sludge) and testing with sludge being added to the biomass. The trial burn plan is summarized in Table 1. Pollutants tested included various metals, hydrogen chloride (HCl), mercury (Hg), particulate matter (PM), dioxins/furans, and volatile organic compounds (VOCs). Continuous emissions monitoring system (CEMS) data were obtained for sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and opacity. The results of the trial burn are discussed in Section 2.0.

2.0 AIR EMISSIONS

Results of the baseline emissions tests (without sludge) and the trial burn tests (with sludge) are summarized in Tables 2 and 3. Supportive information is provided in Attachment B. The complete emission test reports performed by Weston Solutions have been previously submitted to the Florida Department of Environmental Protection (FDEP). Baseline emission tests were conducted in August 2008. The No. 6 Power Boiler was operating at an average steam rate of 279,000 pounds per hour (lb/hr) during the baseline tests. No baseline tests for PM were conducted, since historical PM test data already exist for the boiler (see Attachment B). No baseline tests were conducted for VOCs.

Sludge burning tests were conducted in August 2008 while burning bark, TDF, and sludge. The boiler was operating at an average steam load of 267,000 lb/hr during these tests, while the sludge feed rate was approximately 60 TPD, dry.

Sludge burning tests were also conducted in September and October 2008 while burning bark and sludge. The boiler was operating at an average steam load of 280,000 lb/hr during these tests, while the sludge feed rate was approximately 60 TPD, dry.

Lastly, sludge burning tests were conducted in April 2009 for PM emissions only, while burning bark and sludge. Two conditions were tested during this trial burn: 1) sludge feed rate of 45 TPD, dry, and 2) sludge feed rate of 60 TPD, dry. These tests were conducted in order to determine the highest sludge burning rate that could be accommodated and still meet the PM emission limit for the boiler. The boiler was operating at an average steam load of approximately 280,000 lb/hr during each of these tests.

As shown in Table 2, historic (baseline) PM emissions have ranged from 6.0 to 30.3 lb/hr, or from 0.012 to 0.060 pound per MMBtu (lb/MMBtu) heat input. During the sludge burning tests, PM

emissions averaged 18 lb/hr when burning sludge at 45 TPD, dry, and 15 lb/hr when burning sludge at 60 TPD, dry. Both of these results are well within the historical range of emission test results, demonstrating there is no increase in PM emissions when burning sludge in the No. 6 Power Boiler.

A summary of the other pollutant emissions from the trial burn is presented in Table 3. For each pollutant, the maximum emissions increase due to sludge burning was determined by subtracting the baseline emission test result from the highest of the two test results for sludge burning conditions. For the eight metals tested (arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium); some showed slight increases in average emissions on a lb/hr basis while burning sludge, while others showed slight decreases. Average emissions of the total selected metals (TSM) increased slightly, by 0.0105 lb/hr, when burning sludge.

Emissions of Hg were all tested at non-detectable levels, both for the baseline and the sludge burning conditions. Thus, no increase in emissions could be ascertained. Emissions of HCl were shown to increase by 5.5 lb/hr, while dioxins/furans increased by 2.9×10^{-9} lb/hr. VOC emissions during sludge burning were below the allowable VOC emissions for the No. 6 Power Boiler of 0.002 lb/MMBtu.

Although some pollutants are shown as having increased emissions in Table 3, the increase may not be statistically significant. To determine whether an actual, statistically significant emission rate increase due to sludge burning had occurred for the pollutants shown in Table 3, the methodology of Title 40, Part 60 of the Code of Federal Regulations (40 CFR 60), Appendix C, was used. Appendix C is used under the U.S. Environmental Protection Agency (EPA) New Source Performance Standards (NSPS) to determine if an actual emission rate increase, in lb/hr, has occurred due to a proposed change, based on a 95-percent confidence level.

The results of applying the Appendix C methodology are presented in Tables 4 and 5. As shown, the calculated "t" value for the sludge burning tests is less than the critical "t" value for TSM, arsenic, chromium, lead, and manganese. Because the calculated "t" value is less than the critical "t" value, no increase in emission rate has occurred for these pollutants. HCl and dioxins/furans emissions are shown to have increased when sludge is burned in the boiler. A copy of the Appendix C methodology is included in Attachment B of this application.

CEMS data were also collected during the trial burns. Emissions of NO_x, SO₂, and CO in lb/MMBtu and opacity levels, during both the baseline and the trial burn tests, are summarized in Table 6. The

test runs shown in Table 6 were selected because they did not overlap with other test runs. These data indicate a small increase in average NO_x and CO emissions and a small decrease in SO₂ emissions when burning sludge. Opacity also increased slightly. However, these limited data do not reflect the long-term variability in NO_x and CO emissions. Long term data are presented in Table 7. These long-term data show daily average NO_x emissions ranging from 0.014 lb/MMBtu to 0.30 lb/MMBtu and daily average CO emissions ranging from 0.020 lb/MMBtu to 1.35 lb/MMBtu. During the sludge trial burn, NO_x and CO emissions averaged 0.18 lb/MMBtu and 0.06 lb/MMBtu respectively. These emissions when burning sludge do not exceed the historical average NO_x and CO emissions. As a result, emissions of NO_x and CO are not expected to increase due to sludge burning.

3.0 RULE APPLICABILITY

3.1 Prevention of Significant Deterioration Requirements

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

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

Since the sludge trial burn results showed small increases in emissions for HCl and dioxins/furans, these pollutants were analyzed further to determine the associated annual increase in emissions. VOC emissions were also included, although baseline VOC emissions were not tested. The increase in VOC emissions was assumed to be 0.002 lb/MMBtu, which is the permit limit for the boiler. It was assumed in this analysis that the No. 6 Power Boiler operated continuously at its maximum annual heat input limit of 450 MMBtu/hr for 8,760 hours per year. As shown in Table 8, the increase in annual VOC emissions due to sludge burning is below the PSD significant emission rate. Therefore, the addition of sludge as an allowable fuel to be burned in the No. 6 Power Boiler will not trigger PSD review.

3.2 National Emission Standards for Mercury

Provisions in 40 CFR 61, Subpart E, apply to stationary sources that incinerate or dry WWT plant sludge. Under this rule, emissions of Hg to the atmosphere from sludge incineration plants must not exceed 3.2 kilograms (7.1 pounds) per 24-hour period. As demonstrated by the sludge trial burn, emissions of Hg when bark, TDF, and sludge were burned were below detectable limits (i.e., less than 0.00015 lb/hr). Therefore, the No. 6 Power Boiler will comply with 40 CFR 61, Subpart E, when burning sludge.

TABLE 1
SUMMARY OF TRIAL BURN PLAN FOR SLUDGE IN NO. 6 POWER BOILER
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| Pollutant | Baseline - Bark and TDF | | Bark and TDF w/60 | Bark w/60 ODTD Sludge | | | Bark w/45 |
|--------------------|----------------------------|-----------|--------------------------|-----------------------|----------|-----------|--------------------------|
| | 14-Aug-08 | 15-Aug-08 | ODTD Sludge 18-Aug-08 | 10-Sep-08 | 1-Oct-08 | 16-Apr-09 | ODTD Sludge 15-Apr-09 |
| | <u>Number of Test Runs</u> | | | | | | |
| Particulate Matter | -- | -- | -- | -- | -- | 3 | 3 |
| Hydrogen Chloride | 2 | 1 | 3 | 2 | 1 | -- | -- |
| TSM | 2 | 1 | 3 | 1 | 2 | -- | -- |
| Mercury | 2 | 1 | 3 | 1 | 2 | -- | -- |
| Dioxins/Furans | 1 | 1 | 3 | 1 | 1 | -- | -- |
| Total Hydrocarbons | -- | -- | 2 | -- | -- | -- | -- |
| NO _x | 5 | 3 | 8 | 4 | 4 | -- | -- |
| SO ₂ | 5 | 3 | 8 | 4 | 4 | -- | -- |
| CO | 5 | 3 | 8 | 4 | 4 | -- | -- |

TSM = Total selected metals. Includes Arsenic, Beryllium, Cadmium, Chromium, Lead, Manganese, Nickel and Selenium.
 ODTD = oven-dried tons per day.

TABLE 2
SUMMARY OF PM EMISSION TEST RESULTS
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| Pollutant | Baseline Ranges | Bark w/ 45 ODTD Sludge (15-Apr-09) | Bark w/ 60 ODTD Sludge (16-Apr-09) | Maximum Increase in Emissions |
|---------------------------|------------------------|---|---|--|
| Particulate Matter | | | | |
| lb/hr | 6.0 -30.3 | 18 | 15 | 0 |
| lb/MMBtu | 0.012 - 0.060 | 0.037 | 0.032 | 0 |

ODTD = oven-dried tons per day.

**TABLE 3
SUMMARY OF METAL EMISSIONS TEST RESULTS**

| Pollutant | Baseline- (Bark and TDF) (Aug-08) | Bark and TDF w/ 60 ODTD Sludge (Aug-Sept-Oct-08) | Bark w/ 60 ODTD Sludge (Aug-Sept-Oct-08) | Maximum Increase in Emissions |
|---------------------------|--------------------------------------|---|---|-------------------------------------|
| Arsenic | | | | |
| Emission Rate, lb/hr | 4.5E-04 | 3.6E-04 | 5.4E-04 | 9.00E-05 |
| Emission Factor, lb/MMBtu | 1.02E-06 | 7.33E-07 | 1.17E-06 | 1.50E-07 |
| Beryllium | | | | |
| Emission Rate, lb/hr | <7.8E-05 | <7.5E-05 | <6.0E-05 | -3.00E-06 |
| Emission Factor, lb/MMBtu | <1.73E-07 | <1.37E-07 | <1.31E-07 | -3.60E-08 |
| Cadmium | | | | |
| Emission Rate, lb/hr | 2.9E-04 | 3.0E-04 | 2.7E-04 | 1.00E-05 |
| Emission Factor, lb/MMBtu | 6.64E-07 | 5.32E-07 | 5.89E-07 | -7.50E-08 |
| Chromium | | | | |
| Emission Rate, lb/hr | 1.5E-03 | 2.0E-03 | 1.6E-03 | 5.00E-04 |
| Emission Factor, lb/MMBtu | 3.39E-06 | 3.82E-06 | 3.48E-06 | 4.30E-07 |
| Lead | | | | |
| Emission Rate, lb/hr | 6.4E-03 | 3.3E-03 | 1.3E-02 | 6.60E-03 |
| Emission Factor, lb/MMBtu | 1.45E-05 | 6.14E-06 | 2.86E-05 | 1.41E-05 |
| Manganese | | | | |
| Emission Rate, lb/hr | 2.1E-02 | 2.1E-02 | 2.6E-02 | 5.00E-03 |
| Emission Factor, lb/MMBtu | 4.76E-05 | 3.94E-05 | 5.70E-05 | 9.40E-06 |
| Nickel | | | | |
| Emission Rate, lb/hr | 2.7E-03 | 2.7E-03 | 1.6E-03 | 0.00 |
| Emission Factor, lb/MMBtu | 6.29E-06 | 4.66E-06 | 3.39E-06 | -1.63E-06 |
| Selenium | | | | |
| Emission Rate, lb/hr | <7.8E-04 | <7.5E-04 | <6.0E-04 | -3.00E-05 |
| Emission Factor, lb/MMBtu | <1.73E-06 | <1.37E-06 | <1.31E-06 | -3.60E-07 |
| TSM | | | | |
| Emission Rate, lb/hr | 3.32E-02 | 3.05E-02 | 4.37E-02 | 1.05E-02 |
| Emission Factor, lb/MMBtu | 7.54E-05 | 5.68E-05 | 9.60E-05 | 2.06E-05 |
| Mercury | | | | |
| Emission Rate, lb/hr | <9.1E-05 | <1.5E-04 | <1.1E-04 | ND |
| Emission Factor, lb/MMBtu | <2.00E-07 | <2.84E-07 | <2.5E-07 | ND |
| Hydrogen Chloride | | | | |
| lb/hr | 0.74 | 3.2 | 6.22 | 5.48 |
| lb/MMBtu | 0.0017 | 0.0064 | 0.013 | 0.011 |
| Dioxins/Furans | | | | |
| lb/hr | 1.70E-09 | 4.60E-09 | 1.59E-09 | 2.90E-09 |
| lb/MMBtu | 3.44E-12 | 9.00E-12 | 3.44E-12 | 5.56E-12 |
| Total Hydrocarbons | | | | |
| lb/hr | - | 0.33 | - | - |
| lb/MMBtu | - | 0.001 | - | - |

Note: for emission rates reported as non-detectable, the detection limit was used to obtain the averages.
 ND = all data, baseline and with sludge, were below detection limits.
 ODTD = oven-dried tons per day.

TABLE 4
DETERMINATION OF EMISSION RATE CHANGE FOR NO. 6 POWER BOILER BY 40 CFR 60, APPENDIX C

| Test Date | Run # | TSM Emissions (lb/hr) | | HCl Emissions (lb/hr) | | Dioxins/Furans Emissions (lb/hr) | |
|---------------------------------|-------|-----------------------|--------------------|-----------------------|--------------------|----------------------------------|--------------------|
| | | Tests Before Change | Tests After Change | Tests Before Change | Tests After Change | Tests Before Change | Tests After Change |
| <u>Pre-Change Tests</u> | | | | | | | |
| Aug-08 | 1 | 2.5E-02 | | 0.12 | | 1.6E-09 | |
| Aug-08 | 2 | 4.9E-02 | | 0.61 | | 1.8E-09 | |
| Aug-08 | 3 | 2.5E-02 | | 1.50 | | | |
| <u>Post-Change Tests</u> | | | | | | | |
| 10-Sep-08 | 1 | | 5.7E-02 | | 7.0 | | 4.7E-09 |
| Sep-Oct-08 | 2 | | 3.9E-02 | | 9.8 | | 4.5E-09 |
| 1-Oct-08 | 3 | | 3.6E-02 | | 1.9 | | |

| | | | | | | |
|--------------------------------|-----------|----------|------------|-------|------------|----------|
| Number= | 3 | 3 | 3 | 3 | 2 | 2 |
| Avg. = | 3.29E-02 | 4.40E-02 | 0.74 | 6.23 | 1.70E-09 | 4.60E-09 |
| Sample Var. = | 1.96E-04 | 1.31E-04 | 0.49 | 16.04 | 2.88E-20 | 2.88E-20 |
| Pooled Estimate = | 1.28E-02 | | 2.875 | | 1.70E-10 | |
| Calculated "t" value= | 1.063 | | 2.339 | | 17.088 | |
| Critical "t" value= | 2.132 | | 2.132 | | 2.920 | |
| Emission Rate Increase? | No | | Yes | | Yes | |

Note: Critical "t" values are calculated using lookup table for (n[a] + n[b] - 2).

- Conclusion: a) If the average emission rate after the change is less than the average emission rate before the change, there is no increase in emissions.
 b) If the average emission rate after the change is greater than the average emission rate before the change, and the calculated "t" value is greater than the critical "t" value, then there has been an increase in the emission rate (with 95% confidence):

**TABLE 5
DETERMINATION OF EMISSION RATE CHANGE FOR NO. 6 POWER BOILER BY 40 CFR 60, APPENDIX C
INDIVIDUAL METALS**

| Test Date | Run # | Arsenic Emissions (lb/hr) | | Chromium Emissions (lb/hr) | | Lead Emissions (lb/hr) | | Manganese Emissions (lb/hr) | |
|---------------------------------|-------|---------------------------|--------------------|----------------------------|--------------------|------------------------|--------------------|-----------------------------|--------------------|
| | | Tests Before Change | Tests After Change | Tests Before Change | Tests After Change | Tests Before Change | Tests After Change | Tests Before Change | Tests After Change |
| <u>Pre-Change Tests</u> | | | | | | | | | |
| 14-Apr-08 | 1 | 4.8E-04 | | 1.1E-03 | | 5.1E-03 | | 1.5E-02 | |
| 14-Apr-08 | 2 | 5.7E-04 | | 2.4E-03 | | 1.1E-02 | | 3.0E-02 | |
| 15-Aug-08 | 3 | 3.1E-04 | | 1.0E-03 | | 3.1E-03 | | 1.8E-02 | |
| <u>Post-Change Tests</u> | | | | | | | | | |
| Aug-Sep-08 | 1 | | 4.3E-04 | | 2.0E-03 | | 2.9E-02 | | 2.3E-02 |
| Aug-Oct-08 | 2 | | 5.5E-04 | | 2.5E-03 | | 6.4E-03 | | 2.9E-02 |
| Aug-Oct-08 | 3 | | 6.2E-04 | | 1.5E-03 | | 4.9E-03 | | 2.6E-02 |

| | | | | | | | | | |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|---|
| Number= | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Avg. = | 4.5E-04 | 5.3E-04 | 1.5E-03 | 2.0E-03 | 6.4E-03 | 1.3E-02 | 2.1E-02 | 2.6E-02 | |
| Sample Var. = | 1.74E-08 | 9.23E-09 | 6.10E-07 | 2.50E-07 | 1.69E-05 | 1.82E-04 | 6.30E-05 | 9.00E-06 | |
| Pooled Estimate = | 1.15E-04 | | 6.56E-04 | | 9.98E-03 | | 6.00E-03 | | |
| Calculated "t" value= | 0.849 | | 0.934 | | 0.863 | | 1.021 | | |
| Critical "t" value= | 2.132 | | 2.132 | | 2.132 | | 2.132 | | |
| Emission Rate Increase? | No | | No | | No | | No | | |

Note: Critical "t" values are calculated using lookup table for (n[a] + n[b] - 2).

- Conclusion: a) If the average emission rate after the change is less than the average emission rate before the change, there is no increase in emissions.
 b) If the average emission rate after the change is greater than the average emission rate before the change, and the calculated "t" value is greater than the critical "t" value, then there has been an increase in the emission rate (with 95% confidence).

**TABLE 6
SUMMARY OF CEMS DATA DURING SLUDGE TRIAL BURN
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH**

| Run | | | | Baseline - Bark and TDF | | | | | |
|-----------|----------------|------------|----------|--------------------------------|--------------------------------|-------------------|--------------|--------------------------|----------------------|
| Date | | Start Time | End time | NO _x (lbs/MMBtu) | SO ₂ (lbs/MMBtu) | CO (lbs/MMBtu) | Opacity % | F Factor (dscf/MMBtu) | Steam Flow (kpph) |
| 14-Aug-08 | Metals- Run 1 | 10:40 AM | 2:58 PM | 0.15 | 0.27 | 0.03 | 3.1 | 9,626 | 286 |
| 14-Aug-08 | HCl - Run 1 | 2:43 PM | 3:43 PM | 0.16 | 0.38 | 0.04 | 3.5 | 9,628 | 282 |
| 14-Aug-08 | Metals - Run 2 | 3:37 PM | 5:48 PM | 0.17 | 0.34 | 0.05 | 4.9 | 9,625 | 282 |
| 15-Aug-08 | Metals - Run 3 | 8:23 AM | 10:34 AM | 0.18 | 0.2 | 0.06 | 3.9 | 9,608 | 270 |
| Average | | | | 0.165 | 0.298 | 0.045 | 3.9 | 9,622 | 280 |

| Run | | | | Bark and TDF w/ 60 ODTD Sludge | | | | | |
|-----------|----------------|------------|----------|--------------------------------|--------------------------------|-------------------|--------------|--------------------------|----------------------|
| Date | | Start Time | End time | NO _x (lbs/MMBtu) | SO ₂ (lbs/MMBtu) | CO (lbs/MMBtu) | Opacity % | F Factor (dscf/MMBtu) | Steam Flow (kpph) |
| 18-Aug-08 | Metals - Run 1 | 8:30 AM | 10:45 AM | 0.17 | 0.28 | 0.06 | 4 | 9,222 | 267 |
| 18-Aug-08 | HCl - Run 1 | 10:30 AM | 11:42 AM | 0.18 | 0.24 | 0.04 | 3.9 | 9,622 | 270 |
| 18-Aug-08 | Metals - Run 2 | 11:43 AM | 2:04 PM | 0.18 | 0.25 | 0.09 | 4.2 | 9,618 | 269 |
| 18-Aug-08 | Metals - Run 3 | 2:49 PM | 5:31 PM | 0.19 | 0.24 | 0.05 | 4.3 | 9,619 | 267 |
| Average | | | | 0.180 | 0.253 | 0.060 | 4.1 | 9,520 | 268 |

| Run | | | | Bark w/ 60 ODTD Sludge | | | | | |
|-----------|----------------|------------|----------|--------------------------------|--------------------------------|-------------------|--------------|--------------------------|----------------------|
| Date | | Start Time | End time | NO _x (lbs/MMBtu) | SO ₂ (lbs/MMBtu) | CO (lbs/MMBtu) | Opacity % | F Factor (dscf/MMBtu) | Steam Flow (kpph) |
| 10-Sep-08 | Metals- Run 1 | 12:16 PM | 2:24 PM | 0.18 | 0.53 | 0.05 | 5.2 | 9,610 | 277 |
| 10-Sep-08 | HCl - Run 2 | 3:10 PM | 4:15 PM | 0.20 | 0.51 | 0.04 | 6 | 9,605 | 288 |
| 1-Oct-08 | Metals - Run 2 | 9:52 AM | 12:01 PM | 0.17 | 0.04 | 0.05 | 4.6 | 9,595 | 285 |
| 1-Oct-08 | Metals -Run 3 | 12:28 PM | 2:53 PM | 0.19 | 0.05 | 0.04 | 4 | 9,597 | 273 |
| Average | | | | 0.185 | 0.283 | 0.045 | 5.0 | 9,602 | 281 |

| | | | | | | | | | |
|---|--|--|--|-------|--------|--------|-----|-------|-----|
| Average of conditions containing sludge | | | | 0.183 | 0.268 | 0.053 | 4.5 | 9,561 | 275 |
| Maximum Increase in Emissions | | | | 0.018 | -0.030 | 0.0075 | 0.7 | | |

TABLE 7
HISTORIC 2009 NO_x AND CO CEMS DATA FOR NO. 6 POWER BOILER
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| Month | DAILY AVERAGE EMISSIONS | | | | | |
|------------|----------------------------|---------|---------|---------------|---------|---------|
| | NO _x (lb/MMBtu) | | | CO (lb/MMBtu) | | |
| | Minimum | Maximum | Average | Minimum | Maximum | Average |
| Jan-09 | 0.068 | 0.24 | 0.19 | 0.020 | 0.61 | 0.15 |
| Feb-09 | 0.016 | 0.27 | 0.17 | 0.031 | 0.35 | 0.13 |
| Mar-09 | 0.11 | 0.25 | 0.19 | 0.11 | 0.25 | 0.19 |
| Apr-09 | 0.17 | 0.30 | 0.20 | 0.048 | 0.24 | 0.10 |
| May-09 | 0.014 | 0.22 | 0.16 | 0.053 | 1.09 | 0.15 |
| Jun-09 | 0.14 | 0.24 | 0.17 | 0.047 | 1.35 | 0.18 |
| Jan-Jun-09 | 0.014 | 0.30 | 0.18 | 0.020 | 1.35 | 0.15 |

TABLE 8
PSD APPLICABILITY ANALYSIS, No. 6 POWER BOILER SLUDGE BURNING
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| Regulated Pollutant | Maximum Increase in Emissions | Ref. | Activity Factors | | Hourly Emissions (lb/hr) | Annual Emissions (TPY) | PSD Significant Emission Rate (TPY) |
|----------------------------|-------------------------------|------|------------------|--------------------|--------------------------|------------------------|-------------------------------------|
| | | | Hourly | Annual | | | |
| Volatile Organic Compounds | 0.002 lb/MMBtu | 3 | 525 MMBtu/hr | 3,942,000 MMBtu/yr | 1.05 | 3.94 | 40 |
| Hydrogen Chloride | 5.48 lb/hr | 1 | -- | 8,760 hr/yr | 5.48 | 24.0 | NA |
| Dioxins/Furans | 2.9E-09 lb/hr | 1 | -- | 8,760 hr/yr | 2.9E-09 | 1.3E-08 | NA |

References:

1. Emission factor based on the maximum increase in emissions found in Table 3.
2. Emission factor based on CEMS data collected during the trial burns. See Table 4.
3. Based on permit limit.

Sample Calculations:

Hourly Activity Factor = Maximum operational heat input (525 MMBtu/hr).
 Annual Activity Factor = Maximum operational heat input (450 MMBtu/hr) x hours of operation (8,760 hrs/yr).
 Hourly Emissions = Emission Factor x Activity Factor.
 Annual Emissions = Hourly Emissions / 2,000 (lb/ton).

ATTACHMENT B

EMISSION TESTING RESULTS

ATTACHMENT B-1

BASELINE PM, NO_x, CO, AND OPACITY DATA

TABLE B-1a
BASELINE 2007-2008 PM AND OPACITY TEST RESULTS
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| Run | | | Particulate Matter | | Test Average | | Opacity | |
|-----------|------------|----------|--------------------|----------------|--------------|------------|---------|--|
| Date | Start Time | End Time | (lbs/hr) | (lbs PM/MMBtu) | (lb/hr) | (lb/MMBtu) | % | |
| 6-Mar-07 | 8:40 | 9:50 | 2.17 | 0.0056 | | | 0.04 | |
| 6-Mar-07 | 10:19 | 11:08 | 7.04 | 0.013 | 8.19 | 0.016 | 0.61 | |
| 6-Mar-07 | 13:48 | 14:43 | 7.17 | 0.014 | | | 1.73 | |
| 6-Mar-07 | 15:14 | 16:00 | 16.38 | 0.031 | | | 1.74 | |
| 7-Mar-07 | 8:30 | 9:06 | 3.30 | 0.0063 | | | 0.6 | |
| 7-Mar-07 | 9:25 | 10:01 | 15.35 | 0.030 | | | 1.93 | |
| 7-Mar-07 | 10:23 | 10:59 | 7.51 | 0.014 | 10.76 | 0.021 | 3.75 | |
| 7-Mar-07 | 15:08 | 15:44 | 5.60 | 0.014 | | | 1.11 | |
| 7-Mar-07 | 15:57 | 16:33 | 13.03 | 0.025 | | | 6.78 | |
| 7-Mar-07 | 16:54 | 17:27 | 19.78 | 0.038 | | | 2.28 | |
| 8-Mar-07 | 8:59 | 9:35 | 4.34 | 0.0083 | | | 0.73 | |
| 8-Mar-07 | 9:59 | 10:35 | 5.39 | 0.0104 | | | 0.68 | |
| 8-Mar-07 | 10:56 | 11:35 | 7.34 | 0.014 | 6.76 | 0.013 | 1.98 | |
| 8-Mar-07 | 14:26 | 15:02 | 11.33 | 0.022 | | | 1.17 | |
| 8-Mar-07 | 15:16 | 15:52 | 5.42 | 0.0105 | | | 1.76 | |
| 29-Mar-07 | 10:10 | 10:52 | 2.47 | 0.0051 | | | 1.41 | |
| 29-Mar-07 | 13:28 | 14:04 | 4.98 | 0.0097 | 6.03 | 0.012 | 1.39 | |
| 29-Mar-07 | 14:38 | 15:14 | 10.63 | 0.021 | | | 2.17 | |
| 30-Mar-07 | 10:46 | 12:01 | 37.24 | 0.076 | | | 4.63 | |
| 30-Mar-07 | 12:42 | 13:52 | 22.82 | 0.044 | 30.29 | 0.060 | 3.28 | |
| 30-Mar-07 | 14:14 | 15:01 | 30.80 | 0.060 | | | 2.73 | |
| 20-Jun-07 | 9:55 | 11:45 | 5.60 | 0.010 | | | - | |
| 20-Jun-07 | 13:11 | 13:59 | 14.80 | 0.026 | 17.13 | 0.030 | - | |
| 20-Jun-07 | 15:14 | 16:02 | 31.00 | 0.054 | | | - | |
| 15-May-08 | 8:30 | 9:34 | 25.19 | 0.05 | | | 2.79 | |
| 15-May-08 | 11:05 | 12:08 | 23.98 | 0.05 | 24.49 | 0.048 | 2.46 | |
| 15-May-08 | 13:05 | 14:08 | 24.31 | 0.05 | | | 2.69 | |
| | | | | | Minimum | 6.0 | 0.012 | |
| | | | | | Maximum | 30.3 | 0.060 | |
| | | | | | Average | 14.8 | 0.029 | |

TABLE B-1b
HISTORIC 2009 NO_x AND CO CEMS DATA
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| DAILY AVERAGE VALUES | | |
|-----------------------------|--------------------------------------|--------------------------|
| Run Date | NO_x (lb/MMBtu) | CO (lb/MMBtu) |
| 01-Jan-09 | 0.068 | 0.10 |
| 02-Jan-09 | 0.23 | 0.044 |
| 03-Jan-09 | 0.24 | 0.022 |
| 04-Jan-09 | 0.23 | 0.020 |
| 05-Jan-09 | 0.20 | 0.032 |
| 06-Jan-09 | 0.20 | 0.035 |
| 07-Jan-09 | 0.22 | 0.054 |
| 08-Jan-09 | 0.22 | 0.089 |
| 09-Jan-09 | 0.21 | 0.10 |
| 10-Jan-09 | 0.19 | 0.087 |
| 11-Jan-09 | 0.19 | 0.10 |
| 12-Jan-09 | -- | -- |
| 13-Jan-09 | 0.10 | 0.37 |
| 14-Jan-09 | -- | -- |
| 15-Jan-09 | 0.15 | 0.52 |
| 16-Jan-09 | 0.20 | 0.13 |
| 17-Jan-09 | 0.20 | 0.080 |
| 18-Jan-09 | 0.21 | 0.039 |
| 19-Jan-09 | 0.21 | 0.074 |
| 20-Jan-09 | 0.21 | 0.072 |
| 21-Jan-09 | 0.22 | 0.15 |
| 22-Jan-09 | -- | -- |
| 23-Jan-09 | 0.15 | 0.61 |
| 24-Jan-09 | -- | -- |
| 25-Jan-09 | 0.18 | 0.14 |
| 26-Jan-09 | 0.19 | 0.20 |
| 27-Jan-09 | 0.18 | 0.33 |
| 28-Jan-09 | 0.19 | 0.22 |
| 29-Jan-09 | 0.21 | 0.15 |
| 30-Jan-09 | 0.21 | 0.14 |
| 31-Jan-09 | 0.20 | 0.17 |
| 01-Feb-09 | 0.19 | 0.13 |
| 02-Feb-09 | 0.20 | 0.10 |
| 03-Feb-09 | 0.20 | 0.12 |
| 04-Feb-09 | 0.21 | 0.18 |
| 05-Feb-09 | -- | -- |
| 06-Feb-09 | 0.27 | 0.091 |
| 07-Feb-09 | 0.016 | 0.031 |

TABLE B-1b
HISTORIC 2009 NO_x AND CO CEMS DATA
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| DAILY AVERAGE VALUES | | |
|----------------------|-------------------------------|------------------|
| Run Date | NO _x (lb/MMBtu) | CO (lb/MMBtu) |
| 08-Feb-09 | 0.018 | 0.054 |
| 09-Feb-09 | -- | 0.038 |
| 10-Feb-09 | -- | -- |
| 11-Feb-09 | -- | -- |
| 12-Feb-09 | -- | -- |
| 13-Feb-09 | -- | -- |
| 14-Feb-09 | -- | -- |
| 15-Feb-09 | -- | -- |
| 16-Feb-09 | -- | -- |
| 17-Feb-09 | -- | 0.054 |
| 18-Feb-09 | 0.11 | 0.20 |
| 19-Feb-09 | 0.13 | 0.14 |
| 20-Feb-09 | 0.20 | 0.15 |
| 21-Feb-09 | 0.19 | 0.089 |
| 22-Feb-09 | 0.19 | 0.13 |
| 23-Feb-09 | 0.19 | 0.14 |
| 24-Feb-09 | 0.23 | 0.35 |
| 25-Feb-09 | 0.15 | 0.35 |
| 26-Feb-09 | 0.16 | 0.12 |
| 27-Feb-09 | 0.21 | 0.086 |
| 28-Feb-09 | 0.21 | 0.081 |
| 01-Mar-09 | 0.19 | 1.15 |
| 02-Mar-09 | 0.19 | 0.19 |
| 03-Mar-09 | 0.20 | 0.15 |
| 04-Mar-09 | 0.19 | 0.16 |
| 05-Mar-09 | 0.17 | 0.20 |
| 06-Mar-09 | -- | -- |
| 07-Mar-09 | 0.11 | 1.13 |
| 08-Mar-09 | 0.21 | 0.15 |
| 09-Mar-09 | 0.19 | 0.11 |
| 10-Mar-09 | 0.25 | 0.13 |
| 11-Mar-09 | 0.18 | 0.13 |
| 12-Mar-09 | 0.18 | 0.095 |
| 13-Mar-09 | 0.18 | 0.10 |
| 14-Mar-09 | 0.19 | 0.11 |
| 15-Mar-09 | 0.18 | 0.12 |
| 16-Mar-09 | 0.20 | 0.58 |
| 17-Mar-09 | 0.18 | 0.16 |

TABLE B-1b
HISTORIC 2009 NO_x AND CO CEMS DATA
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| DAILY AVERAGE VALUES | | |
|----------------------|-------------------------------|------------------|
| Run Date | NO _x (lb/MMBtu) | CO (lb/MMBtu) |
| 18-Mar-09 | 0.21 | 0.10 |
| 19-Mar-09 | 0.21 | 0.086 |
| 20-Mar-09 | 0.20 | 0.10 |
| 21-Mar-09 | 0.23 | 0.17 |
| 22-Mar-09 | 0.15 | 0.069 |
| 23-Mar-09 | 0.17 | 0.086 |
| 24-Mar-09 | 0.20 | 0.10 |
| 25-Mar-09 | 0.21 | 0.078 |
| 26-Mar-09 | 0.21 | 0.087 |
| 27-Mar-09 | 0.20 | 0.080 |
| 28-Mar-09 | 0.21 | 0.078 |
| 29-Mar-09 | 0.22 | 0.082 |
| 30-Mar-09 | 0.20 | 0.069 |
| 31-Mar-09 | 0.18 | 0.11 |
| 01-Apr-09 | 0.19 | 0.10 |
| 02-Apr-09 | 0.24 | 0.24 |
| 03-Apr-09 | 0.30 | 0.075 |
| 04-Apr-09 | 0.17 | 0.11 |
| 05-Apr-09 | 0.21 | 0.070 |
| 06-Apr-09 | 0.18 | 0.048 |
| 07-Apr-09 | 0.19 | 0.054 |
| 08-Apr-09 | 0.20 | 0.066 |
| 09-Apr-09 | 0.20 | 0.10 |
| 10-Apr-09 | 0.19 | 0.069 |
| 11-Apr-09 | 0.22 | 0.081 |
| 12-Apr-09 | 0.27 | 0.084 |
| 13-Apr-09 | -- | 0.062 |
| 14-Apr-09 | 0.17 | 0.13 |
| 15-Apr-09 | 0.20 | 0.11 |
| 16-Apr-09 | 0.20 | 0.085 |
| 17-Apr-09 | 0.20 | 0.080 |
| 18-Apr-09 | 0.20 | 0.11 |
| 19-Apr-09 | 0.21 | 0.086 |
| 20-Apr-09 | 0.18 | 0.12 |
| 21-Apr-09 | 0.18 | 0.14 |
| 22-Apr-09 | 0.18 | 0.13 |
| 23-Apr-09 | 0.21 | 0.14 |
| 24-Apr-09 | 0.20 | 0.13 |

TABLE B-1b
HISTORIC 2009 NO_x AND CO CEMS DATA
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| DAILY AVERAGE VALUES | | |
|----------------------|-------------------------------|------------------|
| Run Date | NO _x (lb/MMBtu) | CO (lb/MMBtu) |
| 25-Apr-09 | 0.20 | 0.14 |
| 26-Apr-09 | 0.21 | 0.088 |
| 27-Apr-09 | 0.18 | 0.12 |
| 28-Apr-09 | 0.18 | 0.10 |
| 29-Apr-09 | 0.19 | 0.074 |
| 30-Apr-09 | 0.17 | 0.11 |
| 01-May-09 | 0.15 | 0.090 |
| 02-May-09 | 0.17 | 0.060 |
| 03-May-09 | 0.18 | 0.10 |
| 04-May-09 | 0.17 | 0.11 |
| 05-May-09 | 0.15 | 0.17 |
| 06-May-09 | 0.15 | 0.18 |
| 07-May-09 | 0.17 | 0.14 |
| 08-May-09 | 0.15 | 0.18 |
| 09-May-09 | -- | -- |
| 10-May-09 | 0.020 | -- |
| 11-May-09 | -- | -- |
| 12-May-09 | 0.014 | 1.09 |
| 13-May-09 | 0.052 | 0.61 |
| 14-May-09 | 0.15 | 0.14 |
| 15-May-09 | 0.16 | 0.10 |
| 16-May-09 | 0.18 | 0.059 |
| 17-May-09 | 0.17 | 0.060 |
| 18-May-09 | 0.17 | 0.11 |
| 19-May-09 | 0.18 | 0.11 |
| 20-May-09 | 0.18 | 0.13 |
| 21-May-09 | 0.18 | 0.13 |
| 22-May-09 | 0.19 | 0.071 |
| 23-May-09 | 0.20 | 0.091 |
| 24-May-09 | 0.19 | 0.091 |
| 25-May-09 | 0.17 | 0.090 |
| 26-May-09 | 0.19 | 0.061 |
| 27-May-09 | 0.22 | 0.053 |
| 28-May-09 | 0.19 | 0.056 |
| 29-May-09 | 0.19 | 0.057 |
| 30-May-09 | 0.20 | 0.079 |
| 31-May-09 | 0.21 | 0.067 |
| 01-Jun-09 | 0.16 | 0.14 |

TABLE B-1b
HISTORIC 2009 NO_x AND CO CEMS DATA
RAYONIER PERFORMANCE FIBERS LLC - FERNANDINA BEACH

| DAILY AVERAGE VALUES | | |
|-----------------------------|--------------------------------------|--------------------------|
| Run Date | NO_x (lb/MMBtu) | CO (lb/MMBtu) |
| 02-Jun-09 | 0.16 | 0.21 |
| 03-Jun-09 | 0.16 | 0.28 |
| 04-Jun-09 | 0.18 | 1.35 |
| 05-Jun-09 | 0.17 | 0.18 |
| 06-Jun-09 | 0.17 | 0.16 |
| 07-Jun-09 | 0.15 | 0.079 |
| 08-Jun-09 | 0.17 | 0.22 |
| 09-Jun-09 | 0.17 | 0.19 |
| 10-Jun-09 | 0.17 | 0.16 |
| 11-Jun-09 | 0.17 | 0.22 |
| 12-Jun-09 | 0.15 | 0.15 |
| 13-Jun-09 | 0.14 | 0.14 |
| 14-Jun-09 | 0.17 | 0.12 |
| 15-Jun-09 | 0.15 | 0.20 |
| 16-Jun-09 | 0.15 | 0.093 |
| 17-Jun-09 | 0.14 | 0.063 |
| 18-Jun-09 | 0.18 | 0.066 |
| 19-Jun-09 | 0.15 | 0.10 |
| 20-Jun-09 | 0.15 | 0.053 |
| 21-Jun-09 | 0.18 | 0.067 |
| 22-Jun-09 | 0.24 | 0.39 |
| 23-Jun-09 | 0.15 | 0.21 |
| 24-Jun-09 | 0.15 | 0.076 |
| 25-Jun-09 | 0.17 | 0.079 |
| 26-Jun-09 | 0.17 | 0.066 |
| 27-Jun-09 | 0.20 | 0.049 |
| 28-Jun-09 | 0.18 | 0.047 |
| 29-Jun-09 | 0.18 | 0.072 |
| 30-Jun-09 | 0.17 | 0.084 |
| Minimum | 0.014 | 0.020 |
| Maximum | 0.30 | 1.35 |
| Average | 0.18 | 0.15 |

ATTACHMENT B-2

**WESTON SOLUTIONS, INC.
2008 EMISSION TEST REPORT
(EXCERPT)**



SECTION 2 RESULTS AND DISCUSSION

Table 2-1 presents a summary of the emission testing results and Tables 2-2 through 2-10 present detailed summaries of the emission testing results. Any differences between the calculated results in the appendices and the reported results in the summary tables are due to rounding the results for presentation.

**TABLE 2-1
SUMMARY OF EMISSION TEST RESULTS**

| | Baseline (Bark and TDF) | Condition 2 (Bark, Sludge, and TDF) | Condition 3 (Bark and Sludge) |
|---------------------------|----------------------------|--|----------------------------------|
| Particulate Matter | | | |
| lb/hr | --- | 55 | 48 |
| lb/MMBtu | --- | 0.11 | 0.09 |
| Hydrogen Chloride | | | |
| lb/hr | <0.74 | 3.2 | 6.22 |
| lb/MMBtu | <0.0017 | 0.006 | 0.013 |
| Metals | | | |
| lb/hr | 3.26 E-02 | 2.98 E-02 | 4.34 E-02 |
| lb/MMBtu | 7.34 E-05 | 5.53 E-05 | 9.46 E-05 |
| Mercury | | | |
| lb/hr | <9.1 E-05 | <1.5 E-04 | <1.1 E-04 |
| lb/MMBtu | <2.00 E-07 | <2.84 E-07 | <2.5 E-07 |
| Dioxins/Furans | | | |
| lb/hr | 1.70 E-09 | 4.60 E-09 | 1.59 E-09 |
| lb/MMBtu | 3.44 E-12 | 9.00 E-12 | 3.44 E-12 |
| Total Hydrocarbons | | | |
| lb/hr | --- | 0.33 | --- |
| lb/MMBtu | --- | 0.001 | --- |



**TABLE 2-2
BFB BOILER
CONDITION ONE - BASELINE
SUMMARY OF METALS EMISSION TESTING**

| | Run 1 | Run 2 | Run 3 | Average |
|----------------------------------|------------|------------|------------|------------|
| Date | 8/14/08 | 8/14/08 | 8/15/08 | ---- |
| Time Began | 1040 | 1537 | 0823 | ---- |
| Time Ended | 1458 | 1748 | 1034 | ---- |
| Stack Gas Data | | | | |
| Temperature, °F | 404 | 401 | 390 | 398 |
| Velocity, ft/sec | 55 | 52 | 45 | 51 |
| Moisture, % | 24 | 23 | 21 | 23 |
| CO ₂ Concentration, % | 11.7 | 11.6 | 14.4 | 12.6 |
| O ₂ Concentration, % | 8.4 | 8.4 | 5.9 | 7.6 |
| VFR, x 10 ³ dscfm | 1.20 | 1.16 | 1.03 | 1.13 |
| Isokinetic Sampling Rate | 98 | 97 | 97 | 98 |
| Arsenic | | | | |
| Concentration, µg/dscm | 1.07 | 1.31 | <0.81 | <1.06 |
| Emission Rate, lb/hr | 4.8 E-04 | 5.7 E-04 | <3.1 E-04 | <4.5 E-04 |
| Emission Factor, lb/MMBtu | 1.07 E-06 | 1.32 E-06 | <6.76 E-07 | <1.02 E-06 |
| Beryllium | | | | |
| Concentration, µg/dscm | <0.17 | <0.18 | <0.20 | <0.18 |
| Emission Rate, lb/hr | <7.7 E-05 | <7.8 E-05 | <7.8 E-05 | <7.8 E-05 |
| Emission Factor, lb/MMBtu | <1.71 E-07 | <1.80 E-07 | <1.69 E-07 | <1.73 E-07 |
| Cadmium | | | | |
| Concentration, µg/dscm | 0.45 | 1.07 | 0.55 | 0.69 |
| Emission Rate, lb/hr | 2.0 E-04 | 4.7 E-04 | 2.1 E-04 | 2.9 E-04 |
| Emission Factor, lb/MMBtu | 4.52 E-07 | 1.08 E-06 | 4.60 E-07 | 6.64 E-07 |
| Chromium | | | | |
| Concentration, µg/dscm | 2.37 | 5.52 | 2.69 | 3.53 |
| Emission Rate, lb/hr | 1.1 E-03 | 2.4 E-03 | 1.0 E-03 | 1.5 E-03 |
| Emission Factor, lb/MMBtu | 2.38 E-06 | 5.54 E-06 | 2.25 E-06 | 3.39 E-06 |
| Lead | | | | |
| Concentration, µg/dscm | 11.3 | 25.3 | 8.02 | 14.9 |
| Emission Rate, lb/hr | 5.1 E-03 | 1.1 E-02 | 3.1 E-03 | 6.4 E-03 |
| Emission Factor, lb/MMBtu | 1.13 E-05 | 2.54 E-05 | 6.71 E-06 | 1.45 E-05 |
| Manganese | | | | |
| Concentration, µg/dscm | 33.1 | 69.7 | 47.5 | 50.1 |
| Emission Rate, lb/hr | 1.5 E-02 | 3.0 E-02 | 1.8 E-02 | 2.1 E-02 |
| Emission Factor, lb/MMBtu | 3.32 E-05 | 6.99 E-05 | 3.97 E-05 | 4.76 E-05 |
| Nickel | | | | |
| Concentration, µg/dscm | 5.40 | 8.79 | 5.52 | 6.57 |
| Emission Rate, lb/hr | 2.4 E-03 | 3.8 E-03 | 2.1 E-03 | 2.7 E-03 |
| Emission Factor, lb/MMBtu | 5.41 E-06 | 8.83 E-06 | 4.62 E-06 | 6.29 E-06 |
| Selenium | | | | |
| Concentration, µg/dscm | <1.71 | <1.80 | <2.02 | <1.84 |
| Emission Rate, lb/hr | <7.7 E-04 | <7.8 E-04 | <7.8 E-04 | <7.8 E-04 |
| Emission Factor, lb/MMBtu | <1.71 E-06 | <1.80 E-06 | <1.69 E-06 | <1.73 E-06 |
| TSM | | | | |
| Concentration, µg/dscm | ---- | ---- | ---- | 76.7 |
| Emission Rate, lb/hr | ---- | ---- | ---- | 3.26 E-02 |
| Emission Factor, lb/MMBtu | ---- | ---- | ---- | 7.34 E-05 |
| Mercury | | | | |
| Concentration, µg/dscm | <0.24 | <0.22 | <0.18 | <0.21 |
| Emission Rate, lb/hr | <1.1 E-04 | <9.5 E-05 | <6.9 E-05 | <9.1 E-05 |
| Emission Factor, lb/MMBtu | <2.39 E-07 | <2.11 E-07 | <1.50 E-07 | <2.00 E-07 |

TABLE 2-3
BFB BOILER
CONDITION ONE - BASELINE
SUMMARY OF HCl EMISSION RESULTS

| | Run 1 | Run 2 | Run 3 | Mean |
|----------------------------------|---------|---------|---------|---------|
| Date | 8/14/08 | 8/14/08 | 8/15/08 | ---- |
| Time Began | 1443 | 1555 | 0810 | ---- |
| Time Ended | 1543 | 1655 | 0910 | ---- |
| Stack Gas Data | | | | |
| Temperature, °F | 404 | 401 | 390 | 398 |
| Velocity, ft/sec | 55 | 53 | 45 | 51 |
| Moisture, % | 24 | 23 | 21 | 23 |
| CO ₂ Concentration, % | 11.7 | 11.6 | 14.4 | 12.6 |
| O ₂ Concentration, % | 8.4 | 8.4 | 5.9 | 7.6 |
| VFR, x 10 ⁵ dscfm | 1.20 | 1.16 | 1.03 | 1.13 |
| Hydrogen Chloride | | | | |
| Concentration, ppm | <0.18 | 0.92 | 2.6 | <1.2 |
| Emission Rate, lb/hr | <0.12 | 0.61 | 1.5 | <0.74 |
| Emission Factor, lb/MMBtu | <0.0003 | 0.0014 | 0.0033 | <0.0017 |

^aSource gas data and volumetric flow rate from concurrent metals sampling.

TABLE 2-4
BFB BOILER
CONDITION ONE – BASELINE
SUMMARY OF DIOXIN/FURAN EMISSIONS

| Parameter | Run 1 | Run 2 | Mean |
|---------------------------------------|-----------|-----------|-----------|
| Date | 8/14/08 | 8/15/08 | ---- |
| Time Started | 1034 | 0750 | ---- |
| Time Ended | 1650 | 1159 | ---- |
| Stack Gas Characteristics | | | |
| Temperature, °F | 406 | 390 | 398 |
| Moisture, % | 23 | 23 | 23 |
| Velocity, ft/sec | 52 | 48 | 50 |
| Carbon Dioxide, % | 15.0 | 14.1 | 14.6 |
| Oxygen, % | 6.0 | 6.0 | 6.0 |
| Volumetric Flow Rate | | | |
| Actual, x 10 ⁵ acfm | 2.46 | 2.40 | 2.35 |
| Dry Standard, x 10 ⁵ dscfm | 1.16 | 1.07 | 1.11 |
| Total Toxicity Equivalents | | | |
| Concentration, ng/dscm | 3.64 E-03 | 4.54 E-03 | 4.09 E-03 |
| Emission Rate, lb/hr | 1.58 E-09 | 1.82 E-09 | 1.70 E-09 |
| Emission Factor, lb/MMBtu | 3.07 E-12 | 3.81 E-12 | 3.44 E-12 |

TABLE 2-5
BFB BOILER
CONDITION TWO
SUMMARY OF METALS EMISSION TESTING

| | Run 1 | Run 2 | Run 3 | Average |
|----------------------------------|------------|------------|------------|------------|
| Date | 8/18/08 | 8/18/08 | 8/18/08 | --- |
| Time Began | 0830 | 1143 | 1449 | --- |
| Time Ended | 1045 | 1404 | 1731 | --- |
| Stack Gas Data | | | | |
| Temperature, °F | 403 | 400 | 396 | 400 |
| Velocity, ft/sec | 50 | 50 | 49 | 50 |
| Moisture, % | 24 | 24 | 22 | 23 |
| CO ₂ Concentration, % | 14.2 | 14.0 | 13.7 | 14.0 |
| O ₂ Concentration, % | 5.9 | 6.0 | 6.4 | 6.1 |
| VFR, x 10 ³ dscfm | 1.09 | 1.10 | 1.09 | 1.09 |
| Isokinetic Sampling Rate | 104 | 101 | 100 | 102 |
| Arsenic | | | | |
| Concentration, µg/dscm | 1.16 | 1.08 | <0.74 | <0.87 |
| Emission Rate, lb/hr | 4.7 E-04 | 4.5 E-04 | <3.0 E-04 | <3.6 E-04 |
| Emission Factor, lb/MMBtu | 9.67 E-07 | 9.10 E-07 | <6.43 E-07 | 7.33 E-07 |
| Beryllium | | | | |
| Concentration, µg/dscm | <0.18 | <0.18 | <0.19 | <0.19 |
| Emission Rate, lb/hr | <7.3 E-05 | <7.5 E-05 | <7.6 E-05 | <7.5 E-05 |
| Emission Factor, lb/MMBtu | <1.49 E-07 | <1.52 E-07 | <1.10 E-07 | <1.37 E-07 |
| Cadmium | | | | |
| Concentration, µg/dscm | 0.78 | 0.52 | 0.87 | 0.72 |
| Emission Rate, lb/hr | 3.2 E-04 | 2.1 E-04 | 3.5 E-04 | 3.0 E-04 |
| Emission Factor, lb/MMBtu | 6.5 E-07 | 4.35 E-07 | 5.11 E-07 | 5.32 E-07 |
| Chromium | | | | |
| Concentration, µg/dscm | 4.83 | 6.15 | 3.77 | 4.92 |
| Emission Rate, lb/hr | 2.0 E-03 | 2.5 E-03 | 1.5 E-03 | 2.0 E-03 |
| Emission Factor, lb/MMBtu | 4.4 E-06 | 5.18 E-06 | 2.22 E-06 | 3.82 E-06 |
| Lead | | | | |
| Concentration, µg/dscm | 7.76 | 9.07 | 7.28 | 8.04 |
| Emission Rate, lb/hr | 3.2 E-03 | 3.75 E-03 | 3.0 E-03 | 3.3 E-03 |
| Emission Factor, lb/MMBtu | 6.50 E-06 | 7.63 E-06 | 4.29 E-06 | 6.14 E-06 |
| Manganese | | | | |
| Concentration, µg/dscm | 51.9 | 56.3 | 46.4 | 51.6 |
| Emission Rate, lb/hr | 2.1 E-02 | 2.3 E-02 | 1.9 E-02 | 2.1 E-02 |
| Emission Factor, lb/MMBtu | 4.34 E-05 | 4.74 E-05 | 2.74 E-05 | 3.94 E-05 |
| Nickel | | | | |
| Concentration, µg/dscm | 4.03 | 4.85 | 11.1 | 6.65 |
| Emission Rate, lb/hr | 1.6 E-03 | 2.0 E-03 | 4.5 E-03 | 2.7 E-03 |
| Emission Factor, lb/MMBtu | 3.37 E-06 | 4.09 E-06 | 6.52 E-06 | 4.66 E-06 |
| Selenium | | | | |
| Concentration, µg/dscm | <1.78 | <1.81 | <1.86 | <1.82 |
| Emission Rate, lb/hr | <7.3 E-04 | <7.5 E-04 | <7.6 E-04 | <7.5 E-04 |
| Emission Factor, lb/MMBtu | <1.49 E-06 | <1.52 E-06 | <1.10 E-06 | <1.37 E-06 |
| TSM | | | | |
| Concentration, µg/dscm | --- | --- | --- | 72.8 |
| Emission Rate, lb/hr | --- | --- | --- | 2.98 E-02 |
| Emission Factor, lb/MMBtu | --- | --- | --- | 5.53 E-05 |
| Mercury | | | | |
| Concentration, µg/dscm | <0.42 | <0.37 | <0.32 | <0.37 |
| Emission Rate, lb/hr | <1.7 E-04 | <1.5 E-04 | <1.3 E-04 | <1.5 E-04 |
| Emission Factor, lb/MMBtu | <3.48 E-07 | <3.15 E-07 | <1.89 E-07 | <2.84 E-07 |

TABLE 2-6
BFB BOILER
CONDITION TWO
SUMMARY OF PM AND HCl EMISSION RESULTS

| | Run 1 | Run 2 | Run 3 | Mean |
|------------------------------------|---------|---------|---------|--------|
| Date | 8/18/08 | 8/18/08 | 8/18/08 | ---- |
| Time Began | 1030 | 1320 | 1525 | ---- |
| Time Ended | 1142 | 1432 | 1636 | ---- |
| Stack Gas Data | | | | |
| Temperature, °F | 402 | 402 | 401 | 401 |
| Velocity, ft/sec | 49 | 50 | 42 | 51 |
| Moisture, % | 22 | 23 | 23 | 23 |
| CO ₂ Concentration, % | 14.3 | 14.0 | 13.7 | 14.0 |
| O ₂ Concentration, % | 5.9 | 6.0 | 6.4 | 6.1 |
| VFR, x 10 ⁵ dscfm | 1.10 | 1.12 | 1.16 | 1.13 |
| Particulate Matter | | | | |
| Isokinetic Sampling Rate, % | 103 | 106 | 103 | 104 |
| Concentration, gr/dscf | 0.054 | 0.070 | 0.048 | 0.057 |
| Emission Rate, lb/hr | 51 | 67 | 48 | 55 |
| Emission Factor, lb/MMBtu | 0.103 | 0.134 | 0.096 | 0.111 |
| Hydrogen Chloride | | | | |
| Concentration, ppm | 4.2 | 5.0 | 5.8 | 5.0 |
| Emission Rate, lb/hr | 2.64 | 3.17 | 3.79 | 3.20 |
| Emission Rate, lb/MMBtu | 0.0053 | 0.0063 | 0.0076 | 0.0064 |
| Total Hydrocarbon as Carbon | | | | |
| Concentration, ppm dry as Carbon | 3.1 | 1.0 | 0.76 | 1.6 |
| Emission Rate, lb/hr | 0.63 | 0.21 | 0.16 | 0.33 |
| Emission Factor, lb/MMBtu | 0.0013 | 0.0004 | 0.0003 | 0.0007 |

TABLE 2-7
BFB BOILER
CONDITION TWO
SUMMARY OF DIOXINS/FURANS EMISSIONS

| Parameter | Run 1 | Run 2 | Mean |
|---------------------------------------|-----------|-----------|-----------|
| Date | 8/18/08 | 8/18/08 | ---- |
| Time Started | 0752 | 1340 | ---- |
| Time Ended | 1215 | 1758 | ---- |
| Stack Gas Characteristics | | | |
| Temperature, °F | 402 | 398 | 400 |
| Moisture, % | 24 | 21 | 23 |
| Velocity, ft/sec | 53 | 51 | 52 |
| Carbon Dioxide, % | 14.3 | 13.8 | 14.1 |
| Oxygen, % | 5.9 | 6.3 | 6.1 |
| Volumetric Flow Rate | | | |
| Actual, x 10 ⁵ acfm | 2.48 | 2.41 | 2.45 |
| Dry Standard, x 10 ⁵ dscfm | 1.15 | 1.17 | 1.16 |
| Total Toxicity Equivalents | | | |
| Concentration, ng/dscm | 1.10 E-02 | 1.02 E-02 | 1.06 E-02 |
| Emission Rate, lb/hr | 4.72 E-09 | 4.48 E-09 | 4.60 E-09 |
| Emission Factor, lb/MMBtu | 9.20 E-12 | 8.80 E-12 | 9.00 E-12 |

TABLE 2-8
BFB BOILER
CONDITION THREE
SUMMARY OF METALS EMISSION TESTING

| | Run 1 | Run 2 | Run 3 | Average |
|----------------------------------|------------|------------|------------|------------|
| Date | 9/10/08 | 10/1/08 | 10/1/08 | ---- |
| Time Began | 1216 | 0952 | 1228 | ---- |
| Time Ended | 1424 | 1201 | 1453 | ---- |
| Stack Gas Data | | | | |
| Temperature, °F | 405 | 412 | 409 | 409 |
| Velocity, ft/sec | 48 | 45 | 47 | 47 |
| Moisture, % | 22 | 21 | 24 | 22 |
| CO ₂ Concentration, % | 13.0 | 13.0 | 13.0 | 13.0 |
| O ₂ Concentration, % | 6.5 | 6.0 | 6.0 | 6.2 |
| VFR, x 10 ³ dscfm | 1.08 | 1.02 | 1.02 | 1.04 |
| Isokinetic Sampling Rate | 103 | 101 | 105 | 103 |
| Arsenic | | | | |
| Concentration, µg/dscm | 1.07 | 1.44 | 1.64 | 1.38 |
| Emission Rate, lb/hr | 4.3 E-04 | 5.5 E-04 | 6.2 E-04 | 5.4 E-04 |
| Emission Factor, lb/MMBtu | 9.31 E-07 | 1.21 E-06 | 1.38 E-06 | 1.17 E-06 |
| Beryllium | | | | |
| Concentration, µg/dscm | <0.18 | <0.14 | <0.14 | <0.15 |
| Emission Rate, lb/hr | <7.4 E-05 | <5.4 E-05 | <5.2 E-05 | <6.0 E-05 |
| Emission Factor, lb/MMBtu | <1.59 E-07 | <1.19 E-07 | <1.15 E-07 | <1.31 E-07 |
| Cadmium | | | | |
| Concentration, µg/dscm | 0.68 | 0.55 | 0.84 | 0.69 |
| Emission Rate, lb/hr | 2.8 E-04 | 2.1 E-04 | 3.2 E-04 | 2.7 E-04 |
| Emission Factor, lb/MMBtu | 6.00 E-07 | 4.60 E-07 | 7.09 E-07 | 5.89 E-07 |
| Chromium | | | | |
| Concentration, µg/dscm | 3.36 | 4.05 | 4.88 | 4.09 |
| Emission Rate, lb/hr | 1.4 E-03 | 1.6 E-03 | 1.8 E-03 | 1.6 E-03 |
| Emission Factor, lb/MMBtu | 2.92 E-06 | 3.41 E-06 | 4.11 E-06 | 3.48 E-06 |
| Lead | | | | |
| Concentration, µg/dscm | 71.1 | 16.6 | 13.0 | 33.6 |
| Emission Rate, lb/hr | 2.9 E-02 | 6.4 E-03 | 4.9 E-03 | 1.3 E-02 |
| Emission Factor, lb/MMBtu | 6.19 E-05 | 1.40 E-05 | 1.10 E-05 | 2.89 E-05 |
| Manganese | | | | |
| Concentration, µg/dscm | 57.0 | 75.8 | 68.4 | 67.1 |
| Emission Rate, lb/hr | 2.3 E-02 | 2.9 E-02 | 2.6 E-02 | 2.6 E-02 |
| Emission Factor, lb/MMBtu | 5.00 E-05 | 6.39 E-05 | 5.76 E-05 | 5.70 E-05 |
| Nickel | | | | |
| Concentration, µg/dscm | 5.39 | 2.50 | 4.01 | 3.97 |
| Emission Rate, lb/hr | 2.2 E-03 | 9.6 E-04 | 1.5 E-03 | 1.6 E-03 |
| Emission Factor, lb/MMBtu | 5.0 E-06 | 2.11 E-06 | 3.37 E-06 | 3.39 E-06 |
| Selenium | | | | |
| Concentration, µg/dscm | <1.82 | <1.41 | <1.37 | <1.53 |
| Emission Rate, lb/hr | <7.4 E-04 | <5.4 E-04 | <5.2 E-04 | <6.0 E-04 |
| Emission Factor, lb/MMBtu | <1.59 E-06 | <1.19 E-06 | <1.15 E-06 | <1.31 E-06 |
| TSM | | | | |
| Concentration, µg/dscm | ---- | ---- | ---- | 111 |
| Emission Rate, lb/hr | ---- | ---- | ---- | 4.34 E-02 |
| Emission Factor, lb/MMBtu | ---- | ---- | ---- | 9.46 E-05 |
| Mercury | | | | |
| Concentration, µg/dscm | <0.24 | <0.23 | <0.43 | <0.30 |
| Emission Rate, lb/hr | <9.9 E-05 | <8.8 E-05 | <1.6 E-04 | <1.1 E-04 |
| Emission Factor, lb/MMBtu | <2.13 E-07 | <1.86 E-07 | <3.61 E-07 | <2.5 E-07 |

TABLE 2-9
BFB BOILER
CONDITION THREE
SUMMARY OF PM AND HCl EMISSION RESULTS

| | Run 1 | Run 2 | Run 3 | Mean |
|----------------------------------|---------|---------|---------|-------|
| Date | 9/10/08 | 9/10/08 | 10/1/08 | ---- |
| Time Began | 1217 | 1510 | 1420 | ---- |
| Time Ended | 1353 | 1615 | 1527 | ---- |
| Stack Gas Data | | | | |
| Temperature, °F | 400 | 408 | 398 | 402 |
| Velocity, ft/sec | 50 | 52 | 45 | 49 |
| Moisture, % | 20 | 22 | 22 | 21 |
| CO ₂ Concentration, % | 13.0 | 13.0 | 14.0 | 13.3 |
| O ₂ Concentration, % | 6.5 | 6.5 | 6.0 | 6.3 |
| VFR, x 10 ⁵ dscfm | 1.16 | 1.17 | 1.02 | 1.12 |
| Particulate Matter | | | | |
| Isokinetic Sampling Rate, % | 99 | 102 | 102 | 101 |
| Concentration, gr/dscf | 0.047 | 0.078 | 0.021 | 0.049 |
| Emission Rate, lb/hr | 47 | 78 | 18 | 48 |
| Emission Factor, lb/MMBtu | 0.094 | 0.155 | 0.040 | 0.097 |
| Hydrogen Chloride | | | | |
| Concentration, ppm | 10.6 | 14.8 | 3.28 | 9.55 |
| Emission Rate, lb/hr | 7.0 | 9.8 | 1.9 | 6.2 |
| Emission Factor, lb/MMBtu | 0.014 | 0.019 | 0.004 | 0.012 |

TABLE 2-10
BFB BOILER
CONDITION THREE
SUMMARY OF DIOXINS/FURANS EMISSIONS

| Parameter | Run 1 | Run 2 | Mean |
|---------------------------------------|-----------|-----------|-----------|
| Date | 9/10/08 | 10/1/08 | --- |
| Time Started | 1212 | 0935 | --- |
| Time Ended | 1627 | 1344 | --- |
| Stack Gas Characteristics | | | |
| Temperature, °F | 405 | 398 | 402 |
| Moisture, % | 12 | 24 | 18 |
| Velocity, ft/sec | 47 | 45 | 46 |
| Carbon Dioxide, % | 13.0 | 13.0 | 13.0 |
| Oxygen, % | 6.5 | 6.0 | 6.3 |
| Volumetric Flow Rate | | | |
| Actual, x 10 ⁵ acfm | 2.22 | 2.12 | 2.17 |
| Dry Standard, x 10 ⁵ dscfm | 1.19 | 0.99 | 1.09 |
| Total Toxicity Equivalents | | | |
| Concentration, ng/dscm | 2.17 E-03 | 5.97 E-03 | 4.07 E-03 |
| Emission Rate, lb/hr | 9.69 E-10 | 2.21 E-09 | 1.59 E-09 |
| Emission Rate, lb/MMBtu | 1.89 E-12 | 4.99 E-12 | 3.44 E-12 |

ATTACHMENT B-3

**WESTON SOLUTIONS, INC.
2009 EMISSION TEST REPORT
(EXCERPT)**



SECTION 2 RESULTS AND DISCUSSION

Table 2-1 presents a summary of the emission testing results, and Tables 2-2 and 2-3 present detailed summaries of the emission testing results. Any differences between the calculated results in the appendices and the reported results in the summary tables are due to rounding the results for presentation.

**TABLE 2-1
SUMMARY OF EMISSION TEST RESULTS**

| | Condition One (Bark w/45 ODTD Sludge) | Condition Two (Bark w/60 ODTD Sludge) |
|---------------------------|--|--|
| Particulate Matter | | |
| lb/hr | 18 | 15 |
| lb/MMBtu | 0.037 | 0.032 |



TABLE 2-2
BFB BOILER
CONDITION ONE
BARK WITH 45 ODTD SLUDGE
SUMMARY OF PM EMISSION RESULTS

| | Run 1 | Run 2 | Run 3 | Mean |
|----------------------------------|---------|---------|---------|-------|
| Date | 4/15/09 | 4/15/09 | 4/15/09 | --- |
| Time Began | 1157 | 1347 | 1535 | --- |
| Time Ended | 1303 | 1455 | 1642 | --- |
| Stack Gas Data | | | | |
| Temperature, °F | 367 | 371 | 371 | 370 |
| Velocity, ft/sec | 50 | 50 | 48 | 49 |
| Moisture, % | 22 | 21 | 20 | 21 |
| CO ₂ Concentration, % | 13.2 | 13.2 | 13.1 | 13.2 |
| O ₂ Concentration, % | 6.9 | 7.0 | 6.9 | 6.9 |
| VFR, x 10 ⁵ dscfm | 1.17 | 1.19 | 1.13 | 1.16 |
| Particulate Matter | | | | |
| Isokinetic Sampling Rate, % | 100 | 98 | 97 | 98 |
| Concentration, gr/dscf | 0.016 | 0.017 | 0.020 | 0.018 |
| Emission Rate, lb/hr | 16 | 18 | 19 | 18 |
| Emission Factor, lb/MMBtu | 0.034 | 0.035 | 0.041 | 0.037 |



TABLE 2-3
BFB BOILER
CONDITION TWO
BARK WITH 60 ODTD SLUDGE
SUMMARY OF PM EMISSION RESULTS

| | Run 1 | Run 2 | Run 3 | Mean |
|----------------------------------|---------|---------|---------|-------|
| Date | 4/16/09 | 4/16/09 | 4/16/09 | --- |
| Time Began | 0922 | 1100 | 1239 | --- |
| Time Ended | 1030 | 1207 | 1346 | --- |
| Stack Gas Data | | | | |
| Temperature, °F | 374 | 369 | 363 | 369 |
| Velocity, ft/sec | 50 | 49 | 48 | 49 |
| Moisture, % | 22 | 21 | 22 | 22 |
| CO ₂ Concentration, % | 13.1 | 13.2 | 13.2 | 13.2 |
| O ₂ Concentration, % | 7.1 | 6.9 | 6.9 | 7.0 |
| VFR, x 10 ⁵ dscfm | 1.15 | 1.17 | 1.14 | 1.15 |
| Particulate Matter | | | | |
| Isokinetic Sampling Rate, % | 100 | 100 | 101 | 100 |
| Concentration, gr/dscf | 0.015 | 0.013 | 0.019 | 0.016 |
| Emission Rate, lb/hr | 14 | 13 | 18 | 15 |
| Emission Factor, lb/MMBtu | 0.031 | 0.027 | 0.038 | 0.032 |

ATTACHMENT B-4

CEMS DATA

Table 2-2
 Condition One – Baseline, Summary of Metals Emission Testing
 Run 1



Table 2-2
 Condition One – Baseline, Summary of Metals Emission Testing
 Run 2

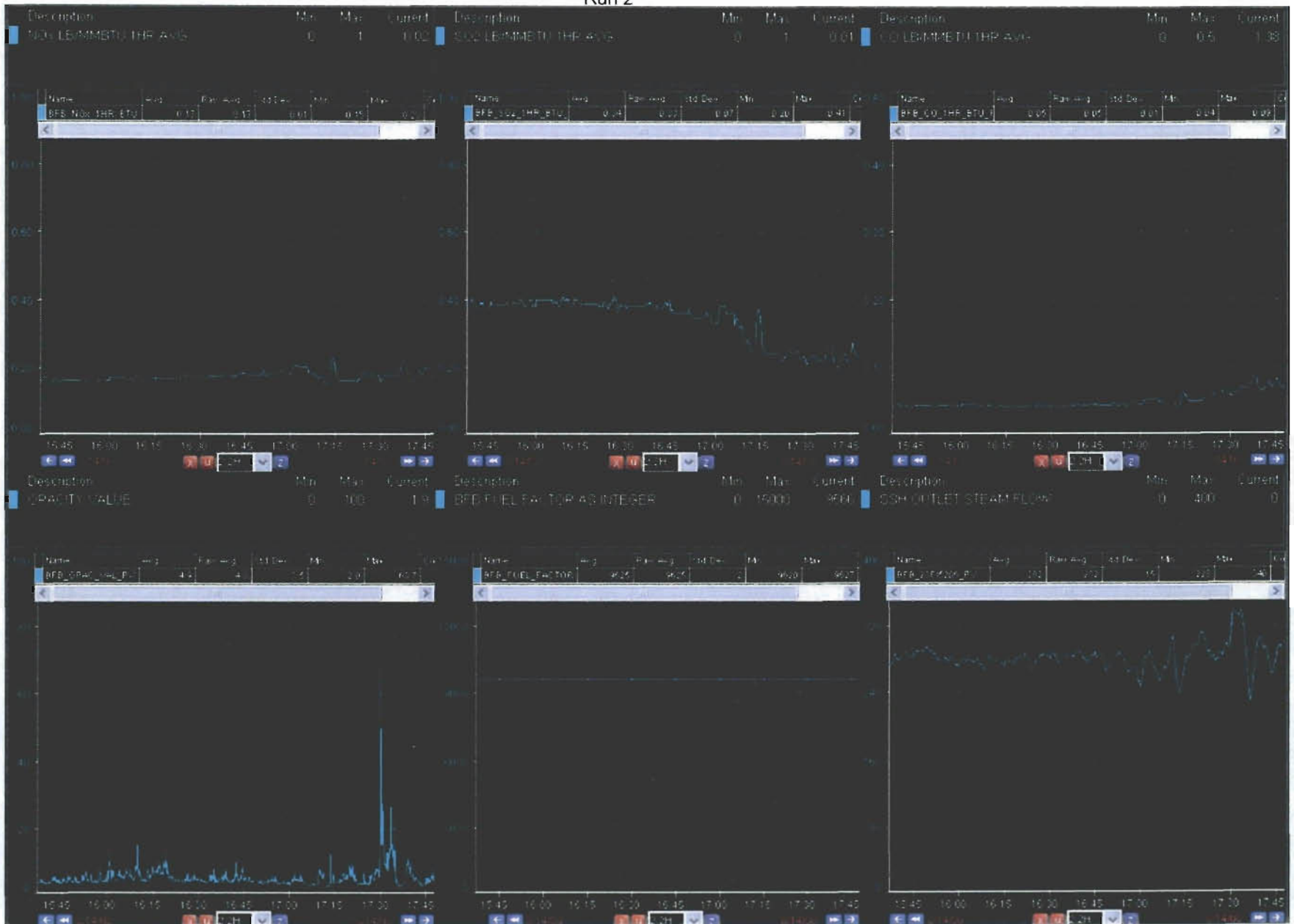


Table 2-2
 Condition One – Baseline, Summary of Metals Emission Testing
 Run 3

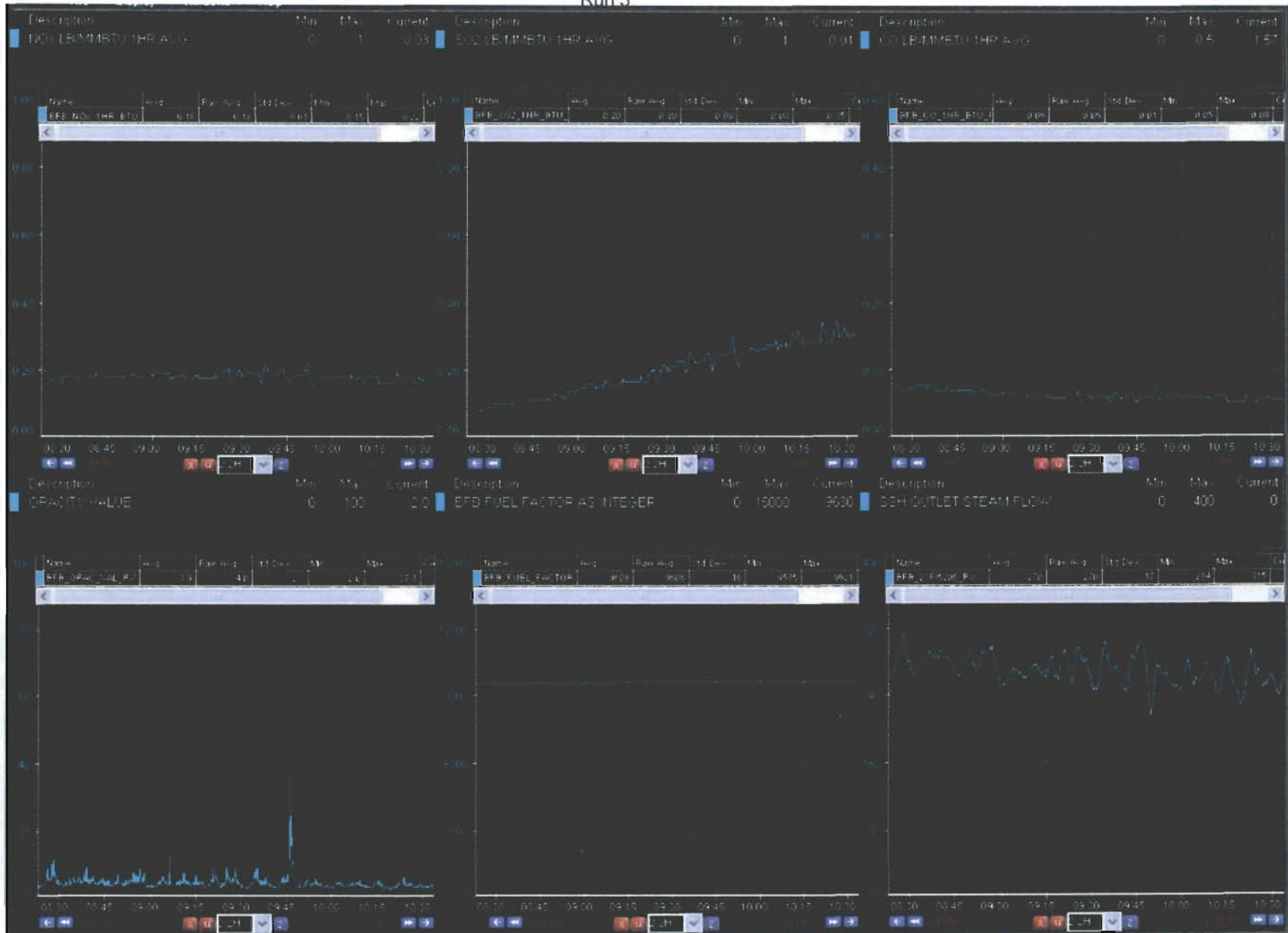


Table 2-3
 Condition One – Baseline, Summary of HCl Emission Results
 Run 1

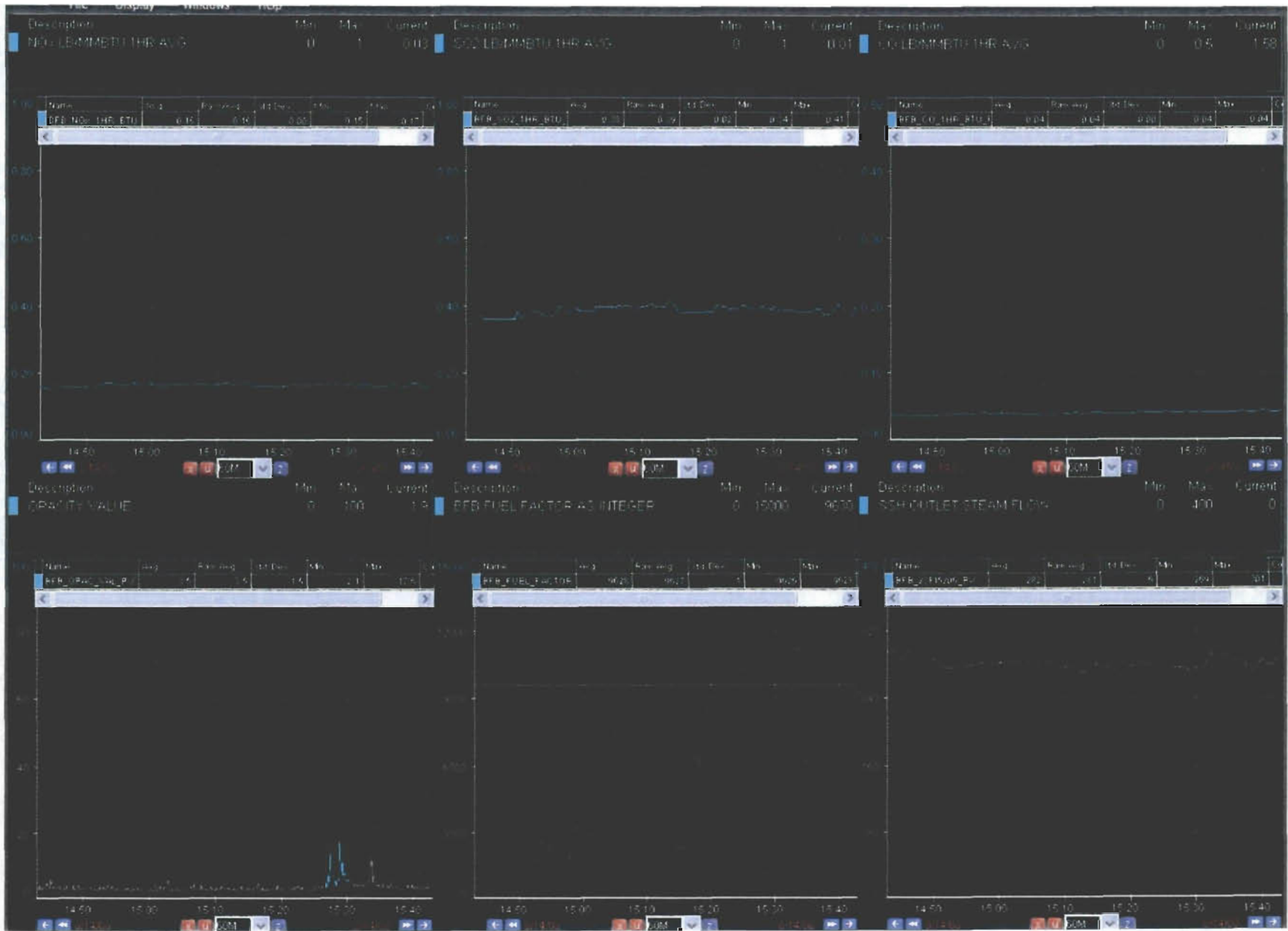


Table 2-5
Condition Two, Summary of Metals Emission Testing
Run 1



Table 2-5
 Condition Two, Summary of Metals Emission Testing
 Run 2



Table 2-5
 Condition Two, Summary of Metals Emission Testing
 Run 3



Table 2-6
 Condition Two, Summary of PM and HCl Emission Results
 Run 1

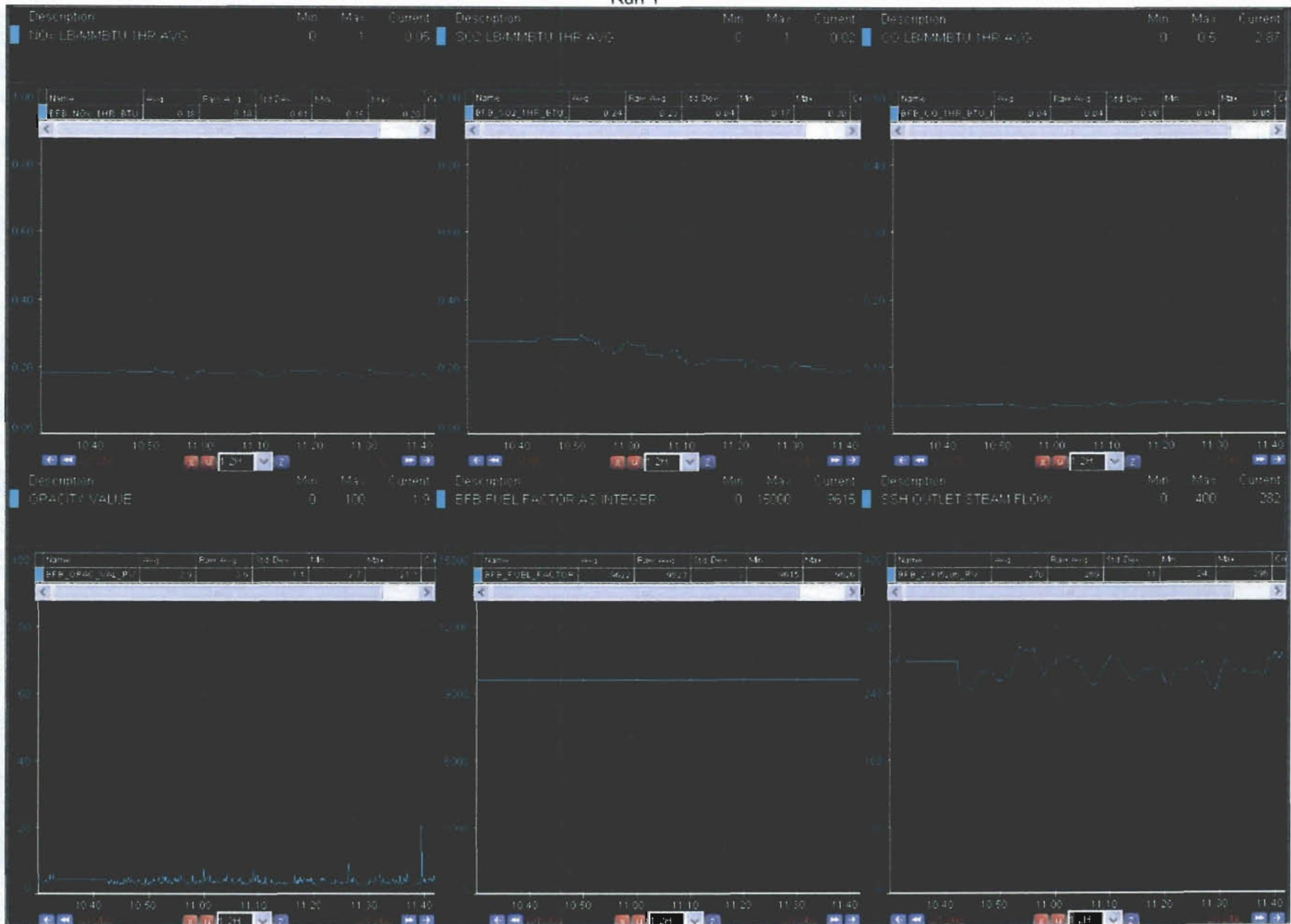


Table 2-8
Condition Three, Summary of Metals Emission Testing
Run 1

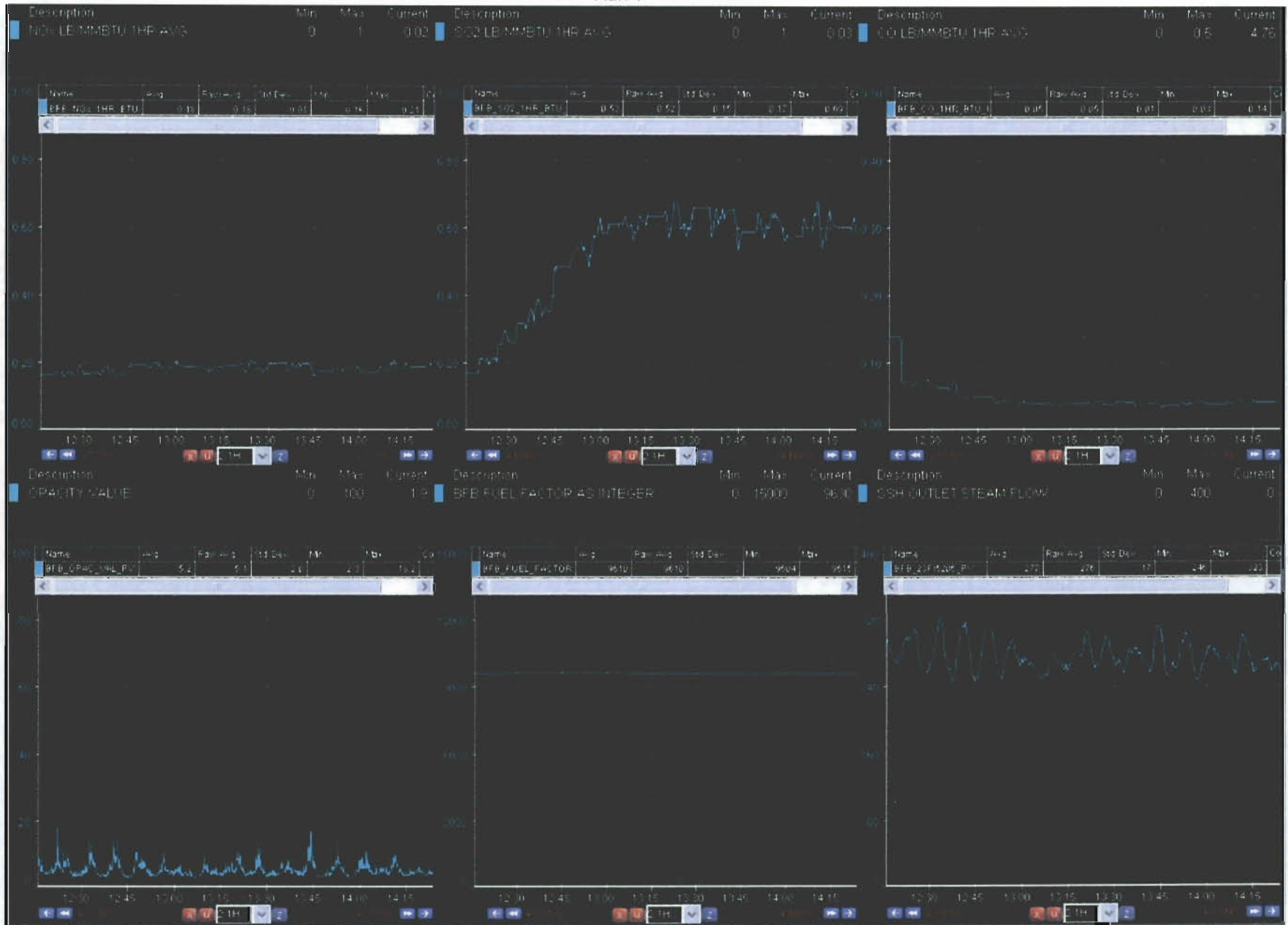


Table 2-8
 Condition Three, Summary of Metals Emission Testing
 Run 2



Table 2-8
 Condition Three, Summary of Metals Emission Testing
 Run 3

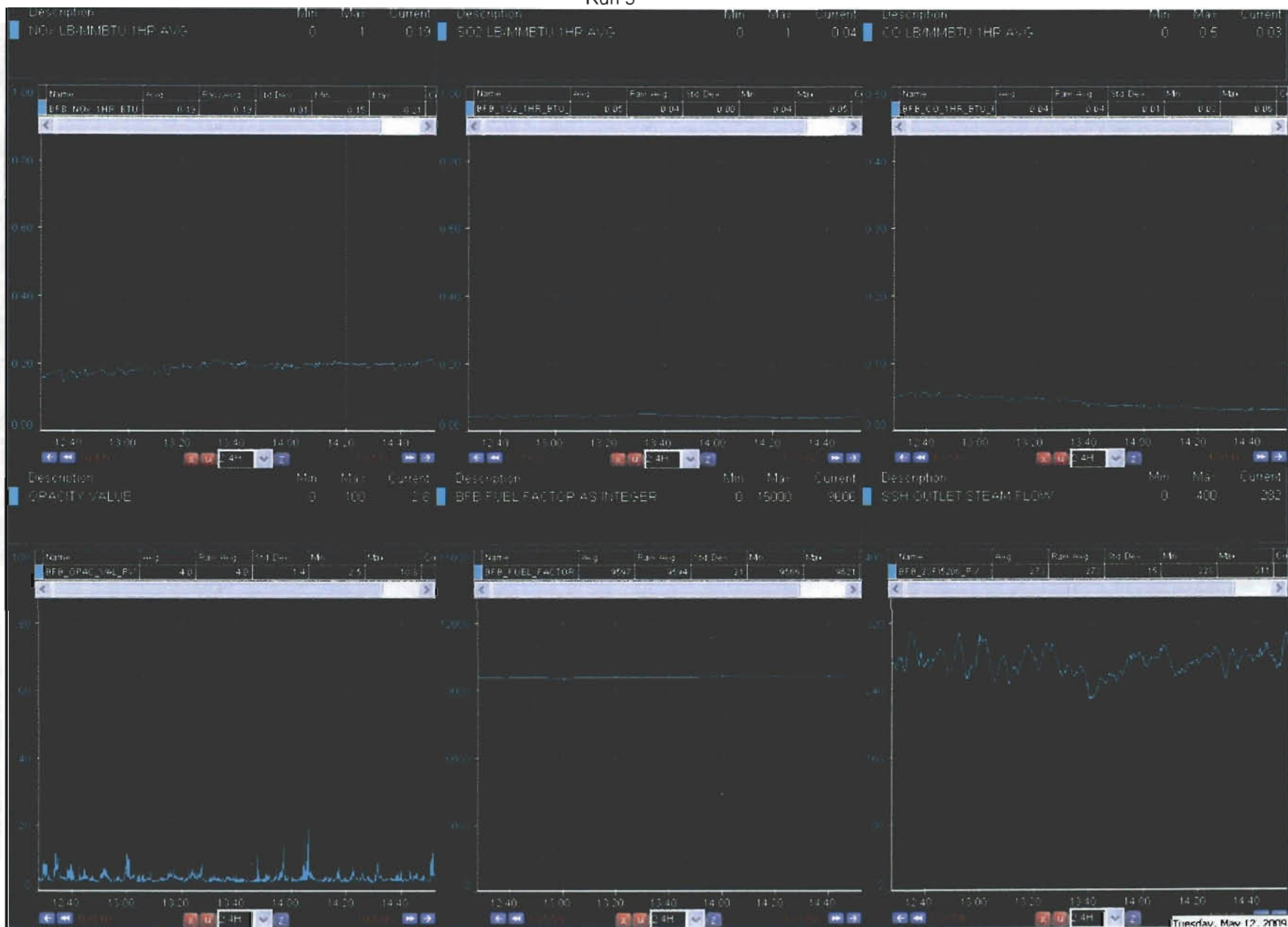
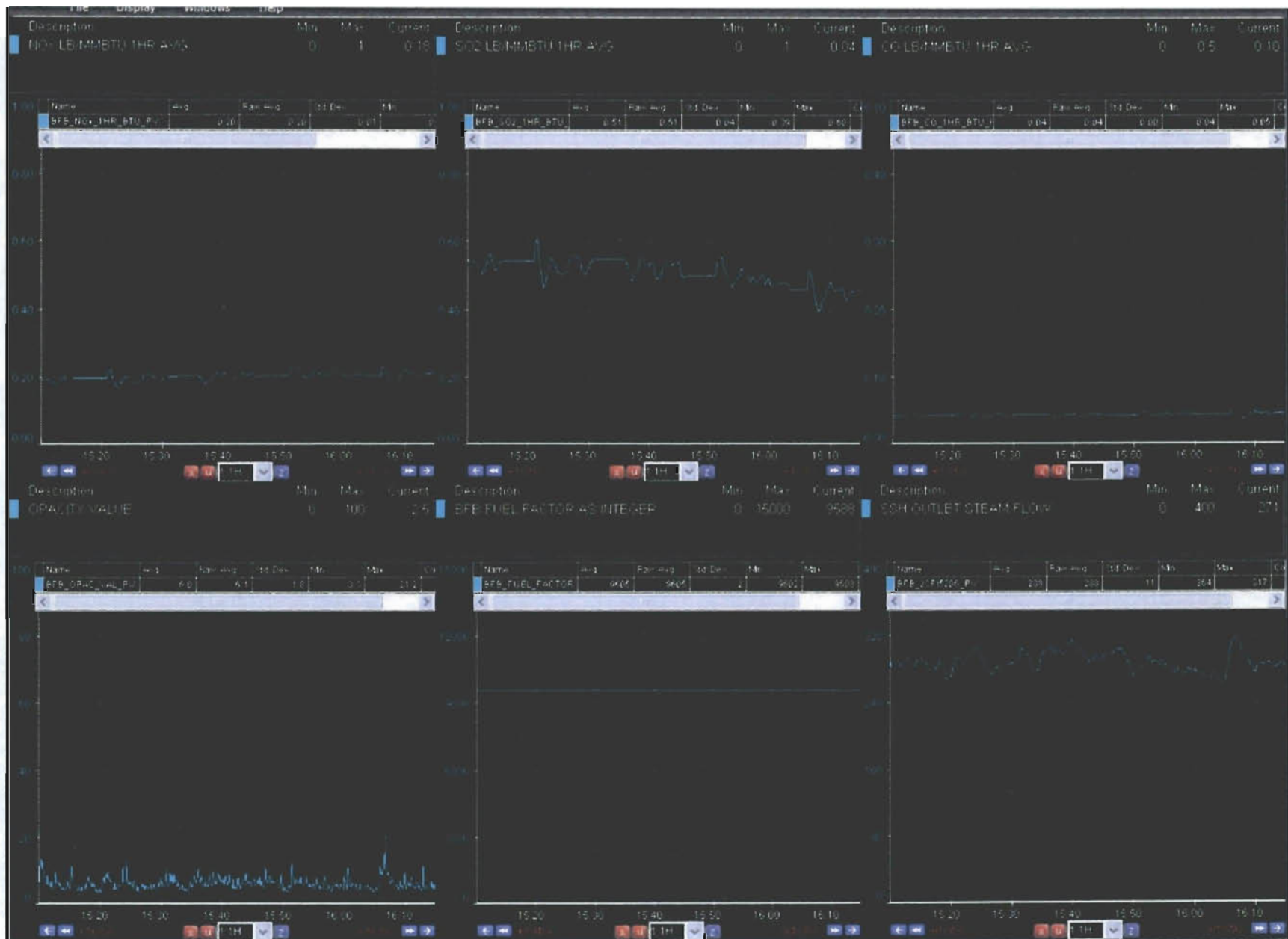


Table 2-9
 Condition Three, Summary of PM and HCl Emission Results
 Run 2



ATTACHMENT B-5

WASTEWATER TREATMENT SLUDGE FUEL ANALYSIS



Hazen Research, Inc.
 4601 Indiana Street
 Golden, CO 80403 USA
 Tel: (303) 279-4501
 Fax: (303) 278-1528

Date June 17 2009
 HRI Project 002-AME
 HRI Series No. E364/09-2
 Date Rec'd. 06/01/09
 Cust. P.O.#

Rayonier
 Miranda Ray Lewis
 PO Box 2002
 Fernandina Beach, FL 32034

Sample Identification
 Sludge - Apr 2009

| Reporting Basis > | As Rec'd | Dry | Air Dry |
|-------------------|----------|--------|---------|
| Proximate (%) | | | |
| Moisture | 70.68 | 0.00 | 7.02 |
| Ash | 2.97 | 10.13 | 9.42 |
| Volatile | | | |
| Fixed C | | | |
| Total | | | |
| Sulfur | 0.438 | 1.495 | 1.390 |
| Btu/lb (HHV) | | | |
| MMF Btu/lb | | | |
| MAF Btu/lb | | | |
| Air Dry Loss (%) | 68.47 | | |
| Ultimate (%) | | | |
| Moisture | 70.68 | 0.00 | 7.02 |
| Carbon | 15.18 | 51.77 | 48.14 |
| Hydrogen | 1.68 | 5.74 | 5.33 |
| Nitrogen | 0.30 | 1.02 | 0.95 |
| Sulfur | 0.44 | 1.49 | 1.39 |
| Ash | 2.97 | 10.13 | 9.42 |
| Oxygen* | 8.75 | 29.85 | 27.75 |
| Total | 100.00 | 100.00 | 100.00 |
| Chlorine** | 0.066 | 0.224 | 0.208 |

Forms of Sulfur (as S,%)

| | | |
|---------|------|------|
| Sulfate | | |
| Pyritic | | |
| Organic | | |
| Total | 0.44 | 1.49 |

Lb. Alkali/MM Btu=
 Lb. Ash/MM Btu=
 Lb. SO2/MM Btu=
 HGI= @ % Moisture
 As Rec'd. Sp.Gr.=
 Free Swelling Index=
 F-Factor(dry), DSCF/MM BTU=

Water Soluble Alkalies (%)

Na2O
 K2O

Report Prepared By:
Vickie Buster for
 Gerard H. Cunningham
 Fuels Laboratory Supervisor

* Oxygen by Difference.

** Not usually reported as part of the ultimate analysis.



Hazen Research, Inc.

4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Date November 6 2007
HRI Project 002-VF4
HRI Series No. J215/07-3
Date Rec'd. 10/17/07
Cust. P.O.# PR 41489

Rayonier - Fernandina Mill
Matthew Lanius
PO Box 2002
Fernandina Beach, FL 32034

Sample Identification
Primary and Secondary 40%
(39% on Bag)

| Reporting Basis > | As Rec'd | Dry | Air Dry |
|----------------------|----------|--------|---------|
| Proximate (%) | | | |
| Moisture | 62.94 | 0.00 | 1.69 |
| Ash | 6.97 | 18.81 | 18.49 |
| Volatile | | | |
| Fixed C | | | |
| Total | | | |
| Sulfur | 0.37 | 1.01 | 0.99 |
| Btu/lb (HHV) | 2860 | 7716 | 7586 |
| MMF Btu/lb | 3079 | 9687 | |
| MAF Btu/lb | | 9503 | |
| Air Dry Loss (%) | 62.30 | | |
| Ultimate (%) | | | |
| Moisture | 62.94 | 0.00 | 1.69 |
| Carbon | 19.05 | 51.39 | 50.52 |
| Hydrogen | 2.19 | 5.91 | 5.81 |
| Nitrogen | 0.06 | 0.17 | 0.17 |
| Sulfur | 0.37 | 1.01 | 0.99 |
| Ash | 6.97 | 18.81 | 18.49 |
| Oxygen* | 8.42 | 22.71 | 22.33 |
| Total | 100.00 | 100.00 | 100.00 |

Chlorine**

Forms of Sulfur (as S,%)

| | | |
|---------|------|------|
| Sulfate | | |
| Pyritic | | |
| Organic | | |
| Total | 0.37 | 1.01 |

Water Soluble Alkalies (%)

Na2O
K2O

Lb. Alkali/MM Btu=
Lb. Ash/MM Btu= 24.38
Lb. SO2/MM Btu= 2.61
HGI= @ % Moisture
As Rec'd. Sp.Gr.=
Free Swelling Index=
F-Factor(dry), DSCF/MM BTU= 11,702

Report Prepared By:

Gerard H. Cunningham
Fuels Laboratory Supervisor

* Oxygen by Difference.

** Not usually reported as part of the ultimate analysis.

ATTACHMENT B-6

40 CFR 60 APPENDIX C METHODOLOGY

[48 FR 13327, Mar. 30, 1983 and 48 FR 23611, May 25, 1983, as amended at 48 FR 32986, July 20, 1983; 51 FR 31701, Aug. 5, 1985; 52 FR 17556, May 11, 1987; 52 FR 30675, Aug. 18, 1987; 52 FR 34650, Sept. 14, 1987; 53 FR 7515, Mar. 9, 1988; 53 FR 41335, Oct. 21, 1988; 55 FR 18876, May 7, 1990; 55 FR 40178, Oct. 2, 1990; 55 FR 47474, Nov. 14, 1990; 56 FR 5526, Feb. 11, 1991; 59 FR 64593, Dec. 15, 1994; 64 FR 53032, Sept. 30, 1999; 65 FR 62130, 62144; Oct. 17, 2000; 65 FR 48920, Aug. 10, 2000]

APPENDIX C TO PART 60—DETERMINATION OF EMISSION RATE CHANGE

1. Introduction.

1.1 The following method shall be used to determine whether a physical or operational change to an existing facility resulted in an increase in the emission rate to the atmosphere. The method used is the Student's *t* test, commonly used to make inferences from small samples.

2. Data.

2.1 Each emission test shall consist of *n* runs (usually three) which produce *n* emission rates. Thus two sets of emission rates are generated, one before and one after the change, the two sets being of equal size.

2.2 When using manual emission tests, except as provided in §60.8(b) of this part, the reference methods of appendix A to this part shall be used in accordance with the procedures specified in the applicable subpart both before and after the change to obtain the data.

2.3 When using continuous monitors, the facility shall be operated as if a manual emission test were being performed. Valid data using the averaging time which would be required if a manual emission test were being conducted shall be used.

3. Procedure.

3.1 Subscripts a and b denote prechange and postchange respectively.

3.2 Calculate the arithmetic mean emission rate, \bar{E} , for each set of data using Equation 1.

$$\bar{E} = \frac{\sum_{i=1}^n E_i}{n} = \frac{E_1 + E_2 + \dots + E_n}{n} \quad (1)$$

Where:

E_i = Emission rate for the *i* th run.
n = number of runs.

3.3 Calculate the sample variance, S^2 , for each set of data using Equation 2.

$$S^2 = \frac{\sum_{i=1}^n (E_i - \bar{E})^2}{n-1} = \frac{\sum_{i=1}^n E_i^2 - \left(\sum_{i=1}^n E_i\right)^2/n}{n-1} \quad (2)$$

3.4 Calculate the pooled estimate, S_p , using Equation 3.

$$S_p = \left[\frac{(n_a - 1) S_a^2 + (n_b - 1) S_b^2}{n_a + n_b - 2} \right]^{1/2} \quad (3)$$

3.5 Calculate the test statistic, *t*, using Equation 4.

$$t = \frac{\bar{E}_b - \bar{E}_a}{S_p \left[\frac{1}{n_b} + \frac{1}{n_a} \right]^{1/2}} \quad (4)$$

4. Results.

4.1 If $E_b > E_a$ and $t > t'$, where t' is the critical value of *t* obtained from Table 1, then with 95% confidence the difference between E_b and E_a is significant, and an increase in emission rate to the atmosphere has occurred.

TABLE 1

| Degrees of freedom ($n_a = n_b - 2$) | <i>t'</i> (95 percent confidence level) |
|--|---|
| 2 | 2.920 |
| 3 | 2.353 |
| 4 | 2.132 |
| 5 | 2.015 |
| 6 | 1.943 |
| 7 | 1.895 |
| 8 | 1.860 |

For greater than 8 degrees of freedom, see any standard statistical handbook or text.

5.1 Assume the two performance tests produced the following set of data:

| Test a | Test b |
|------------|--------|
| Run 1. 100 | 115 |
| Run 2. 95 | 120 |
| Run 3. 110 | 125 |

5.2 Using Equation 1—

$$E_a = 100 + 95 + 110 / 3 = 102$$

$$E_b = 115 + 120 + 125 / 3 = 120$$

5.3 Using Equation 2—

$$S_a^2 = (100 - 102)^2 + (95 - 102)^2 + (110 - 102)^2 / 3 - 1 = 58.5$$

$$S_b^2 = (115 - 120)^2 + (120 - 120)^2 + (125 - 120)^2 / 3 - 1 = 25$$

5.4 Using Equation 3—

$$S_p = [(3 - 1)(58.5) + (3 - 1)(25) / 3 + 3 - 2]^{1/2} = 6.46$$

5.5 Using Equation 4—

$$t = \frac{120 - 102}{6.46 \left[\frac{1}{3} + \frac{1}{3} \right]^{1/2}} = 3.412$$

5.6 Since $(n^1 + n^2 - 2) = 4$, $t' = 2.132$ (from Table 1). Thus since $t > t'$ the difference in the values of E_a and E_b is significant, and there has been an increase in emission rate to the atmosphere.

6. Continuous Monitoring Data.

6.1 Hourly averages from continuous monitoring devices, where available, should be

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used as data points and the above procedure followed.

[40 FR 58420, Dec. 16, 1975]

APPENDIX D TO PART 60—REQUIRED EMISSION INVENTORY INFORMATION

(a) Completed NEDS point source form(s) for the entire plant containing the designated facility, including information on the applicable criteria pollutants. If data concerning the plant are already in NEDS, only that information must be submitted which is necessary to update the existing NEDS record for that plant. Plant and point identification codes for NEDS records shall correspond to those previously assigned in NEDS; for plants not in NEDS, these codes shall be obtained from the appropriate Regional Office.

(b) Accompanying the basic NEDS information shall be the following information on each designated facility:

(1) The state and county identification codes, as well as the complete plant and point identification codes of the designated facility in NEDS. (The codes are needed to match these data with the NEDS data.)

(2) A description of the designated facility including, where appropriate:

(i) Process name.

(ii) Description and quantity of each product (maximum per hour and average per year).

(iii) Description and quantity of raw materials handled for each product (maximum per hour and average per year).

(iv) Types of fuels burned, quantities and characteristics (maximum and average quantities per hour, average per year).

(v) Description and quantity of solid wastes generated (per year) and method of disposal.

(3) A description of the air pollution control equipment in use or proposed to control the designated pollutant, including:

(i) Verbal description of equipment.

(ii) Optimum control efficiency, in percent. This shall be a combined efficiency when more than one device operates in series. The method of control efficiency determination shall be indicated (e.g., design efficiency, measured efficiency, estimated efficiency).

(iii) Annual average control efficiency, in percent, taking into account control equipment down time. This shall be a combined efficiency when more than one device operates in series.

(4) An estimate of the designated pollutant emissions from the designated facility (maximum per hour and average per year). The method of emission determination shall also be specified (e.g., stack test, material balance, emission factor).

[40 FR 53349, Nov. 17, 1975]

APPENDIX E TO PART 60 [RESERVED]

APPENDIX F TO PART 60—QUALITY ASSURANCE PROCEDURES

PROCEDURE 1. QUALITY ASSURANCE REQUIREMENTS FOR GAS CONTINUOUS EMISSION MONITORING SYSTEMS USED FOR COMPLIANCE DETERMINATION

1. Applicability and Principle

1.1 Applicability. Procedure 1 is used to evaluate the effectiveness of quality control (QC) and quality assurance (QA) procedures and the quality of data produced by any continuous emission monitoring system (CEMS) that is used for determining compliance with the emission standards on a continuous basis as specified in the applicable regulation. The CEMS may include pollutant (e.g., SO₂ and NO_x) and diluent (e.g., O₂ or CO₂) monitors.

This procedure specifies the minimum QA requirements necessary for the control and assessment of the quality of CEMS data submitted to the Environmental Protection Agency (EPA). Source owners and operators responsible for one or more CEMS's used for compliance monitoring must meet these minimum requirements and are encouraged to develop and implement a more extensive QA program or to continue such programs where they already exist.

Data collected as a result of QA and QC measures required in this procedure are to be submitted to the Agency. These data are to be used by both the Agency and the CEMS operator in assessing the effectiveness of the CEMS QC and QA procedures in the maintenance of acceptable CEMS operation and valid emission data.

Appendix F, Procedure 1 is applicable December 4, 1987. The first CEMS accuracy assessment shall be a relative accuracy test audit (RATA) (see section 5) and shall be completed by March 4, 1988 or the date of the initial performance test required by the applicable regulation, whichever is later.

1.2 Principle. The QA procedures consist of two distinct and equally important functions. One function is the assessment of the quality of the CEMS data by estimating accuracy. The other function is the control and improvement of the quality of the CEMS data by implementing QC policies and corrective actions. These two functions form a control loop: When the assessment function indicates that the data quality is inadequate, the control effort must be increased until the data quality is acceptable. In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies the assessment methods for response drift and accuracy. The methods are based on procedures included in the applicable performance specifications (PS's) in appendix B of 40 CFR part 60. Procedure 1 also requires the analysis of the EPA audit