

KA 308-09-04  
June 29, 2009

**CENTRAL POWER & LIME, INC.**

Mr. A.A. Linero, PE  
Bureau of Air Regulation  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**RE:** *Facility ID 0530021  
Central Power and Lime, Inc. (CPL)  
Power Plant; Brooksville, Florida  
Request to Use Wood Pellets as a Co-fire Fuel to Coal*

**RECEIVED**

JUN 30 2009

BUREAU OF AIR REGULATION

Dear Mr. Linero:

I appreciate your assistance in this project that we discussed on our phone conversation on June 8, 2009. Enclosed please find four (4) copies of an air construction permit application to request authorization to burn wood pellets in the CPL boiler. As you may recall, we are in the process of performing an academic study of the system performance when co-firing this pelletized wood material. The results of the study will be provided when completed expectedly in late July. We submit this application without these study results as we feel the enclosed information provides reasonable assurance of that we will maintain compliance to our permitted allowances.

The application Professional Engineering seal page is submitted under separate cover by Max Lee of Koogler & Associates, Inc.

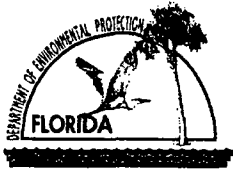
If you should have any questions regarding this application, please do not hesitate to contact Max Lee at (352) 377-5822 or [mlee@kooglerassociates.com](mailto:mlee@kooglerassociates.com).

Regards,

Terry Woodard

Cc: R. Noble, Delta Power Services  
Max Lee, Koogler & Associates, Inc.

Enclosure: Application Form



# Department of Environmental Protection

Division of Air Resource Management

## APPLICATION FOR AIR PERMIT - LONG FORM

### I. APPLICATION INFORMATION

RECEIVED

JUN 30 2009

BUREAU OF AIR REGULATION

**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.

**Identification of Facility**

1. Facility Owner/Company Name: <b>Central Power and Lime, Inc.</b>	
2. Site Name: <b>Power Plant</b>	
3. Facility Identification Number: <b>0530021</b>	
4. Facility Location... Street Address or Other Locator: <b>10311 Cement Plant Road</b> City: <b>Brooksville</b> County: <b>Hernando</b> Zip Code: <b>34601</b>	
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: <b>Max Lee</b>	
2. Application Contact Mailing Address... Organization/Firm: <b>Koogler and Associates, Inc.</b> Street Address: <b>4014 NW 13<sup>th</sup> Street</b> City: <b>Gainesville</b> State: <b>Florida</b> Zip Code: <b>32609</b>	
3. Application Contact Telephone Numbers... Telephone: <b>(352) 377-5822</b> ext. <b>15</b> Fax: <b>(352) 377-7158</b>	
4. Application Contact E-mail Address: <b>Mlee@kooglerassociates.com</b>	

**Application Processing Information (DEP Use)**

1. Date of Receipt of Application: <b>6/30/09</b>	3. PSD Number (if applicable):
2. Project Number(s): <b>0530021-033-AC</b>	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 INFORMATION**

**Application Comment**

**See description of construction attachment 3.**

**APPLICATION INFORMATION**

A large, empty rectangular box with a thin black border, occupying the central portion of the page. It is intended for providing application information.

**APPLICATION INFORMATION**

**Scope of Application**

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
018	Power Plant Boiler with Dry Limestone Injection Scrubbing followed with a Baghouse System	AC1F	N/A

**Application Processing Fee**

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

**APPLICATION INFORMATION**

**Owner/Authorized Representative Statement**

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

1. Owner/Authorized Representative Name: <b>Mr. Terry Woodard, Power Plant Manager</b>
2. Owner/Authorized Representative Mailing Address... Organization/Firm: <b>Central Power and Lime, Inc.</b> Street Address: <b>10311 Cement Plant Road</b> City: <b>Brooksville</b> State: <b>Florida</b> Zip Code: <b>34601</b>
3. Owner/Authorized Representative Telephone Numbers... Telephone: <b>(352) 799-7881</b> ext. Fax: <b>(352) 799-3508</b>
4. Owner/Authorized Representative E-mail Address: <b>wwoodard@deltapowerservices.com</b>
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>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.</i>  _____ Signature  _____ Date



## APPLICATION INFORMATION

### Professional Engineer Certification

1. Professional Engineer Name: <b>Max Lee, Ph.D. P.E.</b> Registration Number: <b>58091</b>
2. Professional Engineer Mailing Address... Organization/Firm: <b>Koogler and Associates, Inc.</b> Street Address: <b>4014 NW 13<sup>th</sup> Street</b> City: <b>Gainesville</b> State: <b>Florida</b> Zip Code: <b>32609</b>
3. Professional Engineer Telephone Numbers... Telephone: <b>(352) 377-5822</b> ext.13 Fax: <b>(352) 377-7158</b>
4. Professional Engineer E-mail Address: <b>MLee@kooglerassociates.com</b>
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 , 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 checked="" 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>  _____ Signature (seal)  _____ Date

\* Attach any exception to certification statement.

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

1. Facility UTM Coordinates... Zone <b>17</b> East (km) <b>360.0</b> North (km) <b>3162.5</b>		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) <b>28/35/00</b> Longitude (DD/MM/SS) <b>82/25/53</b>	
3. Governmental Facility Code: <b>0</b>	4. Facility Status Code: <b>A</b>	5. Facility Major Group SIC Code: <b>32</b>	6. Facility SIC(s): <b>3241</b>
7. Facility Comment :			

#### Facility Contact

1. Facility Contact Name: <b>Mr. Larry Roberts, Operations Manager</b>
2. Facility Contact Mailing Address... Organization/Firm: <b>Central Power and Lime, Inc.</b> Street Address: <b>10311 Cement Plant Road</b> City: <b>Brooksville</b> State: <b>Florida</b> Zip Code: <b>34601</b>
3. Facility Contact Telephone Numbers: Telephone: <b>(352) 799-7881</b> Fax: <b>(352) 799-3508</b>
4. Facility Contact E-mail Address: <b><u>LRoberts@deltapowerservices.com</u></b>

#### 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:  <b>The above classifications apply to various and separate emission units (e.g., the Cemex Inc. cement plant) at the facility complex. For the applicable classifications of the power plant (EU 018), see the emissions unit section III.</b>	

**List of Pollutants Emitted by Facility**

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	N
PM <sub>10</sub>	A	N
SO <sub>2</sub>	A	N
NO <sub>x</sub>	A	N
CO	A	N
VOC	A	N
HAPS - Total	A	N
DIOX	B	N
H114 (Mercury)	B	N
SAM	B	N
FL	B	N

**B. EMISSIONS CAPS**

**Facility-Wide or Multi-Unit Emissions Caps N/A**

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

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

### C. FACILITY ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

<p>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) Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>4/14/2005</u></p>
<p>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) Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>4/14/2005</u></p> <p>NOTE: pellets will be stored in coal storage area and injected to burner system using existing material handling system.</p>
<p>3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>9/20/04</u> <b>(facility wide)</b></p>

#### Additional Requirements for Air Construction Permit Applications

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

**C. FACILITY ADDITIONAL INFORMATION (CONTINUED)**

**Additional Requirements for FESOP Applications N/A**

1. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
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**Additional Requirements for Title V Air Operation Permit Applications N/A**

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

**C. FACILITY ADDITIONAL INFORMATION (CONTINUED)**

N/A

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

<p>1. Acid Rain Program Forms:</p> <p>Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>4/30/08</u></p> <p><input type="checkbox"/> Not Applicable (not an Acid Rain source)</p> <p>Phase II NO<sub>x</sub> Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____</p> <p><input type="checkbox"/> Not Applicable</p> <p>New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____</p> <p><input type="checkbox"/> Not Applicable</p>
<p>2. CAIR Part (DEP Form No. 62-210.900(1)(b)):</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>4/30/08</u></p> <p><input type="checkbox"/> Not Applicable (not a CAIR source)</p>
<p>3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____</p> <p><input checked="" type="checkbox"/> Not Applicable (not a Hg Budget unit)</p>

**Additional Requirements Comment**

**Acid Rain and CAIR forms at FDEP website under permit: 0530021-013-AV**



## EMISSIONS UNIT INFORMATION

Section [1] of [1]

EU018-Power Plant

### 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] of [1]

EU018-Power Plant

**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:

**Power Plant Boiler with Dry Limestone Injection Scrubbing followed with a Baghouse System**

3. Emissions Unit Identification Number: **018**

4. Emissions Unit Status Code:

**A**

5. Commence Construction Date:

6. Initial Startup Date:

7. Emissions Unit Major Group SIC Code: **49**

8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

Hg Budget Unit

9. Package Unit: **CCV DAZ Burner and OFA System Retrofit**

Manufacturer: **Babcock Power Inc.**

Model Number:

10. Generator Nameplate Rating: **150 MW**

11. Emissions Unit Comment: **This application is to request a trial burn of wood pellets.**

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**EU018-Power Plant**

**Emissions Unit Control Equipment/Method: Control 1 of 4**

1. Control Equipment/Method Description:  
**Baghouse – High Temperature**

2. Control Device or Method Code: **016**

**Emissions Unit Control Equipment/Method: Control 2 of 4**

1. Control Equipment/Method Description:  
**Dry Limestone Injection**

2. Control Device or Method Code: **041**

**NEW CONTROLS**

**Emissions Unit Control Equipment/Method: Control 3 of 4**

1. Control Equipment/Method Description:  
**Overfire Air (OFA)**

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

**Emissions Unit Control Equipment/Method: Control 4 of 4**

1. Control Equipment/Method Description:  
**Low NOx Burners**

2. Control Device or Method Code: **205**

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**EU018-Power Plant**

**B. EMISSIONS UNIT CAPACITY INFORMATION**

(Optional for unregulated emissions units.)

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Process or Throughput Rate: <b>150 MW</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: <b>1850</b> million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: <b>24</b> hours/day <b>7</b> days/week <b>52</b> weeks/year <b>8,760</b> hours/year
6. Operating Capacity/Schedule Comment: <b>No changes to the power or heat input rates, or operation hours are requested by this application.</b>

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

EU018-Power Plant

**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: <b>Power Plan</b>		2. Emission Point Type Code: <b>018</b>	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: <b>Main stack</b>			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: <b>V</b>	6. Stack Height: <b>320 feet</b>	7. Exit Diameter: <b>16 feet</b>	
8. Exit Temperature: <b>300°F</b>	9. Actual Volumetric Flow Rate: <b>840,000 acfm</b>	10. Water Vapor: <b>7.5%</b>	
11. Maximum Dry Standard Flow Rate: Dscfm <b>540,000</b>		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: <b>17</b> East (km): <b>360.1</b> North (km): <b>3162.01</b>		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) <b>28/34/44</b> Longitude (DD/MM/SS) <b>82/26/41</b>	
15. Emission Point Comment:			

**EMISSIONS UNIT INFORMATION**

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**EU018-Power Plant**

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

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

1. Segment Description (Process/Fuel Type):  External Combustion Boilers: Industrial: Bituminous/Subbituminous Coal: Cogeneration (Bituminous Coal)		
2. Source Classification Code (SCC): <b>1-02-002-19</b>		3. SCC Units: <b>Tons of bituminous coal Burned</b>
4. Maximum Hourly Rate: <b>74</b>	5. Maximum Annual Rate: <b>648,240</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>24</b>
10. Segment Comment: <b>1850 mmbtu/hr heat input (3-hr avg)</b> <b>25 mmbtu/ton = 74 ton/hr</b> <b>74 ton/hr x 8760 hr/yr = 648240 ton/yr</b>		

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

1. Segment Description (Process/Fuel Type):  External Combustion Boilers: Industrial: Distillate Oil: Cogeneration		
2. Source Classification Code (SCC): <b>1-02-002-05</b>		3. SCC Units: <b>1000 gallons distillate oil burned</b>
4. Maximum Hourly Rate: <b>13.2</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>138</b>
10. Segment Comment: <b>New #2 fuel oil, allowed for startup purposes.</b> <b>1850 mmbtu/hr heat input</b> <b>140 mmbtu/1000gal = 13.2 (1000 gal)/hr</b>		

**EMISSIONS UNIT INFORMATION**

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**EU018-Power Plant**

**E. EMISSIONS UNIT POLLUTANTS**

**List of Pollutants Emitted by Emissions Unit**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
<b>PM</b>	<b>016</b>		<b>EL</b>
<b>PM<sub>10</sub></b>	<b>016</b>		<b>EL</b>
<b>SO<sub>2</sub></b>	<b>041</b>		<b>EL</b>
<b>NO<sub>x</sub></b>	<b>204</b>	<b>205</b>	<b>EL</b>
<b>VOC</b>	<b>none</b>		<b>NS</b>
<b>CO</b>	<b>none</b>		<b>NS</b>
<b>FL</b>	<b>041</b>		<b>EL</b>
<b>SAM</b>	<b>041</b>		<b>EL</b>
<b>Hg</b>	<b>041</b>		<b>EL</b>

**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: <b>PM</b>		2. Total Percent Efficiency of Control: <b>98</b>	
3. Potential Emissions: <b>25.0 lb/hour                      109.5 tons/year</b>		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): <b>NA</b> to tons/year			
6. Emission Factor: <b>0.0135 lb/mmbtu</b>  Reference: <b>Permit No. 0530021-011-AV</b>		7. Emissions Method Code: <b>0</b>	
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: <b>Hourly: 0.0135 lb/mmbtu x 1850 mmbtu/hr = 25.0 lb/hr</b> <b>Annual: 25.0 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 109.5 TPY</b>			
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: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.0135 lb/mmbtu</b>	4. Equivalent Allowable Emissions: <b>25.0 lb/hour      109.5 tons/year</b>
5. Method of Compliance: <b>Annual Method 5</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>While coal. Basis for allowable emission: PSD-FL-090, PSD-FL-090D &amp; PA 82-17.</b>	

**Allowable Emissions Allowable Emissions 2 of 2**

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.015 lb/mmbtu</b>	4. Equivalent Allowable Emissions: <b>27.5 lb/hour      tons/year</b>
5. Method of Compliance: <b>Fuel oil only during startup</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>While burning fuel oil. Basis for allowable emission: PSD-FL-090, PSD-FL-090D &amp; PA 82-17.</b>	

**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**

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EU 018-Power Plant

**POLLUTANT DETAIL INFORMATION**

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Particulate Matter – PM<sub>10</sub>

**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: <b>PM<sub>10</sub></b>		2. Total Percent Efficiency of Control: <b>98</b>	
3. Potential Emissions: <b>25.0 lb/hour                      109.5 tons/year</b>		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: <b>0.0135 lb/mmbtu (PM = PM10)</b> Reference: <b>Permit No. 0530021-011-AV</b>		7. Emissions Method Code: <b>0</b>	
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: <b>Hourly: 0.0135 lb/mmbtu x 1850 mmbtu/hr = 25.0 lb/hr</b> <b>Annual: 25.0 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 109.5 TPY</b>			
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: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.0135 lb/mmbtu</b>	4. Equivalent Allowable Emissions: <b>25.0 lb/hour      109.5 tons/year</b>
5. Method of Compliance: <b>Annual Method 5</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>While burning coal. Basis for allowable emission: PSD-FL-090, PSD-FL-090D &amp; PA 82-17.</b>	

**Allowable Emissions Allowable Emissions 2 of 2**

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.015 lb/mmbtu</b>	4. Equivalent Allowable Emissions: <b>27.75 lb/hour      tons/year</b>
5. Method of Compliance: <b>Fuel oil only during startup</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>While burning fuel oil. Basis for allowable emission: PSD-FL-090, PSD-FL-090D &amp; PA 82-17.</b>	

**EMISSIONS UNIT INFORMATION**

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 EU 018-Power Plant

**POLLUTANT DETAIL INFORMATION**

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 Sulfur Dioxide – SO<sub>2</sub>

**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: <b>SO<sub>2</sub></b>		2. Total Percent Efficiency of Control: <b>50</b>	
3. Potential Emissions: <b>770 lb/hour                      3372.6 tons/year</b>		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes    No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: <b>1.2 lb.mmbtu, 770 lb/hr</b> Reference: <b>Permit No. 0530021-011-AV</b>		7. Emissions Method Code: <b>0</b>	
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: <b>Hourly: 770 lb/hr (3- hr avg), 1.2 lb/mmbtu (2-hr avg)</b> <b>Annual: 770 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 3372.6 TPY</b>			
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: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>1.2 lb/mmbtu</b>	4. Equivalent Allowable Emissions: <b>770 lb/hour 3372.6 tons/year</b>
5. Method of Compliance: <b>Annual Method 6 or 6C</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>While burning coal. Basis for allowable emission: PSD-FL-090, PSD-FL-090D &amp; PA 82-17.</b>	

**Allowable Emissions Allowable Emissions 2 of 2**

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.31 lb/mmbtu</b>	4. Equivalent Allowable Emissions: <b>573.5 lb/hour tons/year</b>
5. Method of Compliance: <b>Fuel oil only during startup</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>While burning fuel oil. Basis for allowable emission: PSD-FL-090, PSD-FL-090D &amp; PA 82-17.</b>	

**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: <b>NO<sub>x</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>846 lb/hour                      3705.5 tons/year</b>		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: <b>0.7 lb/mmbtu</b>  Reference: <b>Permit 0530021-011-AV</b>		7. Emissions Method Code: <b>0</b>	
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: <b>Coal: 0.7 lb/MMBtu, not to exceed 846 lb/hr: boiler plant.</b> <b>Annual: 846 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 3705.6 TPY</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**

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**POLLUTANT DETAIL INFORMATION**

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Nitrogen Oxides - NO<sub>x</sub>**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject

**Allowable Emissions** Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.7 lb/mmbtu</b>	4. Equivalent Allowable Emissions: <b>846 lb/hour 3705.5 tons/year</b>
5. Method of Compliance: <b>Annual Method 7 or 7E</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>While burning coal. Basis for allowable emission: PSD-FL-090, PSD-FL-090D &amp; PA 82-17.</b>	

**Allowable Emissions** Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.16 lb/mmbtu</b>	4. Equivalent Allowable Emissions: <b>296 lb/hour tons/year</b>
5. Method of Compliance: <b>Fuel oil only during startup</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>While burning fuel oil. Basis for allowable emission: PSD-FL-090, PSD-FL-090D &amp; PA 82-17.</b>	

**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: <b>CO</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>35.57 lb/hour                      155.8 tons/year</b>		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: <b>0.5 lb/ton coal</b>  Reference: <b>AP-42 Table 1.1-3</b>		7. Emissions Method Code: <b>3</b>	
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: <b>Hourly: 0.5 lb/ton x 1850 mmbtu/hr x ton/26mmbtu = 35.57 lb/hr</b> <b>Annual: 35.57 lb/hr x 8760 hr/yr x 1/2000lb/ton = 155.8 ton/yr</b>			
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 \_ of \_NA

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: <b>VOC</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>3.56 lb/hour                      15.59 tons/year</b>		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: <b>0.06 lb/ton</b>  Reference: <b>AP-42 Table 1.1-19</b>		7. Emissions Method Code: <b>3</b>	
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: <b>Hourly: 0.06 lb/ton x 1850 mmbtu/hr x ton/26mmbtu = 3.56 lb/hr</b> <b>Annual: 35.57 lb/hr x 8760 hr/yr x 1/2000lb/ton = 15.59 ton/yr</b>			
11. Potential, Fugitive, and Actual Emissions Comment: <b>Represents emissions from the hot gas generator unit.</b>			

**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 NA

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: <b>FL</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 1.7 lb/hour                      7.45 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): NA to tons/year			
6. Emission Factor: <b>1.7 lb/hr</b>  Reference: <b>Permit No. 0530021-011-AV</b>		7. Emissions Method Code: <b>0</b>	
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: <b>Hourly: 1.7 lb/hr</b> <b>Annual: 1.7 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 7.45 TPY</b>			
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 1

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>1.7 lb/hr</b>	4. Equivalent Allowable Emissions: <b>1.7 lb/hour      7.45 tons/year</b>
5. Method of Compliance: <b>If required, annual Method 8</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>Basis for allowable emission: PSD-FL-090. Allowable is for combined Cement Plant and Power Plant Boiler.</b>	

**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: <b>SAM</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>1.7 lb/hour</b> <b>7.45 tons/year</b>		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: <b>1.7 lb/hr</b>  Reference: <b>Permit No. 0530021-011-AV</b>		7. Emissions Method Code: <b>0</b>	
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:  <b>Hourly: 1.7 lb/hr</b> <b>Annual: 1.7 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 7.45 TPY</b>			
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 1**

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>1.7 lb/hr</b>	4. Equivalent Allowable Emissions: <b>1.7 lb/hour            7.45 tons/year</b>
5. Method of Compliance: <b>Annual Method 8</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>Basis for allowable emission: PSD-FL-090. Allowable is for combined Cement Plant and Power Plant Boiler.</b>	

**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: <b>Hg</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>0.03 lb/hour                      0.131 tons/year</b>		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: <b>0.03 lb/hr</b>  Reference: <b>Permit No. 0530021-011-AV</b>		7. Emissions Method Code: <b>0</b>	
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: <b>Hourly: 0.03 lb/hr</b> <b>Annual: 0.03 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 0.131 TPY</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			



**EMISSIONS UNIT INFORMATION**

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**POLLUTANT DETAIL INFORMATION**

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 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: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.03 lb/hr</b>	4. Equivalent Allowable Emissions: <b>0.03 lb/hour 0.131 tons/year</b>
5. Method of Compliance: <b>Annual Method 101A</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>Basis for allowable emission: PSD-FL-090. Allowable is for combined Cement Plant and Power Plant Boiler.</b>	

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**EU018-Power Plant**

**G. VISIBLE EMISSIONS INFORMATION**

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

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

1. Visible Emissions Subtype: <b>VE20</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: <b>Power Plant ONLY</b> Normal Conditions: Boiler only-20%    Exceptional Conditions:    27 % Maximum Period of Excess Opacity Allowed:    6 min/hour  <b>Power Plant and Cement ONLY</b> Normal Conditions: Boiler only-10%    Exceptional Conditions:    17 % Maximum Period of Excess Opacity Allowed:    6 min/hour	
4. Method of Compliance: <b>DEP Method 9 annually</b>	
5. Visible Emissions Comment: <b>Based on Permit No. 0530021-011-AV</b>	

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

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

**EMISSIONS UNIT INFORMATION**Section **[1]** of **[1]****EU018-Power Plant****H. CONTINUOUS MONITOR INFORMATION**

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

**Continuous Monitoring System:** Continuous Monitor **1** of **4**

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NO<sub>x</sub></b>
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule Other
4. Monitor Information... Manufacturer: <b>Thermoelecton</b> Model Number: <b>42I</b> Serial Number: <b>727725254</b>	
5. Installation Date: <b>12/13/2007</b>	6. Performance Specification Test Date: <b>12/18/2007</b>
7. Continuous Monitor Comment: <b>Required by CAIR, Permit No. 0530021-013-AV (proposed).</b>	

**Continuous Monitoring System:** Continuous Monitor **2** of **4**

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>CO<sub>2</sub></b>
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule Other
4. Monitor Information... Manufacturer: <b>Thermoelecton</b> Model Number: <b>410i</b> Serial Number: <b>733025819</b>	
5. Installation Date: <b>12/13/2007</b>	6. Performance Specification Test Date: <b>12/18/2007</b>
7. Continuous Monitor Comment: <b>Required by CAIR, Permit No. 0530021-013-AV (proposed).</b>	

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

EU018-Power Plant

**H. CONTINUOUS MONITOR INFORMATION (CONTINUED)****Complete if this emissions unit is or would be subject to continuous monitoring.****Continuous Monitoring System:** Continuous Monitor 3 of 4

1. Parameter Code: <b>FLOW</b>	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule Other
4. Monitor Information... Manufacturer: <b>EMRC</b> Model Number: Serial Number: <b>1117</b>	
5. Installation Date: <b>12/13/2007</b>	6. Performance Specification Test Date: <b>2/13/2008</b>
7. Continuous Monitor Comment: <b>Required by CAIR, Permit No. 0530021-013-AV (proposed).</b>	

**Continuous Monitoring System:** Continuous Monitor 4 of 4

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>SO<sub>2</sub></b>
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule Other
4. Monitor Information... Manufacturer: <b>Thermoelecton</b> Model Number: <b>410i</b> Serial Number: <b>733025819</b>	
5. Installation Date: <b>12/13/2007</b>	6. Performance Specification Test Date: <b>12/18/2007</b>
7. Continuous Monitor Comment: <b>Required by CAIR, Permit No. 0530021-013-AV (proposed).</b>	

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

EU018-Power Plant

**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) Attached, Document ID _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>4/14/05</u>
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>12/04</u>
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) Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>4/14/05 and NOx control 3/2009</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) Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**EU018-Power Plant**

**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 N/A**

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**

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**ATTACHMENT 01**  
**GREEN CIRCLE BIOENERGY Company Information**

# Pellet Specifications

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- ❑ Produced from Southern Yellow Pine.
  - ❑ White pellet, less than 1% bark content.
  - ❑ Moisture content of 7 – 10%
  - ❑ Ash content of approx. 0.5%
  - ❑ Energy content of 17.28 GJ/t (4.8 MWh/metric ton)
  - ❑ Cylindrical shape.
  - ❑ Dimensions:
    - Diameter: 8mm
    - Length: Max. 32 mm
    - No Chemicals added.
-

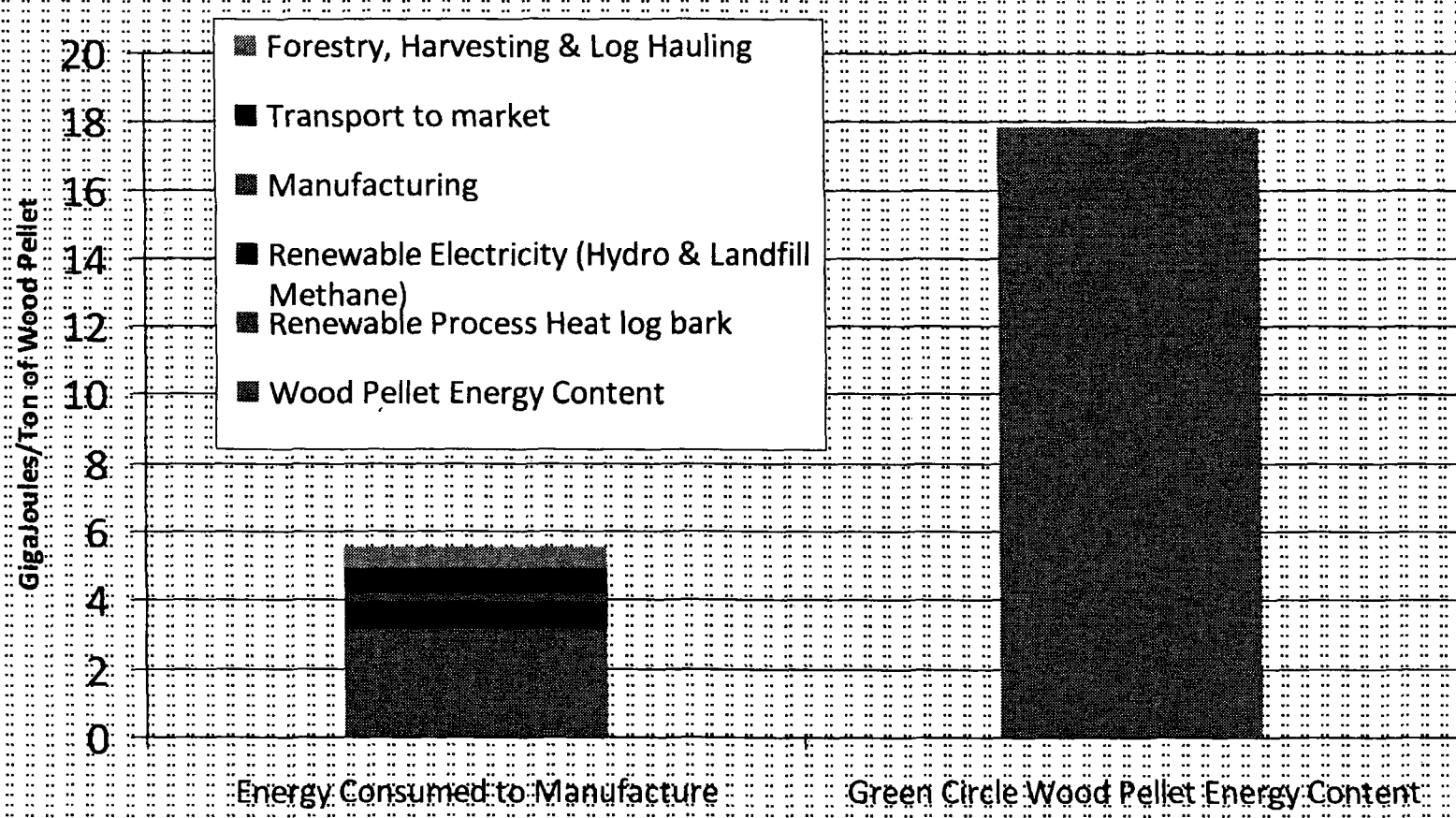




# Locations



# Net Energy Gain, Graphically Illustrated

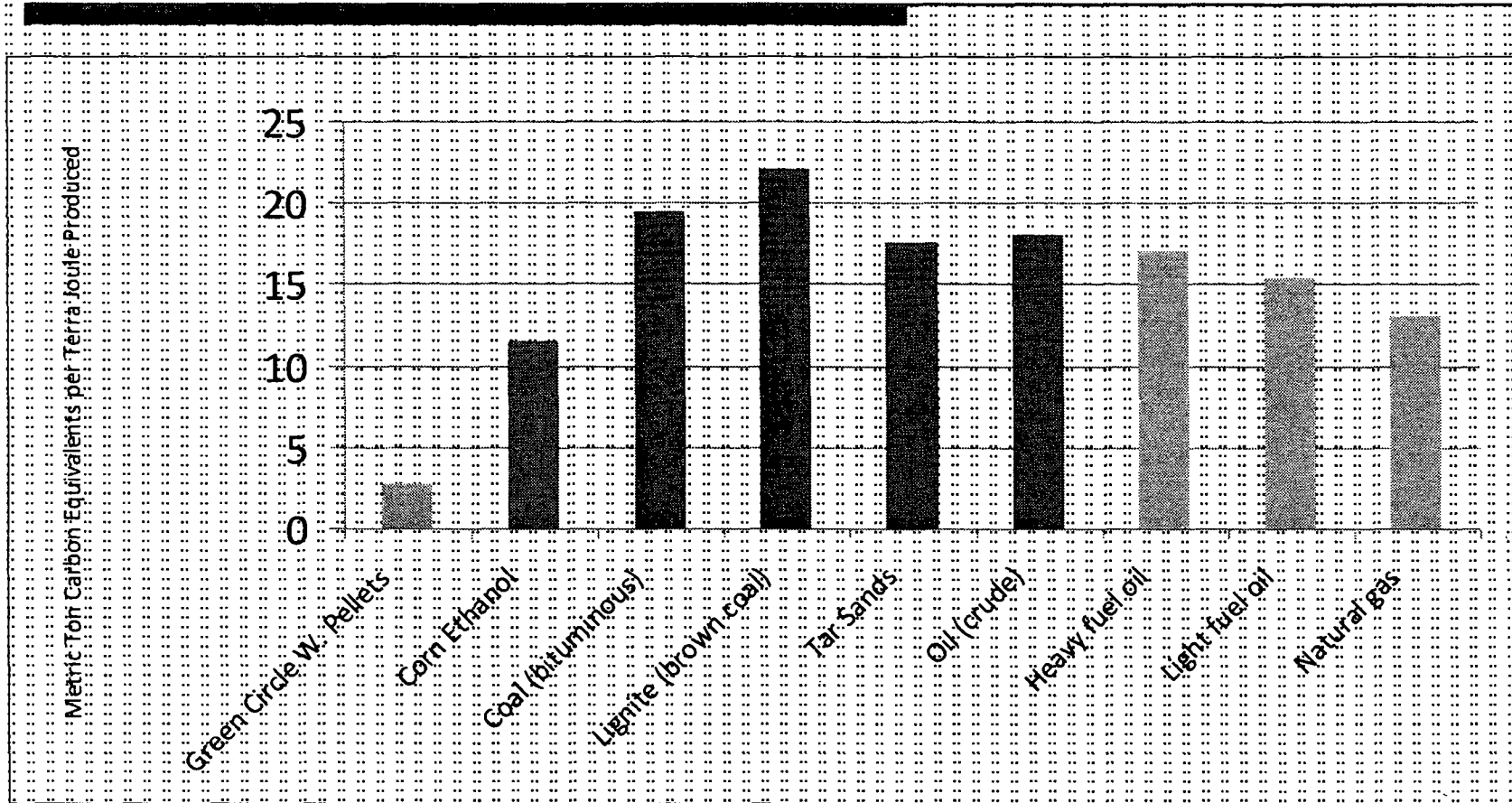


# Emissions



## Non-Renewable Carbon Equivalents Produced By Combustion Of Various Fuels

Metric Tons per Tera Joule produced.



*The low consumption of fossil energy used in Green Circle's wood pellet production, with the resulting high net return on energy, results in reduced carbon emission produced by combustion.*

**ATTACHMENT 02**  
**Emission Calculations and Material Comparisons**

**Central Power and Lime (facility ID: 0530021)**

**Proposed Trial Burn Schedule: Biomass, wood pellets from Green Circle BioEnergy, Inc.**

heat values

coal 12500 btu/lb=  
wood 7500 btu/lb=

25 mmbtu/ton  
15 mmbtu/ton

reference

AP-42, App. A  
Green Circle BioEnergy

estimated dates start	end	estimated # of days	wood heat replacement %	rate of firing			mass of firing			
				coal mmbtu/hr	wood mmbtu/hr	total mmbtu/hr	coal ton/hr	ton/period	wood ton/hr	ton/period
31-Aug	5-Sep	5	10	1665	185	1850	66.6	7,992	12.3	1,480
8-Sep	13-Sep	5	20	1480	370	1850	59.2	7,104	24.7	2,960
15-Sep	20-Sep	5	30	1295	555	1850	51.8	6,216	37.0	4,440
22-Sep	27-Sep	5	40	1110	740	1850	44.4	5,328	49.3	5,920
29-Sep	4-Oct	5	50	925	925	1850	37.0	4,440	61.7	7,400

↓  
27-Feb

Total mass	<u>23,088</u>	<u>20,720</u>
		limit to 20,000
note: total coal, if no co-firing=	35,520	

Central Power and Lime (facility ID: 0530021)

Proposed Trial Burn: Biomass, wood pellets from Green Circle BioEnergy, Inc.

compound	coal concentration	analysis comment	Analysis1			Analysis2			Analysis3		
			wood concentration	laboratory analysis	comment	wood content	laboratory analysis	comment	wood content	laboratory analysis	comment
moisture						as received			as received		
ash	8					%	4.2		%	4.2	
gross heat content						btu/lb	0.5		btu/lb	0.5	
							8467.2			8501.4	
	ppm(w/w)		ppm(w/w)			ppm(w/w)			ppm(w/w)		
Sulfur	7000	CPL in-house				200			300		
Cl	1139	EPA TRI	<100	BDL	TLR	67			67	BDL	
F	86	EPA TRI	<5	BDL	TLR	34			29	BDL	
Hg	0.04	CPL in-house	<0.02	BDL	TLR						
Pb	10	EPA TRI	0.16		TLR						
Cd	0.16	EPA TRI	0.085		TLR						
As	19.1	EPA TRI	<0.02	BDL	TLR						
Ni	17.5	EPA TRI	<3	BDL	TLR						
Cr	16.3	EPA TRI	<5	BDL	TLR						

Material comparisons			
wood		coal	
tons burned	equivalent	tons burned	
20720	mmbtu of	=	12432
	coal =		
total mass		total mass	
lbs		lbs	
average			
btu/lb			Change in
8484.3			material using
			wood
ppm(w/w)	tons	tons	tons
250	5.2	87	-81.8
67	1.4	14.2	-12.8
32	0.7	1.1	-0.4
	lbs	lbs	lbs
0.02	1	1	-0.2
0.16	7	249	-242.0
0.085	4	4	-0.5
0.02	1	475	-474.1
3	124	435	-310.8
5	207	405	-198.1

Central Power and Lime (facility ID: 0530021)  
Proposed Trial Burn: Biomass, wood pellets from Green Circle BioEnergy, Inc.

	allowed materials maximum hourly coal ton/hr	wood ton/hr	maximum test period coal ton/period	schedule wood ton/period			
A)	no co-fire	74	35,520	20,000			
B)	co-fire	123	23,088	20,000			
<b>Carbon Monoxide</b>							
HOURLY							
A)	coal ton/hr	74	mmbtu/ton 25.00	factor lb/ton 0.5 =	lb/hr	37	EF reference AP42, Table 1.1-3
B)	wood ton/hr	123	mmbtu/ton 16.97	factor lb/mmbtu 0.6 =	lb/hr	1252	AP42, Table 1.6-2
Maximum hourly increase						1215 lbs	
TRIAL PERIOD							
A)	coal tons	35,520	mmbtu/ton 25.00	factor lb/ton 0.5 =	tons	8.9	
B)	coal tons	23,088	mmbtu/ton 25.00	factor lb/ton 0.5 =	tons	5.8	
B)	wood tons	20,000	mmbtu/ton 16.97	factor lb/mmbtu 0.6 =	tons	102	107.6
Maximum period increase						98.7 tons	
<b>Sulfur Dioxide</b>							
HOURLY							
A)	coal ton/hr	74	mmbtu/ton 25.00	factor lb/ton 245000 =	lb/hr	18130000	EF reference AP42, Table 1.1-3
B)	wood ton/hr	123	mmbtu/ton 16.97	factor lb/mmbtu 0.025 =	lb/hr	52	AP42, Table 1.6-2
Maximum hourly increase						-18129948 lbs	
TRIAL PERIOD							
A)	coal tons	35,520	mmbtu/ton 25.00	factor lb/ton 245000 =	tons	4351200.0	
B)	coal tons	23,088	mmbtu/ton 25.00	factor lb/ton 245000 =	tons	2828280.0	
B)	wood tons	20,000	mmbtu/ton 16.97	factor lb/mmbtu 0.025 =	tons	4	2828284.2
Maximum period increase						-1522915.8 tons	
<b>Nitrogen Oxide</b>							
HOURLY							
A)	coal ton/hr	74	mmbtu/ton 25.00	factor lb/ton 12 =	lb/hr	888	EF reference AP42, Table 1.1-3
B)	wood ton/hr	123	mmbtu/ton 16.97	factor lb/mmbtu 0.49 =	lb/hr	1023	AP42, Table 1.6-2
Maximum hourly increase						135 lbs	
TRIAL PERIOD							
A)	coal tons	35,520	mmbtu/ton 25.00	factor lb/ton 12 =	tons	213.1	
B)	coal tons	23,088	mmbtu/ton 25.00	factor lb/ton 12 =	tons	138.5	
B)	wood tons	20,000	mmbtu/ton 16.97	factor lb/mmbtu 0.49 =	tons	82	221.7
Maximum period increase						8.6 tons	

Central Power and Lime (facility ID: 0530021)

Proposed Trial Burn: Biomass, wood pellets from Green Circle BioEnergy, Inc.

	allowed materials	maximum		maximum	
		hourly	wood	test period	schedule
	coal	ton/hr	ton/hr	coal	wood
				ton/period	ton/period
A)	no co-fire	74		35,520	
B)	co-fire		123	23,088	20,000

HOURLY						
Volatile Organic Compounds	coal	ton/hr	mmbtu/ton	factor	lb/ton	EF reference
A)	74	25.00	0.06 =	4.44	AP42, Table 1.1-19	
	wood	ton/hr	mmbtu/ton	factor	lb/mmbtu	lb/hr
B)	123	16.97	0.017 =	35	AP42, Table 1.6-3	
Maximum hourly increase					31 lbs	
TRIAL PERIOD						
	coal	tons	mmbtu/ton	factor	lb/ton	tons
A)	35,520	25.00	0.06 =	1.1		
B)	23,088	25.00	0.06 =	0.7		
	wood	tons	mmbtu/ton	factor	lb/mmbtu	tons
B)	20,000	16.97	0.017 =	3	3.6	
Maximum period increase					2.5 tons	

HOURLY						
PM	coal	ton/hr	mmbtu/ton	factor	lb/ton	EF reference
A)	74	25.00	0.12 =	8.88	AP42, Table 1.1-9	
	wood	ton/hr	mmbtu/ton	factor	lb/mmbtu	lb/hr
B)	123	16.97	0.1 =	209	AP42, Table 1.6-1	
Maximum hourly increase					200 lbs	
TRIAL PERIOD						
	coal	tons	mmbtu/ton	factor	lb/ton	tons
A)	35,520	25.00	0.12 =	2.1		
B)	23,088	25.00	0.12 =	1.4		
	wood	tons	mmbtu/ton	factor	lb/mmbtu	tons
B)	20,000	16.97	0.1 =	17	18.4	
Maximum period increase					18.2 tons	



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 website: www.tlr.nl



**Analytical Report**

To whom it may concern

Reportnr. : 182737 version 2	Disponent Number : 41153
Product recognized as : Hout/Wood/Bois/Holz/Madera	Sampling Date : 21-Apr-2009
Product Specification : Wood Fuel Pellets (White)	Sample size (kg) : 3,051
Reference :	Sealed / Seal Code : No /
AWB / BarCode : 6164	Sample Arrival Date : 21-Apr-2009 13:41
Packing : Plastic	ReportDate Version : 27-Apr-2009 17:17
Sample Type : BIS	
Seller Unloader : Green Circle Bio Energy Inc.	TonnageEx Lot (mt) : 11148,000
Ex : Star Fuji / Star Fraser	Lot/Colli Number : 1
Hold/Batch Number : 99190000	Destination : ESSENT GTB
Buyer : Essent Trading International S.A. (ETISA)	
Disp. SampleType : Loadport	
Disp. Remark : Pre-shipment sample Green Circle	

**Preparation**

Common				
Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)	
Preparation sample	Biomass preparation according CEN14780&CEN14418			Q

**Composition Determination**

Common					
Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)		
AFT (oxid) DT			1160	gr.C	Q
AFT (oxid) ST			1180	gr.C	Q
AFT (oxid) HT			1190	gr.C	Q
AFT (oxid) FT			1220	gr.C	Q
particles >4 mm			0,88	%	
particles >2 - <4 mm			10,03	%	
particles 1> - <2 mm			37,98	%	
particles >0,5 - <1 mm			28,02	%	
particles >0,213 - <0,5 mm			14,01	%	
particles >0,1 - <0,212mm			6,60	%	
particles <0,1mm			2,47	%	

**Metal and other elements**

Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)		
Cl (Chlorine)			< 0,010	%	Q

**Ash Determination**

Common			
Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)

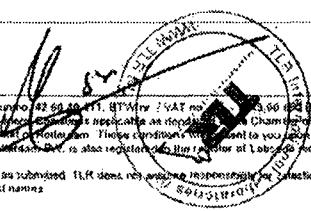
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Analyses according to annex

Drs. ing. H. Janssens Technical Director TLR International Laboratories



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 and at the registry of the Chamber of Commerce Rotterdam. Those conditions are sent to you upon your request.  
 TLR Technische Laboratoria Rotterdam B.V. is also registered at the Register of Laboratories recognized test laboratories under no. 10718.  
 Findings are based on the sample as submitted. TLR does not assume responsibility for collection, representativity and identification, such as codes, markings of product names.



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 website: www.tlr.nl



## Analytical Report

Reportnr. : 182737 version 2	Disponent Number : 41153
Product recognized as : Hout/Wood/Bois/Holz/Madera	Sampling Date : 21-Apr-2009
Product Specification : Wood Fuel Pellets (White)	Samplesize (kg) : 3,051
Reference :	Sealed / Seal Code : No /
AWB / BarCode : 6164	Sample Arrival Date : 21-Apr-2009 13:41
Packing : Plastic	ReportDate Version : 27-Apr-2009 17:17
Sample Type : BIS	

SiO2	22,48	%
Al2O3	3,02	%
Fe2O3	1,76	%
CaO	34,08	%
MgO	11,63	%
Na2O	2,53	%
K2O	10,95	%
TiO2	< 0,20	%
P2O5	4,29	%
SO3	2,93	%

### Contaminations

#### Metal and other elements

Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)		
Cd (Cadmium)			0,085	mg/kg	Q
Pb (Lead)			0,16	mg/kg	Q
As (Arsenic)			< 0,020	mg/kg	Q
Mo (Molybdenum)			< 0,5	mg/kg (ppm)	
Hg (Mercury)			< 0,020	mg/kg	Q
Sb (Antimony)			< 2,0	mg/kg	
Tl (Thallium)			< 1,0	mg/kg (ppm)	
Te (Tellurium)			1,9	mg/kg (ppm)	
Mn (Manganese)			143,5	mg/kg	Q
Zn (Zinc)			9,1	mg/kg	Q
Ni (Nickel)			< 3,0	mg/kg	
Se (Selenium)			< 1,00	mg/kg	Q
Cr (Chromium)			< 5,0	mg/kg	Q
Ba (Barium)			6,7	mg/kg (ppm)	
Co (Cobalt)			< 0,10	mg/kg	Q
Cu (Copper;AAS)			< 5,00	mg/kg	Q
F (Fluorine)			< 5,0	mg/kg	Q
V (Vanadium)			< 1,0	mg/kg (ppm)	Q
Sn (Tin)			< 0,3	mg/kg (ppm)	

Demanded 21-Apr-2009 by PBL

Analyses according to annex

Drs. ing. H. Janssens Technical Director TLR International Laboratories

Page 2 of 4



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 and at the registry of the District Court of Rotterdam. These conditions can be sent to you upon your request.  
 TLR Technisch Laboratorium Rotterdam B.V. is also registered in the register of the code recognised test laboratories under no  
 12318  
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 such as codes, addresses or product names

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website: www.tlr.nl

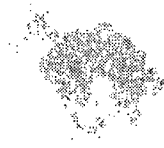


## Analytical Report

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Packing	: Plastic	ReportDate Version	: 27-Apr-2009 17:17
Sample Type	: BIS		

Q - Analysis accredited by RvA

This is version number 2 of the certificate. It cancels and replaces version number 1.

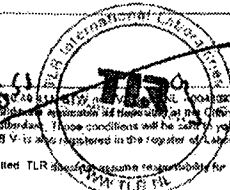


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Analyses according to annex  
Drs. Ing. H. Janssens Technical Director TLR International Laboratories

Page 3 of 4



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 Findings are based on the sample as submitted. TLR does not assume responsibility for selection, representativity and identifiers such as codes, marks or product names.



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## Analytical Report

Reportnr. : 182737 versjon 2	Disponent Number : 41153
Product recognized as : Hout/Wood/Bois/Holz/Madera	Sampling Date : 21-Apr-2009
Product Specification : Wood Fuel Pellets (White)	Sample size (kg) : 3,051
Reference :	Sealed / Seal Code : No /
AWB / BarCode : 6164	Sample Arrival Date : 21-Apr-2009 13:41
Packing : Plastic	ReportDate Version : 27-Apr-2009 17:17
Sample Type : BIS	

### ANNEX

#### Method Descriptions

#### Composition Determination

##### Common

##### Method Description

Determination of fusibility of ash; temperature-tube method

Method Code

NEN-ISO 540

##### Metal and other elements

##### Method Description

Determination of fluoride (F); IC method

Method Code

Own method

#### Contaminations

##### Metal and other elements

##### Method Description

Determination of arsenic (As); hydrid-AAS,  
 Destruction : NEN-EN 14084 ; analysis: draft NEN-EN 14546/(14627)

Method Code

Own method

Determination of Chromium (Cr);AAS

Own method

Determination of cobalt (Co); AAS

Own method

Determination of copper (Cu); AAS,  
 Equivalent to NEN-EN-ISO 6869

Own method

Wood: own method

Determination of fluoride (F); IC method

Own method

Determination of lead (Pb); grafit AAS,  
 Destruction : NEN-EN 14084 ; analysis: NEN-EN 14083

Own method

Determination of manganese (Mn); AAS. Equivalent to NEN-EN-ISO 6869  
 Wood: own method

Own method

Determination of mercury (Hg); AAS,  
 Destruction : NEN-EN 14084 ; analysis: NEN-EN 13806

Own method

Determination of selen (Se); AAS

Own method

Determination of vanadium (V); AAS

Own method

Determination of zinc (Zn); AAS,  
 Eq. to NEN-EN-ISO 6869  
 Wood: own method

Own method

Demanded 21-Apr-2009 by PBL

Analyses according to annex

Drs. ing. H. Janssens Technical Director TLR International Laboratories

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 Findings are based on the samples as submitted. TLR does not assume responsibility for incorrectness, representativity and identifications  
 such as notes, markings or product names



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Celebrating 125 years  
**Alfred H Knight**

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## CERTIFICATE OF ANALYSIS

CERTIFICATE NUMBER : 45979  
DATE OF ISSUE : 27th March 2009  
OUR REFERENCE : 290147 F  
MATERIAL : Woodpellets  
VESSEL : SAGA EXPLORER  
ELECTRABEL LOT : 0902002 A  
SUPPLIER CODE : USA05  
SAMPLED : On Discharge  
DATE SAMPLED : 20th-21st March 2009  
PORT : Vlissingen Ovet Terminal, Netherlands  
DESTINATION : Rodenhuijze Power Plant  
WEIGHT : 10198.889 Mt

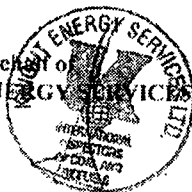
### Report of Analysis

PARAMETER	UNIT	AS RECEIVED	DRY BASIS	DRY ASH-FREE	TEST METHOD
TOTAL MOISTURE	%	4,2	-	-	CEN/TS 14774
ASH CONTENT	%	0,5	0,5	-	CEN/TS 14775
VOLATILE MATTER	%	80,5	84,0	84,4	CEN/TS 15148
FIXED CARBON	%	14,9	15,5	15,6	By Difference
TOTAL SULPHUR	%	0,03	0,03	0,03	CEN/TS 15289
CHLORINE	ppm	67	70	70	CEN/TS 15289
FLUORINE	ppm	29	30	30	ASTM D3761
ARSENIC	ppm	0,2	0,2	0,2	ICP/OES
CARBON	%	49,8	52,0	52,3	CEN/TS 15104
HYDROGEN	%	5,98	6,24	6,27	CEN/TS 15104
NITROGEN	%	0,10	0,10	0,10	CEN/TS 15104
OXYGEN	%	39,4	41,1	41,3	By Difference
GROSS CALORIFIC VALUE	KCal/Kg	4723	4928	4954	CEN/TS 14918
"	MI/Kg	19,775	20,631	20,741	CEN/TS 14918
NET CALORIFIC VALUE *	KCal/Kg	4406	-	-	CEN/TS 14918
"	MI/Kg	18,447	-	-	CEN/TS 14918
SiO2 IN ASH	%	-	21,14	-	ASTM D4326
EMISSION FACTOR **	ICO2/TJ	99	-	-	2003/87/EN

\* Net Calorific Value @ Constant Volume

\*\* Emission Factor as per European Parliament Directive 2003/87/EN

For and on behalf of  
KNIGHT ENERGY SERVICES LIMITED



KNIGHT ENERGY SERVICES LIMITED  
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Celebrating 125 years  
**Alfred H Knight**

## CERTIFICATE OF ANALYSIS

CERTIFICATE NUMBER : 45978  
DATE OF ISSUE : 27th March 2009  
OUR REFERENCE : 290147 E  
MATERIAL : Woodpellets  
VESSEL : SAGA EXPLORER  
ELECTRABEL LOT : 0902005 A  
SUPPLIER CODE : USA05  
SAMPLED : On Discharge  
DATE SAMPLED : 20th-21st March 2009  
PORT : Vlissingen Ovet Terminal, Netherlands  
DESTINATION : Antwerpen Kaai 95  
WEIGHT : 4425.572 Mt

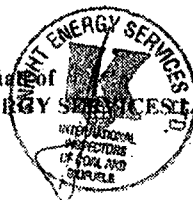
### Report of Analysis

PARAMETER	UNIT	AS RECEIVED	DRY BASIS	DRY ASH-FREE	TEST METHOD
TOTAL MOISTURE	%	4,2	-	-	CEN/TS 14774
ASH CONTENT	%	0,5	0,5	-	CEN/TS 14775
VOLATILE MATTER	%	80,2	83,7	84,1	CEN/TS 15148
FIXED CARBON	%	15,1	15,8	15,9	By Difference
TOTAL SULPHUR	%	0,02	0,02	0,02	CEN/TS 15289
CHLORINE	ppm	67	70	70	CEN/TS 15289
FLUORINE	ppm	34	35	35	ASTM D3761
ARSENIC	ppm	0,2	0,2	0,2	ICP/OES
CARBON	%	49,6	51,7	52,0	CEN/TS 15104
HYDROGEN	%	5,92	6,18	6,21	CEN/TS 15104
NITROGEN	%	0,10	0,10	0,10	CEN/TS 15104
OXYGEN	%	39,7	41,5	41,7	By Difference
GROSS CALORIFIC VALUE	KCal/Kg	4704	4912	4955	CEN/TS 14918
"	MJ/Kg	19,694	20,564	20,663	CEN/TS 14918
NET CALORIFIC VALUE*	KCal/Kg	4389	-	-	CEN/TS 14918
"	MJ/Kg	18,377	-	-	CEN/TS 14918
SiO2 IN ASH	%	-	21,04	-	ASTM D4326
EMISSION FACTOR**	tCO2/T	99	-	-	2003/87/EN

\* Net Calorific Value @ Constant Volume

\*\* Emission Factor as per European Parliament Directive 2003/87/EN

For and on behalf of  
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**ATTACHMENT 03**  
**Air Construction Description**

## CP&L Renewable Energy Study - Co Firing with Pulverized Coal

### Description of Air Construction permitting request:

This application follows up on the conference call on June 8, 2009 between, FDEP, Central Power and Lime and Koogler & Associates, Inc.

This application requests a trial burn of wood biomass to be co-fired with coal in the unit (EU018). The power plant unit is currently allowed to burn coal. Even though the pellet material, at this time is nearly six times the cost of coal, CPL believes the reduced carbon foot print of these pellets (see Attachment 3-Green Circle company information) and that biomass fuel is considered a carbon neutral fuel, that this material should be tested at this time. CPL believes this fuel may soon become economically viable if certain regulations and limitations arise to address greenhouse gas emissions.

The biomass consists of yellow pine wood pellets produced by a facility (facility ID: 0630058) owned by Green Circle BioEnergy Inc. in Jackson county, Florida. General information from the pellet producer is provided in Attachment 3. Attachment 4 includes analyses of the material properties and the resulting potential emissions of certain compounds (e.g., mercury, lead)

An academic study of the feasibility of burning this material is currently underway to evaluate the boundaries or limits of co-firing biomass with coal. Results of this study will be provided when the study is complete (expected to be complete in July). The information will be provided as a supplement to the application but is not believed to be essential to the application determination by FDEP.

The time frame requested to complete this trial burn study is 180 days. This amount of time will allow for any unexpected delays in the trial burn. The attached proposed schedule for trial burn shows that at increments of 10% of heat substitute, wood + coal firing will be tested, up to a 50:50 mix.

The pellets will be transported on-site by truck or rail, stored in the coal storage area and injected to burner system using the existing material handling system. Thus, no significant change in material handling will occur. In fact, the fugitive emissions are likely to be reduced due to material higher moisture content than coal.

Estimates of Emissions are compared based on AP-42 emission factors. To ensure the potential emissions increase of carbon monoxide does not exceed 100 tons, based on the AP-42 factors, the total amount of biomass is requested to be limited to 20,000 tons. Calculations are provided of CO potential emissions (Attachment 4). Emission calculations are provided in Attachment 4 which show that emissions for all pollutants, except for CO, should decrease with biomass co-firing.

#### Potential Emissions (tons)

	CO	SO <sub>2</sub>	NO <sub>x</sub>	VOC	PM
Coal only	8.9	435	213.1	1.1	2.1
Co-fire	107.6	287.1	221.7	3.6	18.4
<i>Diff:</i>	<i>98.7</i>	<i>-148</i>	<i>8.6</i>	<i>2.5</i>	<i>16.2</i>



Continuous monitoring of emissions for NOx, SO2 (part 75 certified), and CO (not certified but daily zero and span calibration) will be performed and results submitted to the Department within 30 days after the trial burn study is completed or before expiration of the permit and completion of the study, which is sooner.

Benefits:

- Promotes Governor's Action Team Plan goals (renewable and diverse fuels, CO2 reduction)
- Promotes renewable energy source originating in Florida
- Net energy gain of 3 to total energy consumed to create fuel
- Diversifies energy source, reduces dependence and transportation on out-of-state coal
- Creates jobs in Florida

Potential fuel supplier:

Green Circle Biomass (near Tallahassee)