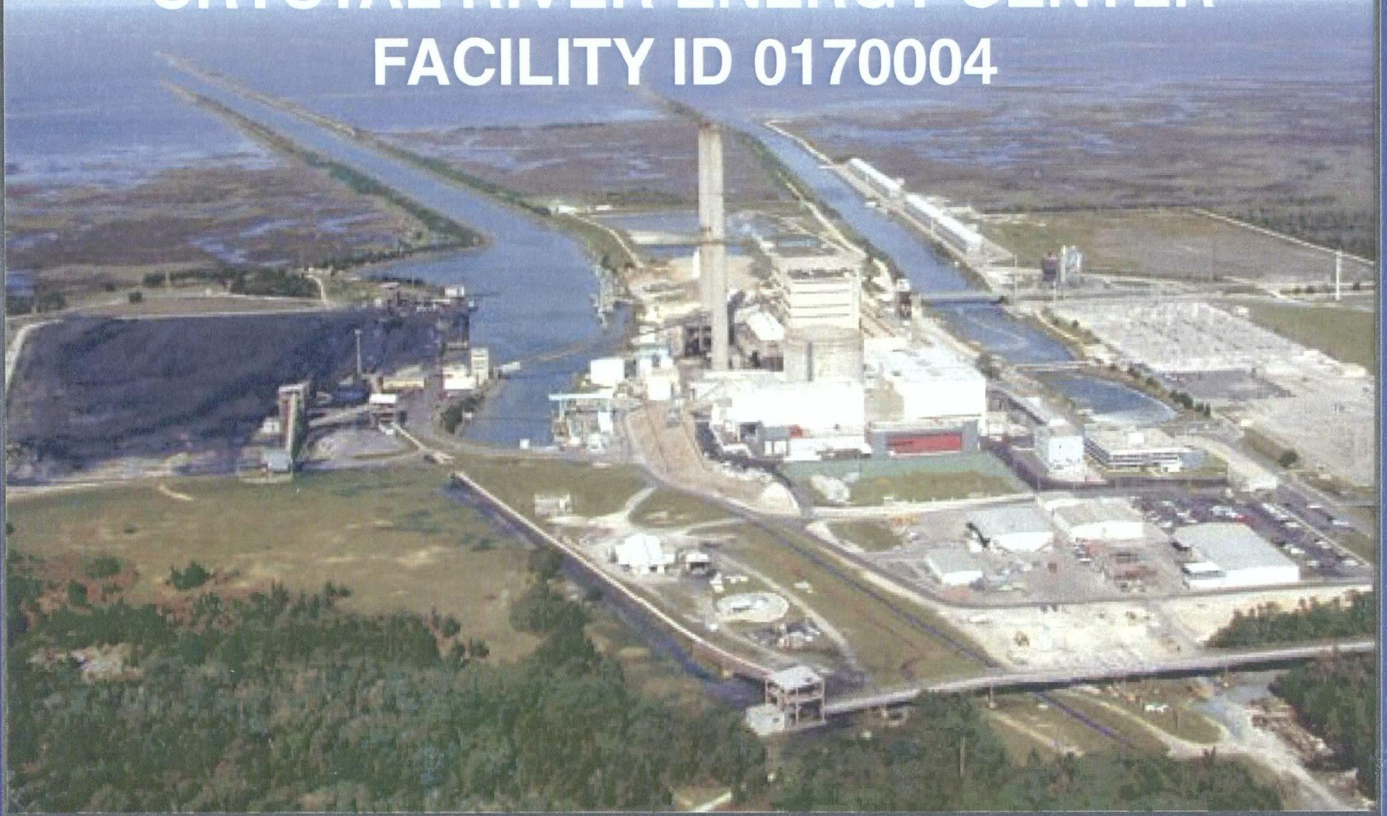




# Progress Energy

APPLICATION FOR TITLE V RENEWAL AND  
REVISION  
CRYSTAL RIVER ENERGY CENTER  
FACILITY ID 0170004



May 2009

08389614



**Golder Associates Inc.**

5100 West Lemon Street  
Suite 114  
Tampa, FL USA 33609  
Telephone: (813) 287-1717  
Fax: (813) 287-1716



May 20, 2009

Our Ref.: 083-89614

Mr. Jon Holtom, P.E.  
Title V Program Administrator  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blair Stone Road,  
MS 5000  
Tallahassee, Florida 32399-2400

RECEIVED

MAY 21 2009

Re: Application for Air Permit Revision and Renewal  
Crystal River Energy Center  
Facility ID No. 0170004

BUREAU OF AIR REGULATION

Dear Mr. Holtom:

Project No. : 0170004-024-AV

Enclosed please find one original and three copies of an application for revision and renewal of the current Title V air permit for the Crystal River Energy Center. (0170004-015-AV), located in Crystal River, Citrus County, Florida.

Progress Energy Florida (PEF) looks forward to working with you on this permitting effort. If you would like to discuss any issues regarding this application, please contact Mr. Dave Meyer in St. Petersburg by telephone at (727) 820-5295 or me at (813) 287-1717 in Tampa.

**GOLDER ASSOCIATES INC.**

Sincerely,

Scott Osbourn, P.E.  
Associate and Senior Consultant

Enclosure

Cc: Mara Nasca, DEP SW District  
Dave Meyer, PEF



# Department of Environmental Protection

## Division of Air Resource Management

### APPLICATION FOR AIR PERMIT - LONG FORM

#### I. APPLICATION INFORMATION

**Air Construction Permit** – Use this form to apply for an air construction permit:

- For 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;
- 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.

RECEIVED

MAY 21 2009

BUREAU OF AIR REGULATION

To ensure accuracy, please see form instructions.

#### Identification of Facility

1. Facility Owner/Company Name: <b>Progress Energy Florida, Inc.</b>	
2. Site Name: <b>Crystal River Power Plant</b>	
3. Facility Identification Number: <b>0170004</b>	
4. Facility Location... Street Address or Other Locator: <b>North of Crystal River, West of U.S.19</b> <b>15760 West Power Line Street</b> City: <b>Crystal River</b> County: <b>Citrus</b> Zip Code: <b>34428</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>Dave Meyer, Senior Environmental Specialist</b>	
2. Application Contact Mailing Address... Organization/Firm: <b>Progress Energy Florida, Inc.</b> Street Address: <b>299 First Ave., North, Mail Code PEF 903</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33701</b>	
3. Application Contact Telephone Numbers... Telephone: <b>(727) 820 - 5295</b> ext. Fax: <b>(727) 820 - 5229</b>	
4. Application Contact E-mail Address: <b>dave.meyer@pgnmail.com</b>	

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application: <b>5-21-09</b>	3. PSD Number (if applicable):
2. Project Number(s): <b>0170004-024-AV</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 Comment

**This application is for a Title V renewal and revision. The revisions (see Attachment CR-FI-C9) include changes to the lists of unregulated and insignificant activities. In addition, a revision is requested to incorporate a previous post-certification amendment (dated July 23, 2008) regarding operation of the Site No. 4 ambient monitoring station.**



## APPLICATION INFORMATION

### Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
001	Fossil Fuel Steam Generator (FFSG), Unit 1		
002	Fossil Fuel Steam Generator (FFSG), Unit 2		
003	Fossil Fuel Steam Generator (FFSG), Unit 5		
004	Fossil Fuel Steam Generator (FFSG), Unit 4		
006	Fly ash transfer (Source 1) from FFSG Unit 1		
008	Fly ash storage silo (Source 3) from FFSG Units 1 and 2		
009	Fly ash transfer (Source 4) from FFSG Unit 2		
010	Fly ash transfer (Source 5) from FFSG Unit 2		
013	Cooling towers for FFSG Units 1, 2, and 3, used to reduce plant discharge water temperature.		
014	Bottom ash storage silo for FFSG Units 1 and 2, which associated vacuum blower exhausts and bin vent filter (total of three emission points)		
015	Cooling towers for FFSG Units 4 and 5 used to reduce plant discharge water temperature.		
016	Material handling activities for coal-fired steam units.		
7775047, 001	Relocatable diesel generator(s)		
020	Portable Cooling Towers		

### 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 :
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Street Address: . City: State: Zip Code:
3. Owner/Authorized Representative Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Owner/Authorized Representative E-mail Address:
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: <b>Larry Hatcher, Plant Manager</b>
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 checked="" type="checkbox"/> The designated representative at an Acid Rain source, CAIR source, or Hg Budget source.
3. Application Responsible Official Mailing Address... Organization/Firm: <b>Progress Energy Florida</b> Street Address: <b>299 First Ave., North, Mail Code CN77</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33701</b>
4. Application Responsible Official Telephone Numbers... Telephone: <b>(352) 563-4484</b> ext. Fax: <b>(352) 563-4496</b>
5. Application Responsible Official E-mail Address: <b><u><a href="mailto:larry.hatcher@pgnmail.com">larry.hatcher@pgnmail.com</a></u></b>
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>  <div style="display: flex; justify-content: space-between;"><div>Signature <u><i>Larry E. Hatcher</i></u></div><div>Date <u><i>5/19/09</i></u></div></div>



## APPLICATION INFORMATION

### Professional Engineer Certification

1. Professional Engineer Name: **Scott H. Osbourn, Senior Consultant**

Registration Number: **57557**

2. Professional Engineer Mailing Address...

Organization/Firm: **Golder Associates, Inc.**

Street Address: **5100 West Lemon Street, Suite 114**

City: **Tampa**

State: **FL**

Zip Code: **33609**

3. Professional Engineer Telephone Numbers...

Telephone: **(813) 287-1717**

ext. Fax: **(813) 287-1716**

4. Professional Engineer E-mail Address: **sosbourn@golder.com**

5. Professional Engineer Statement:

*I, the undersigned, hereby certify, except as particularly noted herein\*, that:*

*(1) To the best of my knowledge, there is reasonable assurance 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*

*(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.*

*(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐ , 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.*

*(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 ☐ , 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.*

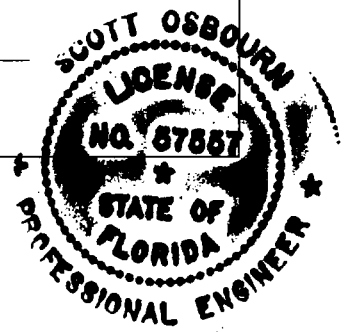
*(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☒ , if so), I further certify that, with the exception of any changes detailed as part of this application, 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.*

Signature

(seal)

Date

5/19/09



\* 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>334.3</b> North (km) <b>3204.5</b>		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) <b>28° 57' 34" N</b> Longitude (DD/MM/SS) <b>82° 42' 1" W</b>	
3. Governmental Facility Code: <b>0</b>	4. Facility Status Code: <b>A</b>	5. Facility Major Group SIC Code: <b>49</b>	6. Facility SIC(s): <b>4911</b>
7. Facility Comment:			

#### Facility Contact

1. Facility Contact Name: <b>Cyndy Wilkinson</b>	
2. Facility Contact Mailing Address... Organization/Firm: <b>Progress Energy Florida</b> Street Address: <b>299 First Ave., North, Mail Code CN77</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33701</b>	
3. Facility Contact Telephone Numbers: Telephone: <b>(352) 563-4484</b> ext. Fax: <b>(352) 563-4496</b>	
4. Facility Contact E-mail Address: <b>cyndy.wilkinson@pgnmail.com</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 INFORMATION

### Facility Regulatory Classifications

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

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input 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>Item 10-- The diesel generator on the unregulated emission unit list is subject to NESHAP, Subpart ZZZZ</b>	



## FACILITY INFORMATION

### List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
<b>NOX</b>	<b>A</b>	<b>N</b>
<b>SO2</b>	<b>A</b>	<b>N</b>
<b>CO</b>	<b>A</b>	<b>N</b>
<b>PM/PM10</b>	<b>A</b>	<b>N</b>
<b>VOC</b>	<b>A</b>	<b>N</b>

## FACILITY INFORMATION

### B. EMISSIONS CAPS

#### Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility-Wide Cap [Y or N]? (all units)	3. Emissions Unit ID'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:

## FACILITY INFORMATION

### C. FACILITY ADDITIONAL INFORMATION

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

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-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>CR-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>CR-FI-C3</u> <input type="checkbox"/> Previously Submitted, Date: _____

#### **Additional Requirements for Air Construction Permit Applications**

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-FI-C4</u> <input type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input type="checkbox"/> Attached, Document ID: _____
3. Rule Applicability Analysis: <input type="checkbox"/> Attached, Document ID: _____
4. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input 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 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 type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable



## FACILITY INFORMATION

### C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

#### Additional Requirements for FESOP Applications

- |  |
|--|
| 1. List of Exempt Emissions Units:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility) |
|--|

#### Additional Requirements for Title V Air Operation Permit Applications

- |   |
|---|
| 1. List of Insignificant Activities: (Required for initial/renewal applications only)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>CR-FI-C5</b> <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)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>CR-FI-C6</b><br><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)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>CR-FI-C7</b><br>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)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>CR-FI-C8</b><br><input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed<br><input type="checkbox"/> Not Applicable   |
| 5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable  |
| 6. Requested Changes to Current Title V Air Operation Permit:<br><input checked="" type="checkbox"/> Attached, Document ID: <b>CR-FI-C9</b> <input type="checkbox"/> Not Applicable   |

## FACILITY INFORMATION

### 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: **CR-FI-C10** ☐ Previously Submitted, Date: \_\_\_\_\_

☐ Not Applicable (not an Acid Rain source)

Phase II NO<sub>x</sub> Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

☒ Attached, Document ID: **CR-FI-C11** ☐ 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: **CR-FI-C12** ☐ 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

**The Hg Budget Part is no longer an applicable requirement.**

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFFSG Unit 1

### 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 [14]  
FFSG Unit 1

### A. GENERAL EMISSIONS UNIT INFORMATION

#### Title V Air Operation Permit Emissions Unit Classification

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

- ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

#### Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

- ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

**Fossil Fuel Steam Generator Unit 1**

3. Emissions Unit Identification Number: **001**

4. Emissions Unit Status Code: <b>A</b>	5. Commence Construction Date:	6. Initial Startup Date: <b>01-Oct-1966</b>	7. Emissions Unit Major Group SIC Code: <b>49</b>
--	--------------------------------	--	---

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

- ☒ Acid Rain Unit
- ☒ CAIR Unit
- ☐ Hg Budget Unit

9. Package Unit:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **441 MW**

11. Emissions Unit Comment: **Pulverized coal dry bottom boiler, tangentially-fired. Generator nameplate rating: 440.5 MW.**

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFFSG Unit 1

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

1. Control Equipment/Method Description:  
Electrostatic Precipitator (high efficiency 95-99.9%)

2. Control Device or Method Code: 10

### **Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### **Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### **Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFSG Unit 1

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:
2. Maximum Production Rate:
3. Maximum Heat Input Rate: <b>3,750 million Btu/hr</b>
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year hours/year
6. Operating Capacity/Schedule Comment: <b>Maximum heat input rate based on heat rate tests at maximum operating load.</b>

**EMISSIONS UNIT INFORMATION**

Section [1] of [14]  
FFFSG Unit 1

**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>EU1</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>V</b>		6. Stack Height: <b>499 feet</b>	
		7. Exit Diameter: <b>15 feet</b>	
8. Exit Temperature: <b>291 °F</b>		9. Actual Volumetric Flow Rate: <b>1,407,923 acfm</b>	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: 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:			

**EMISSIONS UNIT INFORMATION**

Section [1] of [14]  
 FFFSG Unit 1

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 3

1. Segment Description (Process/Fuel Type): <b>Bituminous coal and coal briquette</b>		
2. Source Classification Code (SCC): <b>101-002-02</b>	3. SCC Units: <b>Tons Bituminous Coal Burned</b>	
4. Maximum Hourly Rate: <b>156.3</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>25</b>
10. Segment Comment: <b>Bituminous coal and coal briquette. Btu value per SCC unit assumes 12,500 Btu/lb.</b>		

**Segment Description and Rate:** Segment 2 of 3

1. Segment Description (Process/Fuel Type): <b>Distillate Fuel Oil</b>		
2. Source Classification Code (SCC): <b>101-005-01</b>	3. SCC Units: <b>1,000 Gallons Distillate Oil (No. 1 and 2) Burned</b>	
4. Maximum Hourly Rate: <b>27.174</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>0.5</b>	8. Maximum % Ash: <b>0.1</b>	9. Million Btu per SCC Unit: <b>138</b>
10. Segment Comment: <b>Distillate fuel oil is used for startup.</b>		

**Segment Description and Rate:** Segment 3 of 3

1. Segment Description (Process/Fuel Type): <b>On-speciation used oil</b>		
2. Source Classification Code (SCC): <b>101-013-02</b>	3. SCC Units: <b>1,000 Gallons Waste Oil Burned</b>	
4. Maximum Hourly Rate: <b>27.174</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>2.5</b>	8. Maximum % Ash: <b>0.9</b>	9. Million Btu per SCC Unit: <b>138</b>
10. Segment Comment: <b>Used oil specification: Arsenic 5 ppm, Cadmium 2 ppm, Chromium 10 ppm, Lead 100 ppm, Total Halogens 1000 ppm, PCB 50 ppm. 10 million gal/12 month limit for all 4 generators (FFSG 1, 2, 4 &amp; 5).</b>		

**EMISSIONS UNIT INFORMATION**

Section [1] of [14]

FFFSG Unit 1

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/PM10	10		EL
SO2			EL
NOX			EL
CO			NS
VOC			NS

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFSG Unit 1

## POLLUTANT DETAIL INFORMATION

Page [1] of [5]

**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>99</b>	
3. Potential Emissions: <b>375 lb/hour                      2,053 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>0.125 lb/MMBtu</b>  Reference: <b>Permit Limit</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>0.1 lb/MMBtu x 3,750 MMBtu/hr = 375 lbs/hr.</b>  <b>3,750 MMBtu/hr x 0.125 lb/MMBtu x 8,760 hr/yr / 2,000 lb/ton = 2,053 TPY</b>			
11. Potential, Fugitive, and Actual Emissions Comment:  <b>Emission factor based on 0.1 lb/MMBtu, 21 hours (steady-state); 0.3 lb/MMBtu, 3 hours (sootblowing).</b>			

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFFSG Unit 1

## POLLUTANT DETAIL INFORMATION

Page [1] of [5]

**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>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.3 lbs/MMBtu heat input</b>	4. Equivalent Allowable Emissions: <b>1,125 lb/hour      2,053 tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>During the 3-hours in any 24-hour period allowed for boiler cleaning (soot blowing) and load change.</b>	

**Allowable Emissions** Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.1 lbs/MMBtu heat input</b>	4. Equivalent Allowable Emissions: <b>375 lb/hour      2,053 tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>During normal operations while firing coal.</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

Section [1] of [14]  
FFFSG Unit 1

## POLLUTANT DETAIL INFORMATION

Page [2] of [5]

**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>SO2</b>		2. Total Percent Efficiency of Control: <b>99</b>	
3. Potential Emissions: <b>7,875 lb/hour                      34,493 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>2.1 lb/MMBtu</b>  Reference: <b>Permit Limit</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>2.1 lb/MMBtu x 3,750 MMBtu/hr = 7,875 lbs/hr.</b>  <b>7,875 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 34,492.5 = 34,493 tons/yr</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFSG Unit 1

## POLLUTANT DETAIL INFORMATION

Page [2] of [5]

**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>2.1 lbs/MMBtu</b>	4. Equivalent Allowable Emissions: <b>7,875 lb/hour 34,493 tons/year</b>
5. Method of Compliance: <b>Fuel sampling and analysis.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>While burning coal. Basis for allowable emissions: PPSC PA 77-09.</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>1.05-percent sulfur in fuel</b>	4. Equivalent Allowable Emissions: <b>lb/hour tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>When burning coal/briquette mixture; annual average</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: <b>lb/hour tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFSG Unit 1

## POLLUTANT DETAIL INFORMATION

Page [3] of [5]

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>NOx</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>2,160 lb/hour                      9,461 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>14.4 lb/ton</b>  Reference: <b>AP-42</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:  $3,750 \text{ MMBtu/hr} \times \text{lb}/12,500 \text{ Btu} \times \text{ton}/2,000 \text{ lb} \times 14.4 \text{ lb/ton} = 2,160 \text{ lbs/hr.}$ $2,160 \text{ lbs/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 9,461 \text{ tons/yr}$			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**Section [1] of [14]  
FFFSG Unit 1**POLLUTANT DETAIL INFORMATION**

Page [3] of [5]

**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>RULE</b>	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):  * see Acid Rain Part 75 Phase II NOx Averaging Plan	

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

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

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

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

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFSG Unit 1

## POLLUTANT DETAIL INFORMATION

Page [4] of [5]

**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>75.0 lb/hour                      328.5 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</b>  Reference: <b>AP-42</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><math>3,750 \text{ MMBtu/hr} \times \text{lb}/12,500 \text{ Btu} \times \text{ton}/2,000 \text{ lb} \times 0.5 \text{ lb/ton} = 75.0 \text{ lbs/hr.}</math></b>  <b><math>75.0 \text{ lbs/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 328.5 \text{ tons/yr}</math></b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**Section [1] of [14]  
FFFSG Unit 1**POLLUTANT DETAIL INFORMATION**

Page [4] of [5]

**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**Section [1] of [14]  
FFSG Unit 1**POLLUTANT DETAIL INFORMATION**

Page [5] of [5]

**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>9.0 lb/hour                      39.4 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</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><math>3,750 \text{ MMBtu/hr} \times \text{lb}/12,500 \text{ Btu} \times \text{ton}/2,000 \text{ lb} \times 0.06 \text{ lb/ton} = 9.0 \text{ lbs/hr.}</math></b>  <b><math>9.0 \text{ lbs/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 39.4 \text{ tons/yr}</math></b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**Section [1] of [14]  
FFSG Unit 1**POLLUTANT DETAIL INFORMATION**

Page [5] of [5]

**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**

Section [1] of [14]  
FFSG Unit 1

**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: <b>VE40</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>40 %</b> Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment: <b>During normal operations.</b>	

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

1. Visible Emissions Subtype: <b>VE60</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>60 %</b> Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment: <b>During the 3-hrs in any 24 hr period allowed for boiler cleaning (soot blowing) and load change.</b>	

**EMISSIONS UNIT INFORMATION**

Section [1] of [14]  
FFFSG Unit 1

**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: <b>VE (opacity)</b>	2. Pollutant(s): <b>PM</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>DURAG/ENVIROPLAN</b> Model Number: <b>DR290-AW</b> Serial Number: <b>29641</b>	
5. Installation Date: <b>22-FEB-07</b>	6. Performance Specification Test Date: <b>23-FEB-07</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

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

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>SO2</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>Thermofisher Scientific</b> Model Number: <b>43I</b> Serial Number: <b>0706029493</b>	
5. Installation Date: <b>22-FEB-07</b>	6. Performance Specification Test Date: <b>06-APRIL-07</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

**EMISSIONS UNIT INFORMATION**

Section [1] of [14]  
FFFSG Unit 1

**H. CONTINUOUS MONITOR INFORMATION**

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

**Continuous Monitoring System:** Continuous Monitor **3 of 4**

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOx</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>42</b> Serial Number: <b>42-45963-275K</b>	
5. Installation Date: <b>22-FEB-07</b>	6. Performance Specification Test Date: <b>06-APR-07</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

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

1. Parameter Code: <b>CO2</b>	2. Pollutant(s):
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>41 H</b> Serial Number: <b>41H-45737-274</b>	
5. Installation Date: <b>22-FEB-07</b>	6. Performance Specification Test Date: <b>06-APR-07</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

## EMISSIONS UNIT INFORMATION

Section [1] of [14]  
FFFSG Unit 1

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

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

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU1-I1</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>CR-EU1-I2</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU1-I3</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU1-I4</u> <input type="checkbox"/> Previously Submitted, Date _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU1-I5</u> Test Date(s)/Pollutant(s) Tested: <u>NOx, SO<sub>2</sub> on 5/6, 14, 15 /08</u> <u>PM, VE on 5/12, 13 /08</u> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Section [1] of [14]  
FFFSG Unit 1

### **Additional Requirements for Air Construction Permit Applications**

- ### **Additional Requirements for Title V Air Operation Permit Applications**

- ### **Additional Requirements Comment**

## EMISSIONS UNIT INFORMATION

Section [2] of [14]  
FFSG Unit 2

### 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 [2] of [14]

FFFSG Unit 2

### 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:

**Fossil Fuel Steam Generator Unit 2**

3. Emissions Unit Identification Number: **002**

4. Emissions Unit  
Status Code:

**A**

5. Commence  
Construction  
Date:

6. Initial Startup  
Date:

**01-Nov-1969**

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:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **524 MW**

11. Emissions Unit Comment: **Pulverized coal dry bottom boiler, tangentially-fired. Generator nameplate rating: 523.8 MW.**

## EMISSIONS UNIT INFORMATION

Section [2] of [14]  
FFSG Unit 2

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

1. Control Equipment/Method Description:  
Electrostatic Precipitator (high efficiency 95-99.9%)

2. Control Device or Method Code: 10

### **Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### **Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### **Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:



## EMISSIONS UNIT INFORMATION

Section [2] of [14]  
FFFSG Unit 2

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:
2. Maximum Production Rate:
3. Maximum Heat Input Rate: <b>4,795 million Btu/hr</b>
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year hours/year
6. Operating Capacity/Schedule Comment:

**EMISSIONS UNIT INFORMATION**

Section [2] of [14]  
FFFSG Unit 2

**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>EU2</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>V</b>		6. Stack Height: <b>502 feet</b>	
		7. Exit Diameter: <b>16 feet</b>	
8. Exit Temperature: <b>300 °F</b>		9. Actual Volumetric Flow Rate: <b>1,931,324 acfm</b>	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: 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:			

**EMISSIONS UNIT INFORMATION**

Section [2] of [14]  
 FFFSG Unit 2

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate: Segment 1 of 3**

1. Segment Description (Process/Fuel Type): <b>Bituminous coal</b>		
2. Source Classification Code (SCC): <b>101-002-12</b>	3. SCC Units: <b>Tons Bituminous Coal Burned</b>	
4. Maximum Hourly Rate: <b>199.8</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>25</b>
10. Segment Comment: <b>Bituminous coal and coal briquette</b>		

**Segment Description and Rate: Segment 2 of 3**

1. Segment Description (Process/Fuel Type): <b>Distillate Fuel Oil (No.1 and No.2)</b>		
2. Source Classification Code (SCC): <b>101-005-01</b>	3. SCC Units: <b>1,000 Gallons Distillate Oil (No. 1 and 2) Burned</b>	
4. Maximum Hourly Rate: <b>34.746</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>0.5</b>	8. Maximum % Ash: <b>0.1</b>	9. Million Btu per SCC Unit: <b>138</b>
10. Segment Comment: <b>Distillate fuel oil is used for startup.</b>		

**Segment Description and Rate: Segment 3 of 3**

1. Segment Description (Process/Fuel Type): <b>On-speciation used oil</b>		
2. Source Classification Code (SCC): <b>101-013-02</b>	3. SCC Units: <b>1,000 Gallons Waste Oil Burned</b>	
4. Maximum Hourly Rate: <b>34.746</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>2.5</b>	8. Maximum % Ash: <b>0.9</b>	9. Million Btu per SCC Unit: <b>138</b>
10. Segment Comment: <b>Used oil specification: Arsenic 5 ppm, Cadmium 2 ppm, Chromium 10 ppm, Lead 100 ppm, Total Halogens 1000 PPM, PCB 50 ppm. 10 million gal/12 month limit for all 4 generators (FFSG 1, 2, 4 &amp; 5).</b>		

**EMISSIONS UNIT INFORMATION**

Section [2] of [14]

FFSG Unit 2

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	10		EL
SO2			EL
NOx			EL
CO			NS
VOC			NS

## EMISSIONS UNIT INFORMATION

Section [2] of [14]  
FFFSG Unit 2

## POLLUTANT DETAIL INFORMATION

Page [1] of [5]

**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:	
3. Potential Emissions: <b>479.5 lb/hour                      2,625 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>0.125 lb/MMBtu</b>  Reference: <b>Permit Limit</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>0.1 lb/MMBtu x 4,795 MMBtu/hr = 479.5 lbs/hr.</b>  <b>4,795 MMBtu/hr x 0.125 lb/MMBtu x 8,760 hr/yr / 2,000 lb/ton = 2,625 TPY</b>			
11. Potential, Fugitive, and Actual Emissions Comment:  <b>Emission factor based on 0.1 lb/MMBtu, 21 hours (steady-state); 0.3 lb/MMBtu, 3 hours (soot-blowing).</b>			

## EMISSIONS UNIT INFORMATION

Section [2] of [14]  
FFFSG Unit 2

## POLLUTANT DETAIL INFORMATION

Page [1] of [5]

## 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>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.3 lbs/MMBtu heat input</b>	4. Equivalent Allowable Emissions: <b>1,438.5 lb/hour      2,625 tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>During the 3-hours in any 24-hour period allowed for boiler cleaning (soot blowing) and load change.</b>	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.1 lbs/MMBtu heat input</b>	4. Equivalent Allowable Emissions: <b>479.5 lb/hour      2,625 tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>During normal operations while firing coal.</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

Section [2] of [14]  
FFSG Unit 2

## POLLUTANT DETAIL INFORMATION

Page [2] of [5]

**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>SO2</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>10,070 lb/hour      44,104 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>2.1 lb/MMBtu</b>  Reference: <b>Permit Limit</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>2.1 lb/MMBtu x 4,795 MMBtu/hr = 10,069.5 lbs/hr.</b>  <b>10,069.5 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 44,104 tons/yr</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

## EMISSIONS UNIT INFORMATION

Section [2] of [14]  
FFSG Unit 2

## POLLUTANT DETAIL INFORMATION

Page [2] of [5]

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>2.1 lbs/MMBtu</b>	4. Equivalent Allowable Emissions: <b>10,070 lb/hour 44,104 tons/year</b>
5. Method of Compliance: <b>Fuel sampling and analysis.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>While burning coal. Basis for allowable emissions: PPSC PA 77-09.</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>1.05-percent sulfur in fuel</b>	4. Equivalent Allowable Emissions: <b>lb/hour tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>When burning coal/briquette mixture; annual average.</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: <b>lb/hour tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	



## EMISSIONS UNIT INFORMATION

Section [2] of [14]  
FFSG Unit 2

## POLLUTANT DETAIL INFORMATION

Page [3] of [5]

**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>NOx</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>2,762 lb/hour                      12,097 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>14.4 lb/ton</b>  Reference: <b>AP-42</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:  $4,795 \text{ MMBtu/hr} \times \text{lb}/12,500 \text{ Btu} \times \text{ton}/2,000 \text{ lb} \times 14.4 \text{ lb/ton} = 2,762 \text{ lbs/hr.}$ $2,762 \text{ lbs/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 12,097 \text{ tons/yr.}$			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**Section [2] of [14]  
FFFSG Unit 2**POLLUTANT DETAIL INFORMATION**

Page [3] of [5]

**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>RULE</b>	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):  * see Acid Rain Part 75 Phase II NOx Averaging Plan.	

**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: <b>CO</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>95.9 lb/hour                      420.1 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</b>  Reference: <b>AP-42</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>4,795 MMBtu/hr x lb/12,500 Btu x ton/2,000 lb x 0.5 lb/ton = 95.9 lbs/hr.</b>  <b>95.9 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 420.1 tons/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 \_\_\_

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

Section [2] of [14]  
FFFSG Unit 2

## POLLUTANT DETAIL INFORMATION

Page [5] of [5]

**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>11.5 lb/hour                      50.4 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</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>4,795 MMBtu/hr x lb/12,500 Btu x ton/2,000 lb x 0.06 lb/ton = 11.5 lbs/hr.</b>  <b>11.5 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 50.4 tons/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 \_\_\_

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**

Section [2] of [14]  
FFFSG Unit 2

**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: <b>VE20</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>20 %</b> Exceptional Conditions: <b>40%</b> Maximum Period of Excess Opacity Allowed: <b>2 min/hour</b>	
4. Method of Compliance:	
5. Visible Emissions Comment: <b>During normal operations.</b>	

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

1. Visible Emissions Subtype: <b>VE60</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>60 %</b> Exceptional Conditions: <b>%</b> Maximum Period of Excess Opacity Allowed: <b>min/hour</b>	
4. Method of Compliance:	
5. Visible Emissions Comment: <b>During the 3-hrs in any 24 hr period allowed for boiler cleaning (soot blowing) and load change.</b>	

**EMISSIONS UNIT INFORMATION**

Section [2] of [14]

FFFSG Unit 2

**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: <b>VE (opacity)</b>	2. Pollutant(s): <b>PM</b>
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>DURAG/ENVIROPLAN</b> Model Number: <b>DR281-AV</b> Serial Number: <b>29848</b>	
5. Installation Date: <b>01-NOV-06</b>	6. Performance Specification Test Date: <b>03-NOV-06</b>
7. Continuous Monitor Comment:	

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

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>SO2</b>
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>43B</b> Serial Number: <b>43B-46128-275</b>	
5. Installation Date: <b>01-NOV-06</b>	6. Performance Specification Test Date: <b>10-NOV-06</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	



**EMISSIONS UNIT INFORMATION**

Section [2] of [14]  
FFFSG Unit 2

**H. CONTINUOUS MONITOR INFORMATION**

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

**Continuous Monitoring System:** Continuous Monitor **3 of 4**

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOx</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>42</b> Serial Number: <b>42-45965-275</b>	
5. Installation Date: <b>01-NOV-06</b>	6. Performance Specification Test Date: <b>03-NOV-06</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

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

1. Parameter Code: <b>CO2</b>	2. Pollutant(s):
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>41 H</b> Serial Number: <b>41H-44969-273</b>	
5. Installation Date: <b>01-NOV-06</b>	6. Performance Specification Test Date: <b>03-NOV-06</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

## EMISSIONS UNIT INFORMATION

Section [2] of [14]  
FFFSG Unit 2

### 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>CR-EU1-I1</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>CR-EU1-I2</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU1-I3</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU1-I4</u> <input type="checkbox"/> Previously Submitted, Date _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU2-I5</u> Test Date(s)/Pollutant(s) Tested: <u>NOx, SO<sub>2</sub> on 5/16, 19 /08</u> <u>PM, VE on 5/20, 21 /08</u> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Section [2] of [14]  
FFSG Unit 2

### **Additional Requirements for Air Construction Permit Applications**

## **Additional Requirements for Title V Air Operation Permit Applications**

### **Additional Requirements Comment**

DEP Form No. 62-210.900(1) – Form  
Effective: 3/16/08

## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFFSG Unit 5

### 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 [3] of [14]

FFFSG Unit 5

**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:

**Fossil Fuel Steam Generator Unit 5**

3. Emissions Unit Identification Number: **003**

4. Emissions Unit  
Status Code:

**A**

5. Commence  
Construction  
Date:

6. Initial Startup  
Date:

**01-Dec-1984**

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:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **760 MW**

11. Emissions Unit Comment: **Pulverized coal dry bottom boiler, wall-fired.**

## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFFSG Unit 5

### Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description:  
**Electrostatic Precipitator (high efficiency 95-99.9%)**

2. Control Device or Method Code: **10**

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFSG Unit 5

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:
2. Maximum Production Rate:
3. Maximum Heat Input Rate: <b>6,665 million Btu/hr</b>
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year hours/year
6. Operating Capacity/Schedule Comment:

**EMISSIONS UNIT INFORMATION**

Section [3] of [14]  
FFFSG Unit 5

**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>EU3</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>V</b>		6. Stack Height: <b>600 feet</b>	
		7. Exit Diameter: <b>25.5 feet</b>	
8. Exit Temperature: <b>253 °F</b>		9. Actual Volumetric Flow Rate: <b>2,979,000 acfm</b>	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: Dscfm		12. Nonstack Emission Point Height: 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:			



**EMISSIONS UNIT INFORMATION**

Section [3] of [14]  
FFSG Unit 5

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 4

1. Segment Description (Process/Fuel Type): <b>Bituminous coal &amp; bituminous coal briquette mixture</b>		
2. Source Classification Code (SCC): <b>101-002-02</b>	3. SCC Units: <b>Tons Bituminous Coal Burned</b>	
4. Maximum Hourly Rate: <b>277.7</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>24</b>
10. Segment Comment: <b>Bituminous coal and coal briquette</b>		

**Segment Description and Rate:** Segment 2 of 4

1. Segment Description (Process/Fuel Type): <b>Distillate Fuel Oil (No.1 and No.2)</b>		
2. Source Classification Code (SCC): <b>101-005-01</b>	3. SCC Units: <b>1,000 Gallons Distillate Oil (No. 1 and 2) Burned</b>	
4. Maximum Hourly Rate: <b>48.297</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>0.73</b>	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>138</b>
10. Segment Comment: <b>Distillate fuel oil is used for startup.</b>		

**Segment Description and Rate:** Segment 3 of 4

1. Segment Description (Process/Fuel Type): <b>On-speciation used oil</b>		
2. Source Classification Code (SCC): <b>101-013-02</b>	3. SCC Units: <b>1,000 Gallons Waste Oil Burned</b>	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>2.5</b>	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Used oil specification: Arsenic 5 ppm, Cadmium 2 ppm, Chromium 10 ppm, Lead 100 ppm, Total Halogens 1000 PPM, PCB 50 ppm. 10 million gal/12 month limit for all 4 generators (FFSG 1, 2, 4 &amp; 5).</b>		

**EMISSIONS UNIT INFORMATION**

Section [3] of [14]  
FFFSG Unit 5

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

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

1. Segment Description (Process/Fuel Type): <b>Natural Gas as startup and low-load flame stabilization fuel</b>		
2. Source Classification Code (SCC): <b>101-006-01</b>		3. SCC Units: <b>Million Cubic Feet Natural gas burned</b>
4. Maximum Hourly Rate: <b>277.7</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Natural gas as startup and low-load flame stabilization fuel.</b>		

**EMISSIONS UNIT INFORMATION**

Section [3] of [14]  
FFSG Unit 5

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	10		EL
SO2			EL
NOx			EL
CO			NS
VOC			NS

## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFSG Unit 5

## POLLUTANT DETAIL INFORMATION

Page [1] of [5]

**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:	
3. Potential Emissions: <b>667 lb/hour                      2,919 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>0.1 lb/MMBtu</b>  Reference: <b>Permit Limit</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>0.1 lb/MMBtu x 6,665 MMBtu/hr = 666.5 lbs/hr</b>  <b>666.5 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 2,919 TPY</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFFSG Unit 5

## POLLUTANT DETAIL INFORMATION

Page [1] of [5]

**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>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.1 lbs/MMBtu heat input</b>	4. Equivalent Allowable Emissions: <b>667 lb/hour      2,919 tons/year</b>
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 [3] of [14]  
FFSG Unit 5

## POLLUTANT DETAIL INFORMATION

Page [2] of [5]

**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>SO2</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>7,998 lb/hour                      35,031 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>1.2 lb/MMBtu</b>  Reference: <b>Permit Limit</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>1.2 lb/MMBtu x 6,665 MMBtu/hr = 7,998 lbs/hr</b>  <b>7,998 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 35,031 tons/yr</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFSG Unit 5

## POLLUTANT DETAIL INFORMATION

Page [2] of [5]

**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>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>1.2 lbs/MMBtu</b>	4. Equivalent Allowable Emissions: <b>7,998 lb/hour 35,031 tons/year</b>
5. Method of Compliance: <b>Fuel sampling and analysis.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>While burning coal. Basis for allowable emissions: PPSC PA 77-09.</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>0.68 percent sulfur in fuel</b>	4. Equivalent Allowable Emissions: <b>lb/hour tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>When burning coal/briquette mixture; annual average.</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: <b>lb/hour tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFFSG Unit 5

## POLLUTANT DETAIL INFORMATION

Page [3] of [5]

**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>NOx</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>3,332.5 lb/hour      14,596 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/MMBtu</b>  Reference: <b>Permit Condition B.7</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>Lb/hr = 6665 MMBtu/hr x 0.5 lb/MMBtu = 3,332.5 lbs/hr</b>  <b>TPY = 3,332.5 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 14,596 tons/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 1 of 3**

1. Basis for Allowable Emissions Code: <b>RULE</b>	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):  * see Acid Rain Part 75 Phase II NOx Averaging Plan.	

**Allowable Emissions Allowable Emissions 3 of 3**

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.7 lbs/MMBtu</b>	4. Equivalent Allowable Emissions: <b>4,666 lb/hour    20,435 tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>30 day rolling average</b>	

**Allowable Emissions Allowable Emissions 3 of 3**

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>Pounds per million BTU heat input</b>	4. Equivalent Allowable Emissions: lb/hour    tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFFSG Unit 5

## POLLUTANT DETAIL INFORMATION

Page [4] of [5]

**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>133.3 lb/hour                      583.9 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</b>  Reference: <b>AP-42</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><math>6,665 \text{ MMBtu/hr} \times \text{lb}/12,500 \text{ Btu} \times \text{ton}/2,000 \text{ lb} \times 0.5 \text{ lb/ton} = 133.3 \text{ lbs/hr.}</math></b>  <b><math>133.3 \text{ lbs/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 583.9 \text{ tons/yr.}</math></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 \_\_\_

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

Section [3] of [14]  
FFSG Unit 5

## POLLUTANT DETAIL INFORMATION

Page [5] of [5]

**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>16.0 lb/hour                      70.1 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</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><math>6,665 \text{ MMBtu/hr} \times \text{lb}/12,500 \text{ Btu} \times \text{ton}/2,000 \text{ lb} \times 0.06 \text{ lb/ton} = 16.0 \text{ lbs/hr.}</math></b>  <b><math>16.0 \text{ lbs/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 70.1 \text{ tons/yr.}</math></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 \_\_\_

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**

Section [3] of [14]  
FFSG Unit 5

**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 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: Normal Conditions: <b>20 %</b> Exceptional Conditions: <b>27%</b> Maximum Period of Excess Opacity Allowed: <b>6 min/hour</b>	
4. Method of Compliance:	
5. Visible Emissions Comment: <b>Unit has opacity monitor.</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: <b>  %  </b> Exceptional Conditions: <b>  %  </b> Maximum Period of Excess Opacity Allowed: <b>  min/hour  </b>	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**EMISSIONS UNIT INFORMATION**

Section [3] of [14]  
FFSG Unit 5

**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: <b>VE (opacity)</b>	2. Pollutant(s): <b>PM</b>
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>DURAG/ENVIROPLAN</b> Model Number: <b>CEMOP-281</b> Serial Number: <b>29859</b>	
5. Installation Date: <b>04-Apr-94</b>	6. Performance Specification Test Date: <b>04-DEC-94</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

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

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>SO2</b>
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>43B</b> Serial Number: <b>43B-46236-275</b>	
5. Installation Date: <b>04-Apr-94</b>	6. Performance Specification Test Date: <b>04-Dec-94</b>
7. Continuous Monitor Comment: <b>40 CFR 75, SO2</b>	

**EMISSIONS UNIT INFORMATION**

Section [3] of [14]  
FFFSG Unit 5

**H. CONTINUOUS MONITOR INFORMATION**

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

**Continuous Monitoring System:** Continuous Monitor **3 of 4**

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOx</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>42</b> Serial Number: <b>42-46066-275K</b>	
5. Installation Date: <b>04-Apr-94</b>	6. Performance Specification Test Date: <b>04-Dec-94</b>
7. Continuous Monitor Comment: <b>40 CFR 75, NOx</b>	

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

1. Parameter Code: <b>CO2</b>	2. Pollutant(s):
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>41 H</b> Serial Number: <b>41H-45738-274</b>	
5. Installation Date: <b>04-Apr-94</b>	6. Performance Specification Test Date: <b>04-Dec-94</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	



## EMISSIONS UNIT INFORMATION

Section [3] of [14]  
FFFSG Unit 5

### 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: <b>CR-EU3-I1</b> <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: <b>CR-EU3-I2</b> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU3-I3</b> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU1-I4</b> <input type="checkbox"/> Previously Submitted, Date _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU3-I5</b> Test Date(s)/Pollutant(s) Tested: <b>NOx, SO<sub>2</sub> RATA on 2/27/2008</b> <b>NOx, SO<sub>2</sub>, PM, VE on 2/1/2008</b> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Section [3] of [14]  
FFFSG Unit 5

### **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 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 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 type="checkbox"/> Not Applicable

1. Identification of Applicable Requirements:	<input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU3-I6</u>	
2. Compliance Assurance Monitoring:	<input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU1-I7</u>	<input type="checkbox"/> Not Applicable
3. Alternative Methods of Operation:	<input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU3-I8</u>	<input type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading):	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable

\_\_\_\_\_

## EMISSIONS UNIT INFORMATION

Section [4] of [14]  
FFSG Unit 4

### 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 [4] of [14]  
FFSG Unit 4

**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:

**Fossil Fuel Steam Generator Unit 4**

3. Emissions Unit Identification Number: **004**

4. Emissions Unit  
Status Code:

**A**

5. Commence  
Construction  
Date:

6. Initial Startup  
Date:  
**01-Dec-1982**

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:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **760 MW**

11. Emissions Unit Comment: **Pulverized coal dry bottom boiler, wall-fired.**

## EMISSIONS UNIT INFORMATION

Section **[4]** of **[14]**  
FFFSG Unit 4

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

1. Control Equipment/Method Description:  
**Electrostatic Precipitator (high efficiency 95-99.9%)**

2. Control Device or Method Code: **10**

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

## EMISSIONS UNIT INFORMATION

Section [4] of [14]  
FFSG Unit 4

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: <b>6,665 million Btu/hr</b>	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: hours/day weeks/year	days/week hours/year
6. Operating Capacity/Schedule Comment:	

**EMISSIONS UNIT INFORMATION**

Section [4] of [14]  
FFSG Unit 4

**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>EU4</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>V</b>	6. Stack Height: <b>600 feet</b>	7. Exit Diameter: <b>25.5 feet</b>	
8. Exit Temperature: <b>253 °F</b>	9. Actual Volumetric Flow Rate: <b>2,979,000 acfm</b>	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: 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:			

**EMISSIONS UNIT INFORMATION**

Section [4] of [14]  
FFSG Unit 4

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate: Segment 1 of 4**

1. Segment Description (Process/Fuel Type): <b>Bituminous coal &amp; bituminous coal briquette mixture</b>		
2. Source Classification Code (SCC): <b>101-002-02</b>	3. SCC Units: <b>Tons Bituminous Coal Burned</b>	
4. Maximum Hourly Rate: <b>277.7</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>24</b>
10. Segment Comment: <b>Bituminous coal and coal briquette</b>		

**Segment Description and Rate: Segment 2 of 4**

1. Segment Description (Process/Fuel Type): <b>Distillate Fuel Oil (No.1 and No.2)</b>		
2. Source Classification Code (SCC): <b>101-005-01</b>	3. SCC Units: <b>1,000 Gallons Distillate Oil (No. 1 and 2) Burned</b>	
4. Maximum Hourly Rate: <b>48.297</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>0.73</b>	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>138</b>
10. Segment Comment: <b>Distillate fuel oil is used for startup.</b>		

**Segment Description and Rate: Segment 3 of 4**

1. Segment Description (Process/Fuel Type): <b>On-speciation used oil</b>		
2. Source Classification Code (SCC): <b>101-013-02</b>	3. SCC Units: <b>1,000 Gallons Waste Oil Burned</b>	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Used oil specification: Arsenic 5 ppm, Cadmium 2 ppm, Chromium 10 ppm, Lead 100 ppm, Total Halogens 1000 PPM, PCB 50 ppm. 10 million gal/12 month limit for all 4 generators (FFSG 1, 2, 4 &amp; 5).</b>		



**EMISSIONS UNIT INFORMATION**

Section [4] of [14]  
FFSG Unit 4

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 4 of 4

1. Segment Description (Process/Fuel Type): <b>Natural Gas as startup and low-load flame stabilization fuel</b>		
2. Source Classification Code (SCC): <b>101-006-01</b>		3. SCC Units: <b>Million Cubic Feet Natural gas burned</b>
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Natural gas as startup and low-load flame stabilization fuel.</b>		

**EMISSIONS UNIT INFORMATION**

Section [4] of [14]  
FFSG Unit 4

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	10		EL
SO2			EL
NOx			EL
CO			NS
VOC			NS

## EMISSIONS UNIT INFORMATION

Section [4] of [14]  
FFFSG Unit 4

## POLLUTANT DETAIL INFORMATION

Page [1] of [5]

**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:	
3. Potential Emissions: <b>667 lb/hour                      2,919 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>0.1 lb/MMBtu</b>  Reference: <b>Permit Limit</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>0.1 lb/MMBtu x 6,665 MMBtu/hr = 666.5 lbs/hr</b>  <b>666.5 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 2,919 TPY</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

## EMISSIONS UNIT INFORMATION

Section [4] of [14]  
FFSG Unit 4

## POLLUTANT DETAIL INFORMATION

Page [1] of [5]

**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>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.1 lbs/MMBtu heat input</b>	4. Equivalent Allowable Emissions: <b>667 lb/hour                      2,919 tons/year</b>
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 [4] of [14]  
FFSG Unit 4

## POLLUTANT DETAIL INFORMATION

Page [2] of [5]

**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>SO2</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>7,998 lb/hour                      35,031 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>1.2 lb/MMBtu</b>  Reference: <b>Permit Limit</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>1.2 lb/MMBtu x 6,665 MMBtu/hr = 7,998 lbs/hr</b>  <b>7,998 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 35,031 tons/yr</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

## EMISSIONS UNIT INFORMATION

Section [4] of [14]  
FFSG Unit 4

## POLLUTANT DETAIL INFORMATION

Page [2] of [5]

**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: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>1.2 lbs/MMBtu</b>	4. Equivalent Allowable Emissions: <b>7,998 lb/hour 35,031 tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):  <b>520 nanograms per joule heat input 24-hr average while firing coal.</b>	

**Allowable Emissions Allowable Emissions 2 of 3**

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.8 lbs/MMBtu</b>	4. Equivalent Allowable Emissions: <b>5,332 lb/hour 23,354 tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):  <b>340 nanograms per joule heat input, 24-hr average derived from liquid fuel.</b>	

**Allowable Emissions Allowable Emissions 3 of 3**

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.68 percent sulfur in fuel</b>	4. Equivalent Allowable Emissions: <b>7,553 lb/hour 33,082 tons/year</b>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):  <b>While firing coal briquette mixture; annual average.</b>	

## EMISSIONS UNIT INFORMATION

Section [4] of [14]  
FFSG Unit 4

## POLLUTANT DETAIL INFORMATION

Page [3] of [5]

**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>3,332.5 lb/hour      14,596 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/MMBtu</b>  Reference: <b>Permit Condition B.7</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>Lb/hr = 6665 MMBtu/hr x 0.5 lb/MMBtu = 3,332.5 lbs/hr</b>  <b>TPY = 3,332.5 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 14,596 tons/yr</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

## EMISSIONS UNIT INFORMATION

Section [4] of [14]  
FFSG Unit 4

## POLLUTANT DETAIL INFORMATION

Page [3] of [5]

**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>RULE</b>	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):  * see Acid Rain Part 75 Phase II NOx Averaging Plan	

**Allowable Emissions** Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.7 lbs/MMBtu heat input</b>	4. Equivalent Allowable Emissions: <b>4,666</b> lb/hour <b>20,435</b> tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): <b>30 day rolling average</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

Section [4] of [14]  
FFSG Unit 4

## POLLUTANT DETAIL INFORMATION

Page [4] of [5]

**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>133.3 lb/hour                      583.9 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</b>  Reference: <b>AP-42</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><math>6,665 \text{ MMBtu/hr} \times \text{lb}/12,500 \text{ Btu} \times \text{ton}/2,000 \text{ lb} \times 0.5 \text{ lb/ton} = 133.3 \text{ lbs/hr.}</math></b>  <b><math>133.3 \text{ lbs/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 583.9 \text{ tons/yr}</math></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 \_\_

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

Section [4] of [14]  
FFSG Unit 4

## POLLUTANT DETAIL INFORMATION

Page [5] of [5]

**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>16.0 lb/hour                      70.1 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</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><math>6,665 \text{ MMBtu/hr} \times \text{lb}/12,500 \text{ Btu} \times \text{ton}/2,000 \text{ lb} \times 0.06 \text{ lb/ton} = 16.0 \text{ lbs/hr.}</math></b>  <b><math>133.3 \text{ lbs/hr} \times 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 70.1 \text{ tons/yr.}</math></b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**Section [4] of [14]  
FFSG Unit 4**POLLUTANT DETAIL INFORMATION**

Page [5] of [5]

**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**

Section [4] of [14]  
FFSG Unit 4

**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 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: Normal Conditions: <b>20 %</b> Exceptional Conditions: <b>27%</b> Maximum Period of Excess Opacity Allowed: <b>6 min/hour</b>	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**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 [4] of [14]  
FFSG Unit 4

**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 2

1. Parameter Code: <b>VE (opacity)</b>	2. Pollutant(s): <b>PM</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>DURAG/ENVIROPLAN</b> Model Number: <b>CEMOP-281</b> Serial Number: <b>29860</b>	
5. Installation Date: <b>04-Apr-94</b>	6. Performance Specification Test Date: <b>04-DEC-94</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

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

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>SO2</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>43B</b> Serial Number: <b>43B-46189-275</b>	
5. Installation Date: <b>04-Apr-94</b>	6. Performance Specification Test Date: <b>04-Dec-94</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

**EMISSIONS UNIT INFORMATION**

Section [4] of [14]  
FFSG Unit 4

**H. CONTINUOUS MONITOR INFORMATION**

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

**Continuous Monitoring System:** Continuous Monitor 3 of 4

1. Parameter Code: <b>EM</b>	2. Pollutant(s): <b>NOx</b>
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>42</b> Serial Number: <b>42-45957-275K</b>	
5. Installation Date: <b>04-Apr-94</b>	6. Performance Specification Test Date: <b>04Dec-94</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

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

1. Parameter Code: <b>CO2</b>	2. Pollutant(s):
3. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: <b>TECO/Enviroplan</b> Model Number: <b>41 H</b> Serial Number: <b>41H-45740-274</b>	
5. Installation Date: <b>05-Apr-94</b>	6. Performance Specification Test Date: <b>04-Dec-94</b>
7. Continuous Monitor Comment: <b>40 CFR 75</b>	

## EMISSIONS UNIT INFORMATION

Section [4] of [14]  
FFSG Unit 4

### 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: <b>CR-EU3-I1</b> <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: <b>CR-EU3-I2</b> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU3-I3</b> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU1-I4</b> <input type="checkbox"/> Previously Submitted, Date _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU4-I5</b> Test Date(s)/Pollutant(s) Tested: <b>NOx, SO<sub>2</sub> RATAs on 2/27/2008</b> <b>NOx, SO<sub>2</sub>, PM and VE on 1/31/2008</b> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable



**Section [4] of [14]**  
**FFFSG Unit 4**

### **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)):  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable
- 
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable
- 
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable

1. Identification of Applicable Requirements:  
☒ Attached, Document ID: **CR-EU3-I6**

---

2. Compliance Assurance Monitoring:  
☒ Attached, Document ID: **CR-EU1-I7** ☐ Not Applicable

---

3. Alternative Methods of Operation:  
☒ Attached, Document ID: **CR-EU3-I8** ☐ Not Applicable

---

4. Alternative Modes of Operation (Emissions Trading):  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable

[illegible]

## EMISSIONS UNIT INFORMATION

Section [5] of [14]  
Fly ash transfer from FFSG Unit 1

### 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 [5] of [14]

Fly ash transfer from FFSG Unit 1

### A. GENERAL EMISSIONS UNIT INFORMATION

#### Title V Air Operation Permit Emissions Unit Classification

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

- ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

#### Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

- ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

**Fly Ash transfer from FFSG Unit 1**

3. Emissions Unit Identification Number: **006**

4. Emissions Unit Status Code: <b>A</b>	5. Commence Construction Date:	6. Initial Startup Date: <b>28-OCT-1980</b>	7. Emissions Unit Major Group SIC Code: <b>49</b>
--	--------------------------------	--	--

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

- ☐ Acid Rain Unit
- ☐ CAIR Unit
- ☐ Hg Budget Unit

9. Package Unit:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment: **Unit consists of fly ash conveying line, dense phase transfer vessel and separator used to transfer fly ash from FFSG Unit 1 ESP to fly ash storage silo (Source 3).**

## EMISSIONS UNIT INFORMATION

Section [5] of [14]

Fly ash transfer from FFSG Unit 1

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description: **Fabric filter low temperature (T<180 F). Design air flow of 1820 acfm.**

2. Control Device or Method Code: **18**

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

## EMISSIONS UNIT INFORMATION

Section [5] of [14]

Fly ash transfer from FFSG Unit 1

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: <b>44 tons/hr</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day weeks/year days/week hours/year
6. Operating Capacity/Schedule Comment:

**EMISSIONS UNIT INFORMATION**

Section [5] of [14]

Fly ash transfer from FFSG Unit 1

**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>EU5, CR-F1-E2</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>H</b>		6. Stack Height: <b>30</b> feet	
		7. Exit Diameter: <b>0.8</b> feet	
8. Exit Temperature: <b>77 °F</b>		9. Actual Volumetric Flow Rate: <b>1,820</b> acfm	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: <b>17</b> East (km): <b>342.4</b> North (km): <b>3082.6</b>		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) <b>27° 51' 37" N</b> Longitude (DD/MM/SS) <b>82° 37' 0" W</b>	
15. Emission Point Comment: <b>Flash conveying, dense phase transfer and separator to transfer fly ash from unit 1 ESP to storage silo. PM emissions controlled by baghouse filter/separator (Source No.1).</b>			

**EMISSIONS UNIT INFORMATION**

Section [5] of [14]

Fly ash transfer from FFSG Unit 1

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Fly ash/ mineral products, bulk materials</b>		
2. Source Classification Code (SCC): <b>305-102-99</b>		3. SCC Units: <b>Tons Material Processed</b>
4. Maximum Hourly Rate: <b>44</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Fly ash/ mineral products, bulk materials</b>		

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

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

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

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

# EMISSIONS UNIT INFORMATION

Section [5] of [14]

Fly ash transfer from FFSG Unit 1

## E. EMISSIONS UNIT POLLUTANTS

### List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/PM10	18		EL



## EMISSIONS UNIT INFORMATION

Section [5] of [14]

Fly ash transfer from FFSG Unit 1

## POLLUTANT DETAIL INFORMATION

Page [1] of [1]

**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/PM10</b>		2. Total Percent Efficiency of Control: 99.9	
3. Potential Emissions: <b>3.5 lb/hour                      15.4 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>3.5 lb/hr</b>  Reference: <b>Permit Limit</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>TPY = 3.5 lb/hr x 8,760 hr/yr /2,000 lb/ton = 15.4 tons/year</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

## EMISSIONS UNIT INFORMATION

Section [5] of [14]  
Fly ash transfer from FFSG Unit 1

## POLLUTANT DETAIL INFORMATION

Page [1] of [1]

## 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>3.5 lb/hr</b>	4. Equivalent Allowable Emissions: <b>3.5 lb/hour                      15.4 tons/year</b>
5. Method of Compliance: <b>VE in lieu of stack test. Test required if VE standard is not met.</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>Basis for allowable emissions: BACT determination 2/5/79.</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):	

**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 [5] of [14]

Fly ash transfer from FFSG Unit 1

**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: <b>VE05</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>5 %</b> Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**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 [5] of [14]  
Fly ash transfer from FFSG Unit 1

### H. CONTINUOUS MONITOR INFORMATION

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section [5] of [14]  
Fly ash transfer from FFSG Unit 1

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

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

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU5-11</b> <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 type="checkbox"/> Attached, Document ID: <b>N/A</b> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU5-13</b> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU5-15</b> Test Date(s)/Pollutant(s) Tested: <b>VE testing on 8/27/2008</b> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Section [5] of [14]  
Fly ash transfer from FFSG Unit 1**

### **Additional Requirements for Air Construction Permit Applications**

### **Additional Requirements for Title V Air Operation Permit Applications**

### **Additional Requirements Comment**

[illegible]

## EMISSIONS UNIT INFORMATION

Section [6] of [14]  
Fly ash storage silo for FFSG Units 1 and 2

### 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 [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

**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:

**Fly ash storage silo (Source 3) from FFSG Units 1 and 2**

3. Emissions Unit Identification Number: **008**

4. Emissions Unit  
Status Code:

**A**

5. Commence  
Construction  
Date:

6. Initial Startup  
Date:

**28-Oct-1980**

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:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment: **Stores fly ash from the electrostatic precipitators of FFSG Units 1 and 2.**



## EMISSIONS UNIT INFORMATION

Section [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

### Emissions Unit Control Equipment/Method: Control 1 of 1

- |  |
|--|
| 1. Control Equipment/Method Description:<br>Fabric filter low temperature (T<180F). Design air flow of 2,546 acfm. |
|--|

- |                                      |
|--------------------------------------|
| 2. Control Device or Method Code: 18 |
|--------------------------------------|

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

- |  |
|--|
| 1. Control Equipment/Method Description: |
|--|

- |                                   |
|-----------------------------------|
| 2. Control Device or Method Code: |
|-----------------------------------|

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

- |  |
|--|
| 1. Control Equipment/Method Description: |
|--|

- |                                   |
|-----------------------------------|
| 2. Control Device or Method Code: |
|-----------------------------------|

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

- |  |
|--|
| 1. Control Equipment/Method Description: |
|--|

- |                                   |
|-----------------------------------|
| 2. Control Device or Method Code: |
|-----------------------------------|

## EMISSIONS UNIT INFORMATION

Section [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: <b>174 tons/hour</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year hours/year
6. Operating Capacity/Schedule Comment: <b>Combined transfer rate of 174 tons/hour from FFSG Units 1 and 2 ESPs.</b>

**EMISSIONS UNIT INFORMATION**

Section [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

**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>EU6, see CR-FI-E2</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>V</b>		6. Stack Height: <b>93 feet</b>	
		7. Exit Diameter: <b>1.5 feet</b>	
8. Exit Temperature: <b>77°F</b>		9. Actual Volumetric Flow Rate: <b>2,546 acfm</b>	
		10. Water Vapor: <b>%</b>	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: 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:			

**EMISSIONS UNIT INFORMATION**

Section [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Fly ash / mineral products, bulk materials</b>		
2. Source Classification Code (SCC): <b>305-102-99</b>		3. SCC Units: <b>Tons Material Processed</b>
4. Maximum Hourly Rate: <b>174</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Fly ash / mineral products, bulk materials.</b>		

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

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

## EMISSIONS UNIT INFORMATION

Section [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

### E. EMISSIONS UNIT POLLUTANTS

#### List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/PM10	18		EL

**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/PM10</b>		2. Total Percent Efficiency of Control: <b>99.9</b>	
3. Potential Emissions: <b>0.6 lb/hour</b> <b>2.6 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>0.6 lb/hour</b>  Reference: <b>Permit Limit</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>Vendor guarantee</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>0.6 pounds/hour</b>	4. Equivalent Allowable Emissions: <b>0.6 lb/hour                      2.6 tons/year</b>
5. Method of Compliance: <b>VE in lieu of stack test. Test required if VE standard is not met.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>Basis for allowable emissions: BACT determination 2/5/79.</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):	

**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 [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

**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 1

1. Visible Emissions Subtype: <b>VE05</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>5%</b> Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: <b>VE in lieu of stack test. Test required if VE standard is not met.</b>	
5. Visible Emissions Comment:	

**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 [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

**H. CONTINUOUS MONITOR INFORMATION**

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section [6] of [14]

Fly ash storage silo for FFSG Units 1 and 2

### 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>CR-EU5-I1</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 type="checkbox"/> Attached, Document ID: <u>NA</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: <u>NA</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU5-I5</u> Test Date(s)/Pollutant(s) Tested: <u>VE testing on 8/27/2008</u> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable



## EMISSIONS UNIT INFORMATION

Section [7] of [14]

Fly ash transfer from FFSG Unit 2

### 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 [7] of [14]  
Fly ash transfer from FFSG Unit 2

### 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:  
**Fly ash transfer (Source 4) from FFSG Unit 2**

3. Emissions Unit Identification Number: **009**

4. Emissions Unit Status Code: <b>A</b>	5. Commence Construction Date:	6. Initial Startup Date: <b>28-Oct-1980</b>	7. Emissions Unit Major Group SIC Code: <b>49</b>
--	--------------------------------	--	--

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

- ☐ Acid Rain Unit
- ☐ CAIR Unit
- ☐ Hg Budget Unit

9. Package Unit:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment: **Unit consists of fly ash conveying line, dense phase transfer vessel and separator used to transfer fly ash from FFSG Unit 2 ESP (#2C) to fly ash storage silo (Source 3).**

## EMISSIONS UNIT INFORMATION

Section [7] of [14]  
Fly ash transfer from FFSG Unit 2

### Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description:  
**Fabric filter low temperature (T<180F). Design flow rate of 2,200 acfm.**

2. Control Device or Method Code: **18**

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

## EMISSIONS UNIT INFORMATION

Section [7] of [14]  
Fly ash transfer from FFSG Unit 2

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: <b>60 tons/hour</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day weeks/year
6. Operating Capacity/Schedule Comment:

**EMISSIONS UNIT INFORMATION**

Section [7] of [14]  
Fly ash transfer from FFSG Unit 2

**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>EU7, see CR-FI-E2</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>H</b>	6. Stack Height: <b>30 feet</b>		7. Exit Diameter: <b>0.8 feet</b>
8. Exit Temperature: <b>77°F</b>	9. Actual Volumetric Flow Rate: <b>2,200 acfm</b>		10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: <b>8 feet</b>	
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:  <b>Exit diameter = 0.833. Fly ash conveying line, dense phase transfer vessel, and separator used to transfer fly ash from the Unit No. 2 electrostatic precipitator (2C).</b>			



**EMISSIONS UNIT INFORMATION**

Section [7] of [14]

Fly ash transfer from FFSG Unit 2

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Fly ash / mineral products, bulk materials</b>		
2. Source Classification Code (SCC): <b>305-102-99</b>		3. SCC Units: <b>Tons Material Processed</b>
4. Maximum Hourly Rate: <b>60</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Fly ash / mineral products, bulk materials.</b>		

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

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

**EMISSIONS UNIT INFORMATION**

Section [7] of [14]

Fly ash transfer from FFSG Unit 2

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	18		EL
PM10	18		NS

## EMISSIONS UNIT INFORMATION

Section [7] of [14]  
Fly ash transfer from FFSG Unit 2

## POLLUTANT DETAIL INFORMATION

Page [1] of [1]

**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/PM10</b>		2. Total Percent Efficiency of Control: <b>99.9</b>	
3. Potential Emissions: <b>2.2 lb/hour</b> <b>9.6 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>2.2 lb/hour</b>  Reference: <b>Permit Limit</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>Vendor guarantee</b>			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**Section [7] of [14]  
Fly ash transfer from FFSG Unit 2**POLLUTANT DETAIL INFORMATION**

Page [1] of [1]

**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>2.2 pounds/hour</b>	4. Equivalent Allowable Emissions: <b>2.2 lb/hour                      9.6 tons/year</b>
5. Method of Compliance: <b>VE in lieu of stack test. Test required if VE standard is not met.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>Basis for allowable emissions: BACT determination 2/5/79.</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):	

**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 [7] of [14]  
Fly ash transfer from FFSG Unit 2

**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 1

1. Visible Emissions Subtype: <b>VE05</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>5%</b> Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

**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 [7] of [14]

Fly ash transfer from FFSG Unit 2

**H. CONTINUOUS MONITOR INFORMATION**

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section [7] of [14]

Fly ash transfer from FFSG Unit 2

### 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>CR-EU5-I1</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 type="checkbox"/> Attached, Document ID: <u>NA</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: <u>NA</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU5-I5</u> Test Date(s)/Pollutant(s) Tested: <u>VE testing on 8/27/2008</u> _____ <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Section [7] of [14]**  
**Fly ash transfer from FFSG Unit 2**

### **Additional Requirements for Air Construction Permit Applications**

- ### **Additional Requirements for Title V Air Operation Permit Applications**

- ### **Additional Requirements Comment**



## EMISSIONS UNIT INFORMATION

Section [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

### 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 [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

### 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:

**Fly ash transfer from (Source 5) FFSG Unit 2**

3. Emissions Unit Identification Number: **010**

4. Emissions Unit  
Status Code:

**A**

5. Commence  
Construction  
Date:

6. Initial Startup  
Date:

**28-Oct-1980**

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:  
Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment: **Unit consists of fly ash conveying line, dense phase transfer vessel and separator used to transfer fly ash from FFSG Unit 2 ESP (#2A and #2B) to fly ash storage silo (Source 3).**

## EMISSIONS UNIT INFORMATION

Section |8| of |14|

Fly ash transfer (Source 5) from FFSG Unit 2

### Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description:

Fabric filter low temperature (T<180F). Design flow rate of 2,800 acfm.

2. Control Device or Method Code: **18**

### Emissions Unit Control Equipment/Method: Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### Emissions Unit Control Equipment/Method: Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

### Emissions Unit Control Equipment/Method: Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

**B. EMISSIONS UNIT CAPACITY INFORMATION**

(Optional for unregulated emissions units.)

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Process or Throughput Rate: <b>70 tons/hour</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year hours/year
6. Operating Capacity/Schedule Comment:

**EMISSIONS UNIT INFORMATION**

Section [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

**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>EU8, see CR-FI-E2</b>		2. Emission Point Type Code: <b>1</b>	
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: <b>H</b>	6. Stack Height: <b>30 feet</b>	7. Exit Diameter: <b>0.8 feet</b>	
8. Exit Temperature: <b>77°F</b>	9. Actual Volumetric Flow Rate: <b>2,800 acfm</b>	10. Water Vapor: <b>%</b>	
11. Maximum Dry Standard Flow Rate: <b>dscfm</b>		12. Nonstack Emission Point Height: <b>8 feet</b>	
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:  <b>Exit diameter = 0.833. Fly ash conveying line, dense phase transfer vessel, and separator used to transfer fly ash from the Unit No. 2 electrostatic precipitator (2A and 2B).</b>			

**EMISSIONS UNIT INFORMATION**

Section [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Fly ash / mineral products, bulk materials</b>		
2. Source Classification Code (SCC): <b>305-102-99</b>		3. SCC Units: <b>Tons Material Processed</b>
4. Maximum Hourly Rate: <b>70</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Fly ash / mineral products, bulk materials.</b>		

**Segment Description and Rate:** Segment    of   

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

**EMISSIONS UNIT INFORMATION**

Section [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

**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>18</b>		<b>EL</b>
<b>PM10</b>	<b>18</b>		<b>NS</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/PM10</b>		2. Total Percent Efficiency of Control: <b>99.9</b>	
3. Potential Emissions: <b>2.2 lb/hour</b> <b>9.6 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>2.2 lb/hour</b>  Reference: <b>Permit Limit</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>Vendor guarantee</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>2.2 pounds/hour</b>	4. Equivalent Allowable Emissions: <b>2.2 lb/hour                      9.6 tons/year</b>
5. Method of Compliance: <b>VE in lieu of stack test. Test required if VE standard is not met.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>Basis for allowable emissions: BACT determination 2/5/79.</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):	

**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 [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

**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 1

1. Visible Emissions Subtype: <b>VE05</b>	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: <b>5%</b> Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: <b>VE in lieu of stack test. Test required if VE standard is not met.</b>	
5. Visible Emissions Comment:	

**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 [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

**H. CONTINUOUS MONITOR INFORMATION**

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section [8] of [14]

Fly ash transfer (Source 5) from FFSG Unit 2

### 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>CR-EU5-I1</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 type="checkbox"/> Attached, Document ID: <u>NA</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: <u>NA</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU5-I5</u> Test Date(s)/Pollutant(s) Tested: <u>VE testing not required (did not operate)</u> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Section [8] of [14]**  
**Fly ash transfer (Source 5) from FFSG Unit 2**

### Additional Requirements for Air Construction Permit Applications

- ## Additional Requirements for Title V Air Operation Permit Applications

- ### **Additional Requirements Comment**

## EMISSIONS UNIT INFORMATION

Section [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

### 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 [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

### 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:  
**Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3.**

3. Emissions Unit Identification Number: **013**

4. Emissions Unit  
Status Code:

**A**

5. Commence  
Construction  
Date:

6. Initial Startup  
Date:

**30-Mar-1993**

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:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment: **Use to reduce plant discharge water temperature. Consists of 4 towers with 9 cells/tower.**

## EMISSIONS UNIT INFORMATION

Section [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

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

1. Control Equipment/Method Description:

**Mist eliminator high velocity ( $V > 250$  ft/min). High efficiency drift eliminators.**

2. Control Device or Method Code: **14**

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:



## EMISSIONS UNIT INFORMATION

Section [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: <b>735,000 gal/min*</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year <b>4,320 hours/year</b>
6. Operating Capacity/Schedule Comment:  <b>*seawater flow. Maximum throughput for all four towers (36 cells) based on 20,417 gallons/minute/cell</b>

**EMISSIONS UNIT INFORMATION**

Section [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

**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>EU8, see CR-E10, E14</b>		2. Emission Point Type Code: <b>3</b>	
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: <b>V</b>	6. Stack Height: <b>53 feet</b>		7. Exit Diameter: <b>34.5 feet</b>
8. Exit Temperature: <b>77°F</b>	9. Actual Volumetric Flow Rate: <b>acfm</b>		10. Water Vapor: <b>%</b>
11. Maximum Dry Standard Flow Rate: <b>dscfm</b>		12. Nonstack Emission Point Height: <b>feet</b>	
13. Emission Point UTM Coordinates... Zone: <b>17</b> East (km): <b>333.75</b> North (km): <b>3204.05</b>		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:  <b>There are 9 cells per tower [36 stacks total]. <math>1.46 \times 10^6</math> acfm from each cell.</b>			

**EMISSIONS UNIT INFORMATION**

Section [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Seawater sprayed through towers where fan induced air flow causes evaporative cooling.</b>		
2. Source Classification Code (SCC): <b>385-001-01</b>		3. SCC Units: <b>Million Gallons Cooling Water Throughput</b>
4. Maximum Hourly Rate: <b>44.1</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Permitted capacity 735,000 gal/min for all cells. Seawater density of 8.34 lb/gal</b>		

**Segment Description and Rate:** Segment    of   

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

**EMISSIONS UNIT INFORMATION**

Section [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	14		EL
PM10	14		NS

## EMISSIONS UNIT INFORMATION

## POLLUTANT DETAIL INFORMATION

Section [9] of [14]

Page [1] of [1]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

**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/PM10</b>		2. Total Percent Efficiency of Control: <b>99.8</b>	
3. Potential Emissions: <b>428 lb/hour                      925 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>0.004% drift emission rate.</b>  Reference: <b>Permit Limit</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>735,000 gal/min (tower flow rate) x 8.34 lb/gal (water density) x 60 min/hr x 29,100 ppm (total dissolved solids) x 0.004 %(drift rate) = 428 lb/hr;</b>  <b>428 lb/hr x 4,320 hr/yr x 1 ton/2,000 lb = 925 TPY</b>			
11. Potential, Fugitive, and Actual Emissions Comment: <b>0.004% drift emission rate. Potential emissions are for a total of 36 cells. Each cell is estimated to emit 11.89 lb/hr. Operation limited to 4,320 hr/yr.</b>			

## EMISSIONS UNIT INFORMATION

## POLLUTANT DETAIL INFORMATION

Section [9] of [14]

Page [1] of [1]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

## 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>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>11.9 pounds/hour</b>	4. Equivalent Allowable Emissions: <b>428 lb/hour                      925 tons/year</b>
5. Method of Compliance: <b>Daily visual inspection and recordkeeping.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>0.004% drift emission rate. Each cell estimated to emit 11.89 lb/hr.</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: <div style="text-align: center;">lb/hour                      tons/year</div>
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: <div style="text-align: center;">lb/hour                      tons/year</div>
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**EMISSIONS UNIT INFORMATION**

Section [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

**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 \_\_ 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:	

**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 |9| of |14|

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

### H. CONTINUOUS MONITOR INFORMATION

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

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

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

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

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



## EMISSIONS UNIT INFORMATION

Section [9] of [14]

Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

### 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>CR-EU9-I1</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 type="checkbox"/> Attached, Document ID: <u>NA</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU9-I3</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 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

### Cooling Towers for FFSG Units 1, 2 and nuclear Unit 3

### **Additional Requirements for Air Construction Permit Applications**

- ### **Additional Requirements for Title V Air Operation Permit Applications**

- ### **Additional Requirements Comment**

## EMISSIONS UNIT INFORMATION

Section [10] of [14]

Bottom ash storage silo

### 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 [10] of [14]

Bottom ash storage silo

### 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:

**Bottom ash storage silo for FFSG Units 1 and 2.**

3. Emissions Unit Identification Number: **014**

4. Emissions Unit  
Status Code:

**A**

5. Commence  
Construction  
Date:

6. Initial Startup  
Date:

**01-Mar-1994**

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:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment: **Consists of the system to collect and store bottom ash and economizer ash from FFSG 1 and 2.**

## EMISSIONS UNIT INFORMATION

Section [10] of [14]

Bottom ash storage silo

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

1. Control Equipment/Method Description:  
Fabric filter low temperature (T<180F).

2. Control Device or Method Code: 18

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

## EMISSIONS UNIT INFORMATION

Section [10] of [14]

Bottom ash storage silo

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: <b>16 tons/hr</b>	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: hours/day weeks/year	days/week hours/year
6. Operating Capacity/Schedule Comment:  <b>Total throughput rate from Units 1 and 2 is 16 tons per hour- 8 tons/hr from each FFSG unit.</b>	

**EMISSIONS UNIT INFORMATION**

Section [10] of [14]

Bottom ash storage silo

**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>CR-FI-E2</b>		2. Emission Point Type Code: <b>3</b>	
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: <b>P</b>		6. Stack Height: <b>15</b> feet	
		7. Exit Diameter: <b>0.8</b> feet	
8. Exit Temperature: <b>77°F</b>		9. Actual Volumetric Flow Rate: acfm	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: <b>2,400</b> dscfm		12. Nonstack Emission Point Height: 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:  <b>An air flow rate of 2,200 scfm from each unit.</b>			

**EMISSIONS UNIT INFORMATION**

Section [10] of [14]

Bottom ash storage silo

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Bottom and economizer ash.</b>		
2. Source Classification Code (SCC): <b>305-102-99</b>		3. SCC Units: <b>Tons Material Processed</b>
4. Maximum Hourly Rate: <b>16</b>	5. Maximum Annual Rate: <b>140,160</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Maximum hourly and annual rates for two units are 16 tons/hr and 140,160 tons/yr respectively.</b>		

**Segment Description and Rate:** Segment    of   

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



**EMISSIONS UNIT INFORMATION**

Section [10] of [14]

Bottom ash storage silo

**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>18</b>		<b>NS</b>
<b>PM10</b>	<b>18</b>		<b>NS</b>

**Section [10] of [14]  
Bottom ash storage silo**

## POLLUTANT DETAIL INFORMATION

Page [1] of [1]

## 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>99.9</b>
3. Potential Emissions: <b>13.03 lb/hour                      57.1 tons/year</b>	4. Synthetically Limited? <input type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: <b>3.59</b>  Reference: <b>Rule</b>	7. Emissions Method Code: <b>2</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:  $\text{lb/hr} = 3.59 \times (8 \text{ ton/hr})^{0.620} = 13.03$ $\text{TPY} = 13.03 \text{ lb/hr} \times 8760 \text{ hr/yr} = 114,142.8 \text{ lb/yr} = 25.8 \text{ tons/yr}$	
11. Potential, Fugitive, and Actual Emissions Comment: $p^{0.620}$ <b>p = process rate. Based on maximum process rate of ash for one unit. Emission factor based on Rule 62-296.320(4)(a), F.A.C.</b>	

**EMISSIONS UNIT INFORMATION**

Section [10] of [14]

Bottom ash storage silo

**POLLUTANT DETAIL INFORMATION**

Page [1] of [1]

**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**

Section [10] of [14]

Bottom ash storage silo

**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 \_\_\_ of \_\_\_

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

**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 [10] of [14]

Bottom ash storage silo

**H. CONTINUOUS MONITOR INFORMATION**

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section **[10]** of **[14]**

Bottom ash storage silo

### 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: <b>CR-EU10-I1</b> <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 type="checkbox"/> Attached, Document ID: <b>NA</b> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU10-I3</b> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <b>CR-EU5-I5</b> Test Date(s)/Pollutant(s) Tested: <b>VE testing on 8/27/2008</b> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Section [10] of [14]  
Bottom ash storage silo**

### **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)):  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable

1. Identification of Applicable Requirements:  
☒ Attached, Document ID: **CR-EU1-I6**

---

2. Compliance Assurance Monitoring:  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable

---

3. Alternative Methods of Operation:  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable

---

4. Alternative Modes of Operation (Emissions Trading):  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable

[illegible]

## EMISSIONS UNIT INFORMATION

Section [11] of [14]  
Cooling Towers for FFSG Units 4 and 5

### 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 [11] of [14]

Cooling Towers for FFSG Units 4 and 5

### 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:  
**Cooling Towers for FFSG Units 4 and 5.**

3. Emissions Unit Identification Number: **015**

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:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment: **Hyperbolic cooling towers.**

## EMISSIONS UNIT INFORMATION

Section [11] of [14]

Cooling Towers for FFSG Units 4 and 5

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

1. Control Equipment/Method Description:

**Mist eliminator high velocity ( $V > 250\text{ft/min}$ ). High efficiency drift eliminators.**

2. Control Device or Method Code: **14**

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [11] of [14]

Cooling Towers for FFSG Units 4 and 5

**B. EMISSIONS UNIT CAPACITY INFORMATION**

(Optional for unregulated emissions units.)

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Process or Throughput Rate: <b>331,000 gal/min/tower</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day days/week weeks/year hours/year
6. Operating Capacity/Schedule Comment:  <b>Maximum process- circulating water flow rate.</b>

**EMISSIONS UNIT INFORMATION**

Section [11] of [14]

Cooling Towers for FFSG Units 4 and 5

**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>EU12, see CR-FI-E2</b>		2. Emission Point Type Code: <b>3</b>	
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: <b>V</b>		6. Stack Height: <b>443</b> feet	
		7. Exit Diameter: <b>214</b> feet	
8. Exit Temperature: <b>100°F</b>		9. Actual Volumetric Flow Rate: <b>23,310,000</b> acfm	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: 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:			

**EMISSIONS UNIT INFORMATION**

Section [11] of [14]

Cooling Towers for FFSG Units 4 and 5

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Seawater</b>		
2. Source Classification Code (SCC): <b>385-001-01</b>		3. SCC Units: <b>Million Gallons Cooling Water Throughput</b>
4. Maximum Hourly Rate: <b>19.9</b>	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>331,000 gal/min of seawater per tower is the permitted flow rate. Seawater density of 8.34 lb/gal</b>		

**Segment Description and Rate:** Segment    of   

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

**EMISSIONS UNIT INFORMATION**

Section [11] of [14]

Cooling Towers for FFSG Units 4 and 5

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	14		EL
PM10	14		EL

## EMISSIONS UNIT INFORMATION

Section [11] of [14]  
Cooling Towers for FFSG Units 4 and 5

## POLLUTANT DETAIL INFORMATION

Page [1] of [2]

**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:	
3. Potential Emissions: <b>175 lb/hour                      1,533 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:  Reference:		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>Based on tower measurements.</b>			
11. Potential, Fugitive, and Actual Emissions Comment: <b>175 lb/hr and 766.5 TPY emissions per tower. 1,533 TPY is for both the towers.</b>			

**EMISSIONS UNIT INFORMATION**

Section [11] of [14]  
Cooling Towers for FFSG Units 4 and 5

**POLLUTANT DETAIL INFORMATION**

Page [1] of [2]

**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>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>175 pounds/hour</b>	4. Equivalent Allowable Emissions: <b>175 lb/hour      1,533 tons/year</b>
5. Method of Compliance: <b>PM emissions measured by the sensitive paper method.</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>175 lb/hr and 766.5 TPY from each cooling tower (2 towers).</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):	

**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 [11] of [14]  
Cooling Towers for FFSG Units 4 and 5

## POLLUTANT DETAIL INFORMATION

Page [2] of [2]

**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>PM10</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>175 lb/hour                      1,533 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:  Reference:		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>PM emissions are assumed to be all PM10.</b>			
11. Potential, Fugitive, and Actual Emissions Comment: <b>175 lb/hr and 766.5 TPY emissions per tower. 1,533 TPY is for both the towers.</b>			

**EMISSIONS UNIT INFORMATION**

Section [11] of [14]  
Cooling Towers for FFSG Units 4 and 5

**POLLUTANT DETAIL INFORMATION**

Page [2] of [2]

**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>175 pounds/hour</b>	4. Equivalent Allowable Emissions: <b>175 lb/hour      1,533 tons/year</b>
5. Method of Compliance: <b>PM10 compliance through PM test.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>Basis for allowable emission: BACT determination. 175 lb/hr emission limit per tower and 1533 TPY for both towers.</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):	

**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 [11] of [14]

Cooling Towers for FFSG Units 4 and 5

**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 \_\_ 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:	

**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 [11] of [14]

Cooling Towers for FFSG Units 4 and 5

**H. CONTINUOUS MONITOR INFORMATION**

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section [11] of [14]

Cooling Towers for FFSG Units 4 and 5

### 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>CR-EU11-11</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 type="checkbox"/> Attached, Document ID: <u>NA</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU11-13</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU11-15</u> Test Date(s)/Pollutant(s) Tested: <u>PM/PM10 test on 1/11/2007 for Unit 5 tower and on 3/4/2008 for Unit 4 tower</u> <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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Section [11] of [14]  
Cooling Towers for FFSG Units 4 and 5**

## Additional Requirements for Air Construction Permit Applications

- ## Additional Requirements for Title V Air Operation Permit Applications

- ### Additional Requirements Comment

## EMISSIONS UNIT INFORMATION

Section [12] of [14]  
Material Handling Activities

### 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 [12] of [14]

### Material Handling Activities

#### 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:  
**Material Handling activities for coal-fired steam units.**

3. Emissions Unit Identification Number: **016**

4. Emissions Unit Status Code: <b>A</b>	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: <b>49</b>
--	--------------------------------	--------------------------	--

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

- ☐ Acid Rain Unit
- ☐ CAIR Unit
- ☐ Hg Budget Unit

9. Package Unit:  
Manufacturer: \_\_\_\_\_ Model Number: \_\_\_\_\_

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment: **This unit consists of storage and transport of coal, flyash and bottom ash for FFSG Units 1, 2, 4, and 5.**



## EMISSIONS UNIT INFORMATION

Section [12] of [14]

Material Handling Activities

### Emissions Unit Control Equipment/Method: Control 1 of 3

1. Control Equipment/Method Description:  
**Miscellaneous control devices**

2. Control Device or Method Code: **99**

### Emissions Unit Control Equipment/Method: Control 2 of 3

1. Control Equipment/Method Description:  
**Dust suppression by water sprays**

2. Control Device or Method Code: **61**

### Emissions Unit Control Equipment/Method: Control 3 of 3

1. Control Equipment/Method Description:  
**Dust suppression traffic control**

2. Control Device or Method Code: **108**

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [12] of [14]

Material Handling Activities

**B. EMISSIONS UNIT CAPACITY INFORMATION**

(Optional for unregulated emissions units.)

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Process or Throughput Rate: <b>see comments below</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day weeks/year
6. Operating Capacity/Schedule Comment:  <b>Coal: 3,100,000 TPY, for Units 1 and 2; 5,100,000 TPY Units 4 and 5.</b>  <b>Flyash: 175,000 TPY, #1,2; 262,500 TPY, #4,5.</b>  <b>Bottom ash: 50,000 TPY, #1,2; 75,000 TPY, #4,5.</b>  <b>(Estimated throughputs based on 1990 analysis; CR-E13-B6)</b>

**EMISSIONS UNIT INFORMATION**

Section [12] of [14]

Material Handling Activities

**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>EU13, see CR-FI-E2</b>		2. Emission Point Type Code: <b>4</b>	
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: <b>F</b>		6. Stack Height: feet	
		7. Exit Diameter: feet	
8. Exit Temperature: °F		9. Actual Volumetric Flow Rate: acfm	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: <b>50 feet</b>	
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:			

**EMISSIONS UNIT INFORMATION**

Section [12] of [14]

**Material Handling Activities****D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Coal, storage and transport</b>		
2. Source Classification Code (SCC): <b>305-103-03</b>		3. SCC Units: <b>Tons Material Processed</b>
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash: <b>8.9</b>	9. Million Btu per SCC Unit: <b>24</b>
10. Segment Comment: <b>Units No. 1,2. Ash-typical. Estimated throughput.</b>		

**Segment Description and Rate:** Segment    of   

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

**EMISSIONS UNIT INFORMATION**

Section [12] of [14]

Material Handling Activities

**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>99</b>	<b>61, 108</b>	<b>WP</b>
<b>PM10</b>	<b>99</b>	<b>61, 108</b>	<b>WP</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:		2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour                                  tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor:  Reference:		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:			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**

Section [12] of [14]

Material Handling Activities

**POLLUTANT DETAIL INFORMATION**

Page [] of []

**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**

Section [12] of [14]

Material Handling Activities

**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 \_\_\_ of \_\_\_

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

**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 [12] of [14]

Material Handling Activities

**H. CONTINUOUS MONITOR INFORMATION**

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section [12] of [14]

### Material Handling Activities

#### 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>CR-EU12-11</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 type="checkbox"/> Attached, Document ID: <u>NA</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: <u>NA</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 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

**Section [12] of [14]  
Material Handling Activities**

### **Additional Requirements for Air Construction Permit Applications**

- ### **Additional Requirements for Title V Air Operation Permit Applications**

- ### **Additional Requirements Comment**

[illegible]

## EMISSIONS UNIT INFORMATION

Section [13] of [14]  
Relocatable Diesel Generators

### 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 [13] of [14]  
Relocatable Diesel Generators

### 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:  
**Relocatable Diesel generators**

3. Emissions Unit Identification Number: **001, 7775047**

- |  |                                |                          |  |
|--|--------------------------------|--------------------------|--|
| 4. Emissions Unit Status Code:<br><b>A</b> | 5. Commence Construction Date: | 6. Initial Startup Date: | 7. Emissions Unit Major Group SIC Code:<br><b>49</b> |
|--|--------------------------------|--------------------------|--|

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

- ☐ Acid Rain Unit
- ☐ CAIR Unit
- ☐ Hg Budget Unit

9. Package Unit:  
Manufacturer:

Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment: **One or more generators with a max combined rating of 2,460 kw (25.74 MMBtu/hr) while being fueled by 186.3 gal/hr of No.2 fuel oil.**

## EMISSIONS UNIT INFORMATION

Section [13] of [14]  
Relocatable Diesel Generators

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [13] of [14]  
Relocatable Diesel Generators

**B. EMISSIONS UNIT CAPACITY INFORMATION**

(Optional for unregulated emissions units.)

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Process or Throughput Rate: <b>186 gal/hr</b>
2. Maximum Production Rate:
3. Maximum Heat Input Rate: <b>26</b> million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: hours/day weeks/year
days/week <b>2,970</b> hours/year
6. Operating Capacity/Schedule Comment:  <b>Maximum annual engine-hours in any 12-month period.</b>

**EMISSIONS UNIT INFORMATION**

Section [13] of [14]

Relocatable Diesel Generators

**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:		2. Emission Point Type Code:	
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: F	6. Stack Height: feet	7. Exit Diameter: feet	
8. Exit Temperature: °F	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: 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:			



**EMISSIONS UNIT INFORMATION**

Section [13] of [14]  
Relocatable Diesel Generators

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

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

1. Segment Description (Process/Fuel Type): <b>No. 2 Fuel Oil</b>		
2. Source Classification Code (SCC): <b>201-001-02</b>		3. SCC Units: <b>1000 Gallons Distillate Oil (Diesel) Burned</b>
4. Maximum Hourly Rate: <b>0.19</b>	5. Maximum Annual Rate: <b>553.3</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>0.5</b>	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

**Segment Description and Rate:** Segment    of   

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

**EMISSIONS UNIT INFORMATION**

Section |13| of |14|

Relocatable Diesel Generators

**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
NOx			EL

## Section [13] of [14] Relocatable Diesel Generators

## POLLUTANT DETAIL INFORMATION

Page [1] of [1]

## 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>NOx</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour                      < <b>40 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:  Reference:		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:			
11. Potential, Fugitive, and Actual Emissions Comment:			

**EMISSIONS UNIT INFORMATION**Section [13] of [14]  
Relocatable Diesel Generators**POLLUTANT DETAIL INFORMATION**

Page [] of []

**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**

Section [13] of [14]

Relocatable Diesel Generators

**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 1

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

**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 [13] of [14]

Relocatable Diesel Generators

**H. CONTINUOUS MONITOR INFORMATION**

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section [13] of [14]

Relocatable Diesel Generators

### 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>CR-EU13-I1</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>CR-EU13-I2</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: <u>NA</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 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

## Relocatable Diesel Generators

### **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)):  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable
- 
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable
- 
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable

## Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements:  
☒ Attached, Document ID: **CR-EU1-I6**
- 
2. Compliance Assurance Monitoring:  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable
- 
3. Alternative Methods of Operation:  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable
- 
4. Alternative Modes of Operation (Emissions Trading):  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable

### **Additional Requirements Comment**

[illegible]



## EMISSIONS UNIT INFORMATION

Section [14] of [14]

Portable Cooling Towers

### 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 [14] of [14]

Portable Cooling Towers

**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:

**Portable Cooling Towers**

3. Emissions Unit Identification Number: **020**

4. Emissions Unit  
Status Code:

**A**

5. Commence  
Construction  
Date:

**4/3/06**

6. Initial Startup  
Date:

**6/16/06**

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:

Manufacturer:

Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment: **Use to reduce plant discharge water temperature. Consists of 72 individual cells.**

## EMISSIONS UNIT INFORMATION

Section [14] of [14]

Portable Cooling Towers

### Emissions Unit Control Equipment/Method: Control 1 of 1

- |   |
|---|
| 1. Control Equipment/Method Description:<br>Mist eliminator high velocity ( $V > 250$ ft/min). High efficiency drift eliminators. |
|---|

- |                                      |
|--------------------------------------|
| 2. Control Device or Method Code: 14 |
|--------------------------------------|

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

- |  |
|--|
| 1. Control Equipment/Method Description: |
|--|

- |                                   |
|-----------------------------------|
| 2. Control Device or Method Code: |
|-----------------------------------|

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

- |  |
|--|
| 1. Control Equipment/Method Description: |
|--|

- |                                   |
|-----------------------------------|
| 2. Control Device or Method Code: |
|-----------------------------------|

### Emissions Unit Control Equipment/Method: Control \_\_\_ of \_\_\_

- |  |
|--|
| 1. Control Equipment/Method Description: |
|--|

- |                                   |
|-----------------------------------|
| 2. Control Device or Method Code: |
|-----------------------------------|

## EMISSIONS UNIT INFORMATION

Section [14] of [14]

Portable Cooling Towers

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: <b>180,000 gal/min*</b>	
3. Maximum Heat Input Rate: million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
52 weeks/year	2,920 hours/year
6. Operating Capacity/Schedule Comment:	
<b>*seawater flow. Maximum throughput for all 72 cells. Maximum annual throughput is limited to 31.5E9 gal/yr (equivalent to 2,920 hr/yr of operation, based on a 12-month rolling total).</b>	

**EMISSIONS UNIT INFORMATION**Section **[14]** of **[14]**

Portable Cooling Towers

**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:		2. Emission Point Type Code: <b>3</b>	
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: <b>V</b>	6. Stack Height: <b>11 feet</b>	7. Exit Diameter: <b>12 feet</b>	
8. Exit Temperature: <b>77°F</b>	9. Actual Volumetric Flow Rate: <b>25,000 acfm</b>	10. Water Vapor: <b>%</b>	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: <b>17</b> East (km): <b>333.75</b> North (km): <b>3204.05</b>		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:  <b>The emission unit consists of 72 cells. The above parameters are per cell.</b>			

**EMISSIONS UNIT INFORMATION**

Section [14] of [14]

Portable Cooling Towers

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

1. Segment Description (Process/Fuel Type): <b>Seawater sprayed through towers where fan induced air flow causes evaporative cooling.</b>		
2. Source Classification Code (SCC): <b>385-001-01</b>		3. SCC Units: <b>Million Gallons Cooling Water Throughput</b>
4. Maximum Hourly Rate: <b>10.8</b>	5. Maximum Annual Rate: <b>31.5E9</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: <b>Permitted capacity 180,000 gal/min for all cells. Seawater density of 8.34 lb/gal.</b>		

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

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

**EMISSIONS UNIT INFORMATION**

Section [14] of [14]

Portable Cooling Towers

**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>14</b>		<b>NS</b>
<b>PM10</b>	<b>14</b>		<b>NS</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/PM10</b>		2. Total Percent Efficiency of Control: <b>99.8</b>	
3. Potential Emissions: <b>35.1 lb/hour                      51.2 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>0.0015% drift emission rate.</b>  Reference: <b>Permit Limit</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>180,000 gal/min (tower flow rate) x 8.34 lb/gal (water density) x 60 min/hr x 29,100 ppm (total dissolved solids) x 0.0015 % (drift rate) = 35.1 lb/hr;</b>  <b>(35.1 lb/hr) x (2,920 hr/yr) x (1 ton/2,000 lb) = 51.2 TPY</b>  <b>PM10 emissions are estimated to be approximately 6% of the PM rate.</b>  <b>PM10 lb/hr = (35.1 lb/hr) x (0.06) = 2.1 lb/hr</b>  <b>PM10 TPY = (2.1 lb/hr) x (2,920 hr/yr) x (1 ton/2,000 lb) = 3.1 TPY</b>			
11. Potential, Fugitive, and Actual Emissions Comment: <b>0.0015% drift emission rate. Potential emissions are for a total of 72 cells. Operation limited to 31.5E9 gal/yr, which is the equivalent of 2,920 hr/yr of operation (12-month rolling total).</b>			



## EMISSIONS UNIT INFORMATION

Section [14] of [14]

Portable Cooling Towers

## POLLUTANT DETAIL INFORMATION

Page [1] of [1]

## 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>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour                      tons/year
5. Method of Compliance: <b>Work practice standards.</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>0.0015% drift emission rate.</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):	

**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 [14] of [14]

Portable Cooling Towers

**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 \_\_ 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:	

**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 [14] of [14]

Portable Cooling Towers

**H. CONTINUOUS MONITOR INFORMATION**

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

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

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

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

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

## EMISSIONS UNIT INFORMATION

Section [14] of [14]  
Portable Cooling Towers

### 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>CR-EU9-I1</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 type="checkbox"/> Attached, Document ID: <u>NA</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>CR-EU9-I3</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input 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 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

## Portable Cooling Towers

### **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)):  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)  
☐ Attached, Document ID: \_\_\_\_\_ ☐ Not Applicable

1. Identification of Applicable Requirements:  
☒ Attached, Document ID: **CR-EU1-I6**

---

2. Compliance Assurance Monitoring:  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable

---

3. Alternative Methods of Operation:  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable

---

4. Alternative Modes of Operation (Emissions Trading):  
☐ Attached, Document ID: \_\_\_\_\_ ☒ Not Applicable

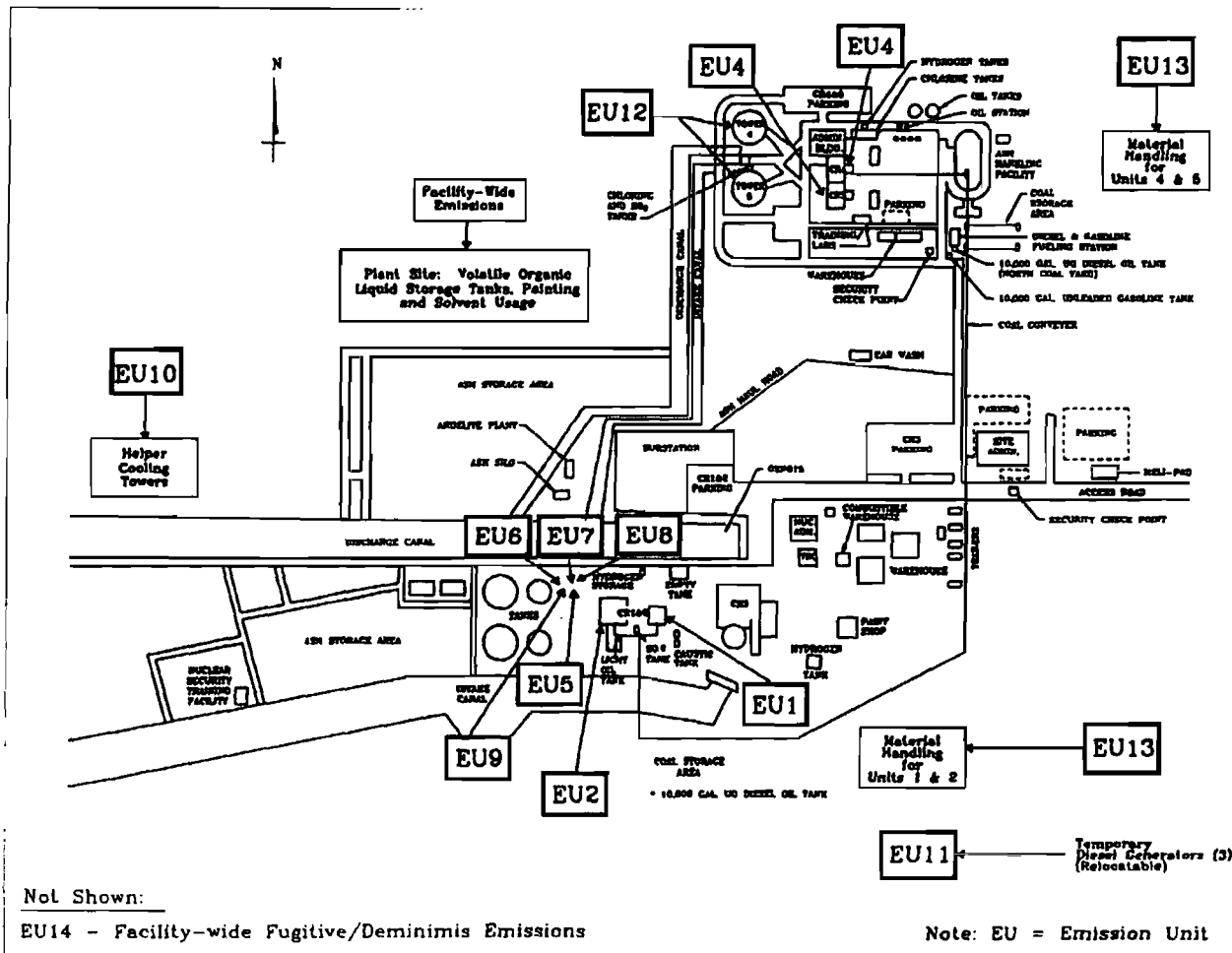
[illegible]



## **FACILITY INFORMATION**

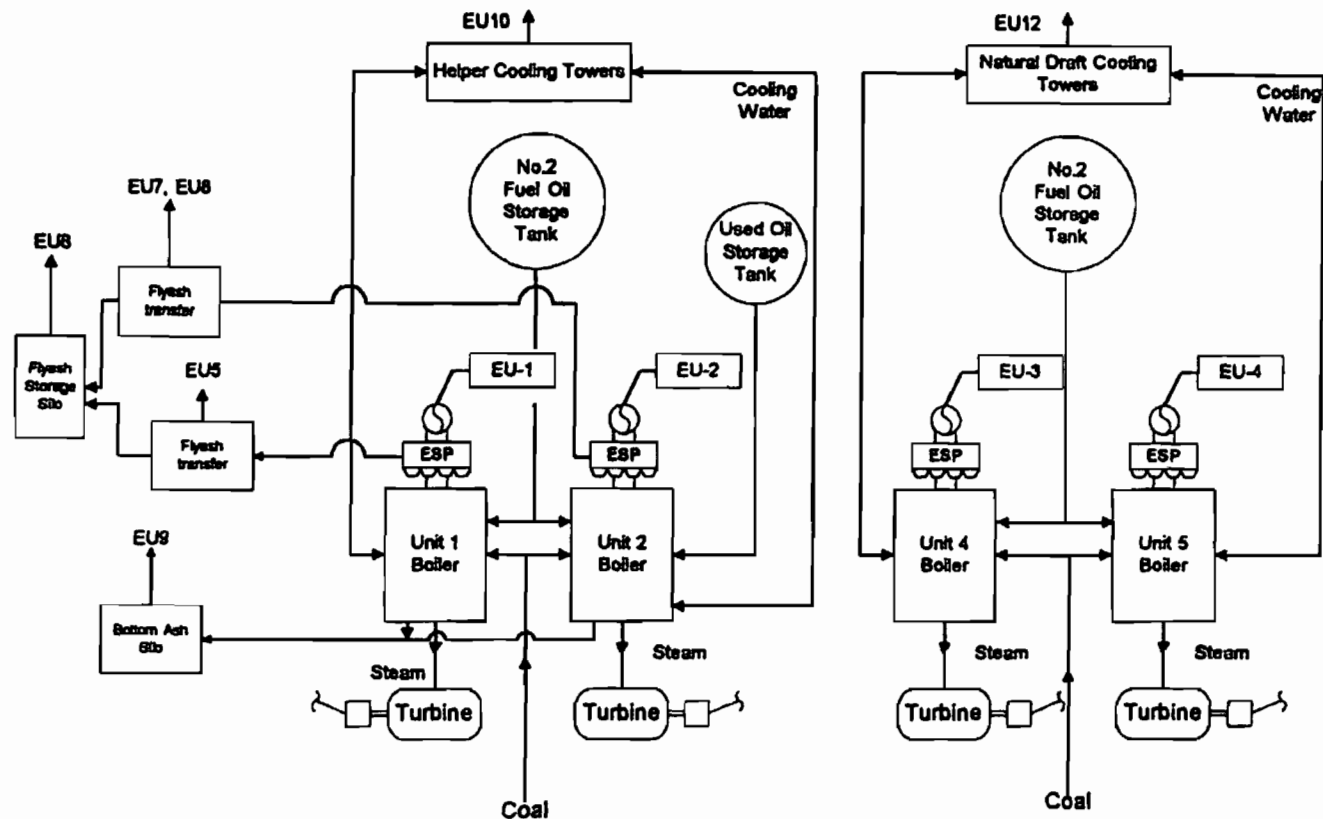
**EMISSION ATTACHMENT CR-F1-C1**  
**Facility Plot Plan**





CLIENT/PROJECT Progress Energy Florida, Inc			TAMPA, FLORIDA			TITLE Facility Plot Plan Crystal River Power Plant				
			 <b>Golder Associates</b>							
DRAWN	CHECKED	REVIEWED	DATE 4/20/2009	NOT TO SCALE	FILE NO.	Job No. 083-89614	DWG NO.	SUBTITLE	REV. NO.	CR-FL-C1

**EMISSION ATTACHMENT CR-F1-C2**  
**Process Flow Diagram**



**Note:**  
 ESP = Electrostatic Precipitator  
 EU = Emission Unit Number

See segment section for the operating rate of each emission unit.  
 EU11 - Diesel generators (3) - 820 kW not shown.  
 Used oil is fired in Unit No. 2

CLIENT/PROJECT  
**Progress Energy Florida, Inc**



TAMPA, FLORIDA

TITLE

**Process Flow Diagram  
 Crystal River Power Plant**

DRAWN

CHECKED

REVIEWED

DATE  
 4/20/2009

NOT TO  
 SCALE

FILE NO.

Job No.  
 083-89614

DWG NO.

SUBTITLE

REV. NO.

**CR-FI-C2**

**ATTACHMENT CR-FI-C3**  
**PRECAUTIONS TO PREVENT EMISSIONS**  
**OF UNCONFINED PARTICULATE MATTER**

The facility has negligible amounts of unconfined particulate matter as a result of the operation of the facility. Potential examples of particulate matter include:

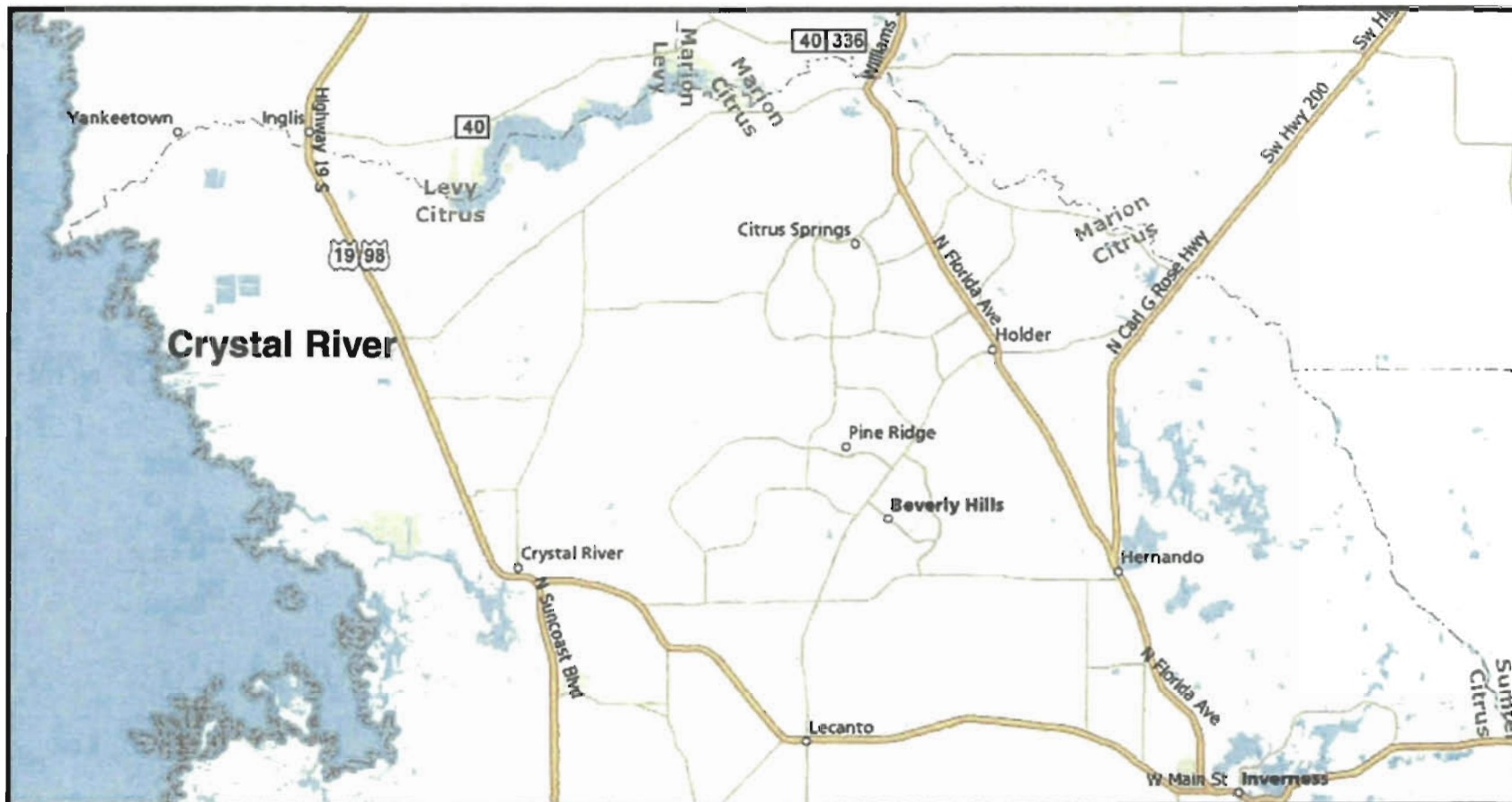
- Fugitive dust from paved and unpaved roads, and
- Fugitive particulates from the use of bagged chemical products.

Operational measures are undertaken at the facility which also minimize particulate emissions, in accordance with 62-296.310(3), F.A.C.:

- Maintenance of paved areas as needed,
- Regular mowing of grass and care of vegetation, and
- Limiting access to plant property by unnecessary vehicles.

In addition, Condition H.3 of the current Title V permit (0170004-015-AV) requires that the site control particulate emissions through the practices described in the Best Management Plan (BMP) authored by KBN in November, 1990.

**EMISSION ATTACHMENT CR-F1-C4**  
**Area Map**



CLIENT/PROJECT  
Progress Energy Florida, Inc



TAMPA, FLORIDA

TITLE

**Area Map**  
**Crystal River Power Plant**

DRAWN

CHECKED

REVIEWED

DATE

4/20/2009

SCALE

Not to Scale

FILE NO.

Job No.

083-89614

DWG NO.

SUBTITLE

REV. NO.

CR-FI-C4

## ATTACHMENT CR-FI-C5

### List of Insignificant Emissions Units and/or Activities.

Progress Energy Florida  
Crystal River Plant

---

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

---

#### Brief Description of Emissions Units and/or Activities

---

1. Vehicle diesel and gasoline tanks.
2. Diesel fire pump and tank at Unit 1.
3. Diesel fire pump and tank at Unit 3 (FWP-7)
4. Diesel pump driver for emergency feedwater (1,670 BHP)
5. Diesel generator for security bldg and system (backup)
6. 260 kW emergency diesel generator at Unit 3 technical support center.
7. Unit 3 diesel generator air compressors.
8. Unit 3 halon fire protection system.
9. Fire pump house emergency diesel generator units and electric generator units.
10. Laboratory facilities.
11. CEM equipment and calibration gas storage and venting.
12. Surface coating of less than 6.0 gallons per day.
13. Brazing, soldering and welding.
14. Grounds maintenance.
15. Miscellaneous gas and diesel engines (under 500 hp).
16. Miscellaneous material handling activities.
17. Parts washers.
18. Miscellaneous material cleaning equipment (e.g., self contained sand blasting).
19. 175 kW emergency diesel generator for the Site Admin. Bldg.
20. Sand blasting
21. Concrete batch plants

**ATTACHMENT CR-FI-C6**  
**Identification of Applicable Requirements**



# Title V Core List

Effective: 03/01/02

[Note: The Title V Core List is meant to simplify the completion of the "List of Applicable Regulations" for DEP Form No. 62-210.900(1), Application for Air Permit - Long Form. The Title V Core List is a list of rules to which all Title V Sources are presumptively subject. The Title V Core List may be referenced in its entirety, or with specific exceptions. The Department may periodically update the Title V Core List.]

## **Federal:** (description)

40 CFR 61, Subpart M: NESHAP for Asbestos.

40 CFR 82: Protection of Stratospheric Ozone.

40 CFR 82, Subpart B: Servicing of Motor Vehicle Air Conditioners (MVAC).

40 CFR 82, Subpart F: Recycling and Emissions Reduction.

## **State:** (description)

### **CHAPTER 62-4, F.A.C.: PERMITS, effective 06-01-01**

62-4.030, F.A.C.: General Prohibition.

62-4.040, F.A.C.: Exemptions.

62-4.050, F.A.C.: Procedure to Obtain Permits; Application.

62-4.060, F.A.C.: Consultation.

62-4.070, F.A.C.: Standards for Issuing or Denying Permits; Issuance; Denial.

62-4.080, F.A.C.: Modification of Permit Conditions.

62-4.090, F.A.C.: Renewals.

62-4.100, F.A.C.: Suspension and Revocation.

62-4.110, F.A.C.: Financial Responsibility.

62-4.120, F.A.C.: Transfer of Permits.

62-4.130, F.A.C.: Plant Operation - Problems.

62-4.150, F.A.C.: Review.

62-4.160, F.A.C.: Permit Conditions.

62-4.210, F.A.C.: Construction Permits.

62-4.220, F.A.C.: Operation Permit for New Sources.

### **CHAPTER 62-210, F.A.C.: STATIONARY SOURCES - GENERAL REQUIREMENTS, effective 06-21-01**

62-210.300, F.A.C.: Permits Required.

62-210.300(1), F.A.C.: Air Construction Permits.

62-210.300(2), F.A.C.: Air Operation Permits.

62-210.300(3), F.A.C.: Exemptions.

62-210.300(5), F.A.C.: Notification of Startup.

62-210.300(6), F.A.C.: Emissions Unit Reclassification.

62-210.300(7), F.A.C.: Transfer of Air Permits.

## **Title V Core List**

Effective: 03/01/02

62-210.350, F.A.C.: Public Notice and Comment.  
62-210.350(1), F.A.C.: Public Notice of Proposed Agency Action.  
62-210.350(2), F.A.C.: Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment-Area Preconstruction Review.  
62-210.350(3), F.A.C.: Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources.

62-210.360, F.A.C.: Administrative Permit Corrections.  
62-210.370(3), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility.  
62-210.400, F.A.C.: Emission Estimates.  
62-210.650, F.A.C.: Circumvention.  
62-210.700, F.A.C.: Excess Emissions.

62-210.900, F.A.C.: Forms and Instructions.  
62-210.900(1), F.A.C.: Application for Air Permit – Title V Source, Form and Instructions.  
62-210.900(5), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions.  
62-210.900(7), F.A.C.: Application for Transfer of Air Permit – Title V and Non-Title V Source.

### **CHAPTER 62-212, F.A.C.: STATIONARY SOURCES - PRECONSTRUCTION REVIEW, effective 08-17-00**

### **CHAPTER 62-213, F.A.C.: OPERATION PERMITS FOR MAJOR SOURCES OF AIR POLLUTION, effective 04-16-01**

62-213.205, F.A.C.: Annual Emissions Fee.  
62-213.400, F.A.C.: Permits and Permit Revisions Required.  
62-213.410, F.A.C.: Changes Without Permit Revision.  
62-213.412, F.A.C.: Immediate Implementation Pending Revision Process.  
62-213.415, F.A.C.: Trading of Emissions Within a Source.  
62-213.420, F.A.C.: Permit Applications.  
62-213.430, F.A.C.: Permit Issuance, Renewal, and Revision.  
62-213.440, F.A.C.: Permit Content.  
62-213.450, F.A.C.: Permit Review by EPA and Affected States  
62-213.460, F.A.C.: Permit Shield.

62-213.900, F.A.C.: Forms and Instructions.  
62-213.900(1), F.A.C.: Major Air Pollution Source Annual Emissions Fee Form.  
62-213.900(7), F.A.C.: Statement of Compliance Form.

## **Title V Core List**

Effective: 03/01/02

### **CHAPTER 62-296, F.A.C.: STATIONARY SOURCES - EMISSION STANDARDS, effective 03-02-99**

62-296.320(4)(c), F.A.C.: Unconfined Emissions of Particulate Matter.

62-296.320(2), F.A.C.: Objectionable Odor Prohibited.

### **CHAPTER 62-297, F.A.C.: STATIONARY SOURCES - EMISSIONS MONITORING, effective 03-02-99**

62-297.310, F.A.C.: General Test Requirements.

62-297.330, F.A.C.: Applicable Test Procedures.

62-297.340, F.A.C.: Frequency of Compliance Tests.

62-297.345, F.A.C.: Stack Sampling Facilities Provided by the Owner of an Emissions Unit.

62-297.350, F.A.C.: Determination of Process Variables.

62-297.570, F.A.C.: Test Report.

62-297.620, F.A.C.: Exceptions and Approval of Alternate Procedures and Requirements.

### **Miscellaneous:**

**CHAPTER 28-106, F.A.C.: Decisions Determining Substantial Interests**

**CHAPTER 62-110, F.A.C.: Exception to the Uniform Rules of Procedure, effective  
07-01-98**

**CHAPTER 62-256, F.A.C.: Open Burning and Frost Protection Fires, effective 11-30-94**

**CHAPTER 62-257, F.A.C.: Asbestos Notification and Fee, effective 02-09-99**

**CHAPTER 62-281, F.A.C.: Motor Vehicle Air Conditioning Refrigerant Recovery and  
Recycling, effective 09-10-96**

**ATTACHMENT CR-FI-C7**  
**COMPLIANCE REPORT AND PLAN**

The facility and emissions units identified in this application are in compliance with the Applicable requirements identified in this application form and referenced attachments. Compliance will be certified no less frequently than annually or as required by applicable requirement.



**Progress Energy**

Larry E. Hatcher  
Manager, Crystal River Fossil Plant  
& Fuel Operations

February 25, 2009

Ms. Mara G. Nasca  
Florida Department of Environmental Protection  
Southwest District  
13051 N. Telecom Parkway  
Temple Terrace, FL 33637

Dear Ms. Nasca:

Re: 2008 Annual Statement of Compliance  
Progress Energy Florida Crystal River Plant  
Title V Permit No. 0170004-004-AV

As required by Rule 62-213.440(3)(a)(2), Progress Energy Florida submits the attached Annual Statement of Compliance for the above-referenced facility.

Please contact Ms. Cyndy Wilkinson (352) 563-4396 or Mr. Dave Meyer at (727) 820-5295 if you have any questions or would like additional information.

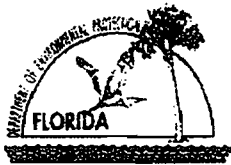
Sincerely,

Larry E. Hatcher  
Manager, Crystal River Fossil Plant & Fuel Operations  
Title V Responsible Official

Enclosure

cc: Ms. Roselyn Hughes, EPA Region IV

Progress Energy Florida, Inc.  
Crystal River Steam Plant  
1630 W. Powerline Street  
Crystal River, FL 34428



# Department of Environmental Protection

## Division of Air Resource Management

### STATEMENT OF COMPLIANCE - TITLE V SOURCE

REASON FOR SUBMISSION (Check one to indicate why this statement of compliance is being submitted)

☒ Annual Requirement      ☐ Transfer of Permit      ☐ Permanent Facility Shutdown

REPORTING PERIOD*	REPORT DEADLINE**
January 1 through December 31 of 2008 (year)	March 1, 2009

\*The statement of compliance must cover all conditions that were in effect during the indicated reporting period, including any conditions that were added, deleted, or changed through permit revision.

\*\*See Rule 62-213.440(3)(a)2., F.A.C.

Facility Owner/Company Name: Progress Energy Florida

Site Name: Crystal River Facility ID No. 0170004 County: Citrus

COMPLIANCE STATEMENT (Check only one of the following three options)

☐ A. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, and there were no reportable incidents of deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above.

☒ B. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part; however, there were one or more reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each incident of deviation, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

☐ C. This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, EXCEPT those identified in the pages attached to this report and any reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each item of noncompliance, the following information is included:

1. Emissions unit identification number.
2. Specific permit condition number (note whether the permit condition has been added, deleted, or changed during certification period).
3. Description of the requirement of the permit condition.
4. Basis for the determination of noncompliance (for monitored parameters, indicate whether monitoring was continuous, i.e., recorded at least every 15 minutes, or intermittent).
5. Beginning and ending dates of periods of noncompliance.
6. Identification of the probable cause of noncompliance and description of corrective action or preventative measures implemented.
7. Dates of any reports previously submitted identifying this incident of noncompliance.

For each incident of deviation, as described in paragraph B. above, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

Progress Energy Corporation  
Crystal River Plant  
Other Title V Permit Reportable Items  
2008 Annual Title V Certification

During the year 2008, the following deviations, in addition to items reported separately as malfunction events in the quarterly excess emission reports, have been identified by Progress Energy Corporation.

1. Excess Opacity Emissions

Emissions Unit ID: 003 and 004  
Specific Condition Number § III.B.4(a)(2)

**Specific Condition §III.B.4(a)(2) prohibits the facility from discharging any gases which exhibit greater than 20 percent opacity, six minute average, except for one six-minute period per hour of not more than 27 percent opacity.**

Unit 4 (EU-003) experienced five - six minute opacity values not covered by the above exclusion which could not be attributed to startup, shutdown, or equipment malfunction.

Unit 5 (EU-004) experienced eight - six minute opacity values not covered by the above exclusion which could not be attributed to startup, shutdown, or equipment malfunction.

Progress Energy Corporation  
Crystal River Unit 1  
Malfunction Events

During the calendar period January 1, 2008 through December 31, 2008, the following deviations occurred for this unit. These deviations were due to control malfunctions, precipitator Malfunctions and other known causes. These deviations were previously summarized in the quarterly excess emission reports.

<u>Date</u>	<u>Time</u>	<u>Duration</u>	<u>Parameter</u>	<u>Description</u>
02/03	16:18	00:06	Opacity	Malfunction: Precipitator
02/04	01:48	00:06	Opacity	Other: Power off rapping
02/09	10:42	00:12	Opacity	Malfunction: Precipitator
03/08	14:54	00:30	Opacity	Malfunction: Precipitator
03/20	16:06	00:06	Opacity	Malfunction: Precipitator
03/20	18:12	00:06	Opacity	Malfunction: Precipitator
03/23	10:06	00:06	Opacity	Malfunction: Precipitator
03/26	12:54	00:06	Opacity	Malfunction: Precipitator
03/28	15:12	00:06	Opacity	Malfunction: Precipitator
04/14	11:42	00:36	Opacity	Malfunction: Precipitator
04/14	23:00	00:36	Opacity	Malfunction: Precipitator
05/11	02:54	00:06	Opacity	Malfunction: Precipitator
05/11	03:30	00:12	Opacity	Malfunction: Precipitator
05/21	06:12	00:06	Opacity	Malfunction: Precipitator
05/24	22:42	00:12	Opacity	Malfunction: Precipitator
05/25	03:06	00:06	Opacity	Malfunction: Fan(s)
05/25	09:54	00:06	Opacity	Malfunction: Fan(s)
07/22	10:48	00:06	Opacity	Malfunction: Fan(s)
07/23	02:00	00:06	Opacity	Malfunction: Fan(s)
07/26	15:00	00:18	Opacity	Malfunction: Precipitator
11/15	15:12	00:06	Opacity	Malfunction: Precipitator
11/22	03:00	00:06	Opacity	Malfunction: Fan(s)
12/23	11:12	00:06	Opacity	Malfunction: Precipitator



Progress Energy Corporation  
Crystal River Unit 2  
Malfunction Events

During the calendar period January 1, 2008 through December 31, 2008, the following deviations occurred for this unit. These deviations are mechanical malfunction or other unknown events. These deviations were previously summarized in the quarterly excess emission reports.

<u>Date</u>	<u>Time</u>	<u>Duration</u>	<u>Parameter</u>	<u>Description</u>
02/09	12:12	00:48	Opacity	Malfunction: Precipitator
02/17	14:48	00:12	Opacity	Malfunction: Precipitator
02/28	00:42	00:36	Opacity	Malfunction: Precipitator
02/29	00:24	00:18	Opacity	Malfunction: Precipitator
02/29	08:30	00:06	Opacity	Malfunction: Precipitator
02/29	11:42	00:12	Opacity	Malfunction: Precipitator
02/29	13:06	00:06	Opacity	Malfunction: Precipitator
02/29	21:06	00:06	Opacity	Malfunction: Precipitator
03/01	07:06	00:06	Opacity	Malfunction: Precipitator
03/02	14:48	00:48	Opacity	Malfunction: Precipitator
03/04	13:06	00:12	Opacity	Malfunction: Precipitator
03/04	17:12	00:06	Opacity	Malfunction: Precipitator
03/04	19:06	00:12	Opacity	Malfunction: Precipitator
03/04	21:12	00:06	Opacity	Malfunction: Precipitator
03/04	23:06	00:12	Opacity	Malfunction: Precipitator
03/05	03:06	00:18	Opacity	Malfunction: Precipitator
03/05	11:12	00:06	Opacity	Malfunction: Precipitator
03/05	13:06	00:06	Opacity	Malfunction: Precipitator
03/05	15:12	00:06	Opacity	Malfunction: Precipitator
03/05	21:06	00:06	Opacity	Malfunction: Precipitator
03/06	07:06	00:12	Opacity	Malfunction: Precipitator
03/06	09:12	00:06	Opacity	Malfunction: Precipitator
03/06	11:12	00:12	Opacity	Malfunction: Precipitator
03/06	13:12	00:06	Opacity	Malfunction: Precipitator
03/06	15:12	00:06	Opacity	Malfunction: Precipitator
03/06	17:12	00:06	Opacity	Malfunction: Precipitator
03/06	21:12	00:06	Opacity	Malfunction: Precipitator
03/06	23:12	00:06	Opacity	Malfunction: Precipitator
04/02	13:12	00:06	Opacity	Malfunction: Precipitator
04/05	19:18	00:06	Opacity	Malfunction: Precipitator
04/05	19:36	00:06	Opacity	Malfunction: Precipitator
04/07	22:24	00:30	Opacity	Malfunction: Precipitator
04/12	12:24	00:06	Opacity	Malfunction: CEMS
04/30	07:18	00:36	Opacity	Malfunction: Precipitator
05/09	14:24	00:12	Opacity	Malfunction: Precipitator
05/10	17:42	00:06	Opacity	Malfunction: Precipitator

05/10	18:54	00:18	Opacity	Malfunction: O2 Probes
05/11	09:36	00:42	Opacity	Malfunction: Precipitator
05/12	02:48	00:06	Opacity	Malfunction: Precipitator
05/15	01:54	00:06	Opacity	Malfunction: O2 Probes
05/15	07:06	00:48	Opacity	Malfunction: O2 Probes
05/19	01:12	00:06	Opacity	Malfunction: Precipitator
05/20	00:12	00:06	Opacity	Malfunction: Precipitator
06/09	18:30	01:12	Opacity	Malfunction: Fan(s)
06/10	12:18	00:06	Opacity	Malfunction: Precipitator
06/10	14:42	00:06	Opacity	Malfunction: Precipitator
06/10	15:06	00:12	Opacity	Malfunction: Precipitator
06/11	23:30	00:24	Opacity	Malfunction: Precipitator
06/12	00:00	00:06	Opacity	Malfunction: Precipitator
06/12	14:48	00:06	Opacity	Malfunction: Fan(s)
06/12	15:00	00:12	Opacity	Malfunction: Fan(s)
07/28	16:06	00:06	Opacity	Malfunction: Precipitator
07/28	17:24	00:06	Opacity	Malfunction: Precipitator
07/28	17:36	00:12	Opacity	Malfunction: Precipitator
07/29	10:36	00:06	Opacity	Malfunction: Precipitator
07/29	10:48	00:06	Opacity	Malfunction: Precipitator
07/29	11:06	00:06	Opacity	Malfunction: Precipitator
07/29	11:18	00:06	Opacity	Malfunction: Precipitator
07/29	11:42	00:06	Opacity	Malfunction: Precipitator
07/29	14:24	00:06	Opacity	Malfunction: Precipitator
07/29	14:36	00:12	Opacity	Malfunction: Precipitator
07/29	15:00	00:06	Opacity	Malfunction: Precipitator
07/29	15:24	00:06	Opacity	Malfunction: Precipitator
07/29	16:00	00:06	Opacity	Malfunction: Precipitator
07/29	16:12	00:06	Opacity	Malfunction: Precipitator
07/30	11:12	00:24	Opacity	Malfunction: Precipitator
08/01	15:48	00:06	Opacity	Malfunction: Precipitator
07/29	18:18	00:06	Opacity	Malfunction: Precipitator
08/08	00:00	00:24	Opacity	Malfunction: Air/Fan/Dampers
08/08	00:30	00:06	Opacity	Malfunction: Fan(s)
08/08	01:00	00:06	Opacity	Malfunction: Fan(s)
08/12	03:42	00:06	Opacity	Malfunction: Precipitator
09/01	19:00	00:06	Opacity	Malfunction: Precipitator
09/15	00:54	00:06	Opacity	Other: manual rapping
09/23	02:00	00:06	Opacity	Other: manual rapping
12/19	08:42	00:06	Opacity	Malfunction: Precipitator

Progress Energy Corporation  
Crystal River Unit 4  
Malfunction Events

During the calendar period January 1, 2008 through June 30, 2008, the following deviations occurred for this unit. These deviations are mechanical malfunctions or other identified events. These deviations were previously summarized in the quarterly excess emission reports.

<u>Date</u>	<u>Time</u>	<u>Duration</u>	<u>Parameter</u>	<u>Description</u>
01/01	15:24	00:06	Opacity	Malfunction: Precipitator
01/02	13:12	00:06	Opacity	Malfunction: Precipitator
01/03	06:36	00:06	Opacity	Malfunction: Precipitator
03/01	08:24	00:06	Opacity	Malfunction: Boiler
03/02	00:30	00:18	Opacity	Malfunction: Precipitator
03/02	00:54	00:06	Opacity	Malfunction: Precipitator
03/02	06:30	00:24	Opacity	Malfunction: Precipitator
03/03	00:06	00:06	Opacity	Malfunction: Precipitator
03/05	03:30	00:06	Opacity	Malfunction: Precipitator
03/10	07:06	00:24	Opacity	Malfunction: Precipitator
03/18	02:48	00:06	Opacity	Malfunction: Precipitator
03/18	03:48	00:06	Opacity	Malfunction: Precipitator
04/06	18:36	00:06	Opacity	Other: Soot Blowing
04/10	19:18	00:06	Opacity	Malfunction: Precipitator
04/12	02:00	00:06	Opacity	Other: Analyzer Fault
04/16	00:36	00:24	Opacity	Malfunction: Precipitator
04/17	00:24	00:06	Opacity	Malfunction: Precipitator
04/18	01:36	00:06	Opacity	Malfunction: Precipitator
04/18	02:36	00:06	Opacity	Malfunction: Precipitator
04/25	04:36	00:06	Opacity	Malfunction: Precipitator
05/02	22:06	00:06	Opacity	Malfunction: Fans
05/07	14:18	00:06	Opacity	Malfunction: Boiler
05/12	14:18	00:24	Opacity	Malfunction: Boiler
05/12	21:12	00:06	Opacity	Malfunction: Boiler
06/05	03:54	00:06	Opacity	Other: Load Change
06/11	04:24	00:06	Opacity	Malfunction: Precipitator
06/24	11:24	00:06	Opacity	Malfunction: Precipitator
06/24	14:18	00:24	Opacity	Malfunction: Precipitator
06/24	15:18	00:12	Opacity	Malfunction: Precipitator
07/15	12:48	00:18	Opacity	Malfunction: Boiler
07/16	05:54	00:06	Opacity	Malfunction: Precipitator
08/11	07:54	00:06	Opacity	Malfunction: Precipitator
08/26	13:30	00:06	Opacity	Malfunction: Precipitator
09/03	11:12	00:06	Opacity	Malfunction: Precipitator
09/03	19:36	00:06	Opacity	Other: CEMS malfunction
09/05	04:24	00:06	Opacity	Malfunction: Precipitator
09/06	16:42	00:06	Opacity	Malfunction: Precipitator
09/19	22:36	00:12	Opacity	Other: CEMS malfunction
09/20	01:06	00:06	Opacity	Other: CEMS malfunction

Progress Energy Corporation  
Crystal River Unit 4  
Malfunction Events

09/27	09:54	00:06	Opacity	Other: Load Change
09/27	11:48	00:06	Opacity	Other: Sootblowing
09/27	22:54	00:24	Opacity	Malfunction:Pulverizer Fire
09/27	23:30	00:06	Opacity	Malfunction:Pulverizer Fire
09/28	00:24	00:24	Opacity	Malfunction:Pulverizer Fire
09/28	00:54	00:06	Opacity	Malfunction:Pulverizer Fire
09/28	01:06	00:18	Opacity	Malfunction:Pulverizer Fire
09/28	10:18	00:06	Opacity	Other: Load Change
10/01	22:24	00:06	Opacity	Other: Manual Rapping

Progress Energy Corporation  
Crystal River Unit 5  
Malfunction Events

During the calendar period January 1, 2008 through December 31, 2008, the following deviations occurred for this unit. These deviations are precipitator malfunctions, precipitator software malfunctions or other deviations. These deviations were previously summarized in the quarterly excess emission reports.

<u>Date</u>	<u>Time</u>	<u>Duration</u>	<u>Parameter</u>	<u>Description</u>
01/12	04:24	00:06	Opacity	Malfunction: Precipitator
01/22	22:54	00:06	Opacity	Malfunction: Precipitator
02/01	03:12	00:06	Opacity	Malfunction: Precipitator
02/05	04:06	00:06	Opacity	Malfunction: Precipitator
03/07	15:36	00:06	Opacity	Malfunction: Precipitator
05/21	10:30	00:06	Opacity	Malfunction: Precipitator
06/09	18:30	00:18	Opacity	Malfunction: Precipitator
06/21	03:42	00:06	Opacity	Malfunction: Precipitator
06/24	18:24	00:12	Opacity	Malfunction: Software
07/06	17:42	00:06	Opacity	Malfunction: Precipitator
07/08	02:00	00:06	Opacity	Malfunction: Precipitator
07/08	13:54	00:06	Opacity	Malfunction: Precipitator
07/08	23:30	00:06	Opacity	Other: manual rapping
07/12	22:18	00:06	Opacity	Malfunction: Precipitator
07/12	22:24	00:06	Opacity	Malfunction: Precipitator
07/15	09:24	00:06	Opacity	Malfunction: Precipitator
07/16	15:48	00:18	Opacity	Malfunction: Precipitator
07/18	01:06	00:06	Opacity	Other: manual rapping
07/18	13:00	00:06	Opacity	Other: manual rapping
07/22	00:54	00:18	Opacity	Other: manual rapping
07/30	11:06	00:18	Opacity	Malfunction: Precipitator
07/30	12:18	00:12	Opacity	Malfunction: Precipitator
07/30	17:30	00:12	Opacity	Malfunction: Precipitator
08/13	03:18	00:12	Opacity	Malfunction: Precipitator
08/22	15:18	00:06	Opacity	Malfunction: Precipitator
08/22	15:36	00:06	Opacity	Malfunction: Precipitator
08/22	15:48	00:06	Opacity	Malfunction: Precipitator
09/03	14:30	00:06	Opacity	Malfunction: Precipitator
09/10	13:24	00:12	Opacity	Malfunction: Precipitator
11/07	02:06	00:06	Opacity	Other: manual rapping
11/19	08:30	00:06	Opacity	Other: Sootblowing
11/20	06:12	00:06	Opacity	Malfunction: Precipitator
11/26	09:00	00:06	Opacity	Malfunction: Precipitator
12/23	05:48	00:06	Opacity	Malfunction: Precipitator
12/23	13:12	00:12	Opacity	Malfunction: Precipitator

## ATTACHMENT CR-FI-C8

### LIST OF EQUIPMENT / ACTIVITIES REGULATED - TITLE VI

The FPC Crystal River Plant current has over 20 refrigeration and air-conditioning units on the plant site. Of these, 21 air-conditioning units currently meet the 50-pound threshold established by the Department:

<b>Model Name, Unit No., Model No.</b>	<b>General Area</b>	<b>Amount (lb)</b>
TRA, A-CTV1,272	CR Units 1 and 2	300
TRA, A-CTV2,372	CR Units 1 and 2	300
TRA, AHID, M41	CR Units 1 and 2	120
TRA, AI, RAUBCI 14A	CR Unit 3, Environmental Warehouse	60
TRA, A2, RAUBC 1 14A	CR Unit 3, Environmental Warehouse	60
MCQ, A-CU401, ALP089AD	CR Units 4 and 5, Precipitator Room	267
MCQ, A-CHI, ALRIO5AD	CR Units 4 and 5	315
MCQ, A-CH2, ALRO5OAD	CR Units 4 and 5	150
MCQ, A-CH3, ALRIO5AD	CR Units 4 and 5	360
MCQ, A-CH4, ALRI 05AD	CR Units 4 and 5	360
MCQ, A-CH5, ALRI 05AD	CR Units 4 and 5	360
MCQ, A-CH55 1, ALRI 10BD	CR Units 4 and 5	330
MCQ, A-CH552, ALRI 10BD	CR Units 4 and 5	330
MCQ, A-CU50 1, ALP089A	CR Units 4 and 5	267
TRA, AI, RA2004A	CR Crusher HS1	60
MCQ, A 1, ALP027AS	CR Crusher HS2	60
MCQ, AI, ALPO19AS	CR South Coal Yard	60
BON, A-CHI, ACWC9ORD	CR Site Administration	300
CAR, A3,50DD024600	CR Tech Support	60
CAR, A5,50DD024600	CR Tech Support	60
CAR, A-CHI, 30GB040C630	Fish Hatchery	120

**EMISSION ATTACHMENT CR-F1-C9**  
**Requested Changes to Current Title V Air Operation Permit**

(6) For affected facilities firing combinations of fossil fuels, the F or  $F_c$  factors determined by paragraphs 40 CFR 60.45(f)(4) or (f)(5) shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^n X_i (F_c)_i$$

where:

$X_i$  = the fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, etc.)  
 $F_i$  or  $(F_c)_i$  = the applicable F or  $F_c$  factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section.

$n$  = the number of fuels being burned in combination.  
[40 CFR 60.45(a), (b), (c), (e) and (f); PPSC PA 77-09]

**COMS for Periodic Monitoring:**

Periodic monitoring for opacity shall be COMS, which are maintained and operated in conformance with 40 CFR Part 75. [Rule 62-2 13.440, F.A.C.]

**B.15. Excess Emission Reports.**

(g) Excess emission reports shall be submitted to the Department for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission report shall include the information required in 40 CFR 60.7(c). Periods of excess emissions that shall be reported are defined as follows:

(1) **Opacity.** Excess emissions are defined as any six-minute period during which the average opacity of missions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(2) **Sulfur dioxide.** Excess emissions for affected facilities are defined as:

(i) Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under 40CFR 60.43.

(3) **Nitrogen oxides.** Excess emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards under 40 CFR 60.44.

[40 CFR 60.45(g)]

**Other NSPS Subpart D Conditions**

**B.16. Pursuant to 40 CFR 60.41 Definitions.** As used in 40 CFR 60 Subpart D, all terms not defined in 40 CFR 60.41 shall have the meaning given them in the Act, and in Subpart A of 40 CFR 60.

**Ambient Air Monitoring**

**B.17. Ambient Air Monitoring.** ~~The owner or operator shall continue to operate the existing ambient monitoring devices for sulfur dioxide and suspended particulate at the two existing locations (sites) designated on Figure A, Ambient Air Monitoring Locations, Crystal River, Florida, attached to this permit. The frequency of operation of each monitoring device for suspended particulate shall be every six days, and continuously for sulfur dioxide, unless otherwise specified by the Department.~~

Ambient monitoring station No. 4 includes one continuous ambient sulfur dioxide ( $\text{SO}_2$ ) monitor. A second ambient monitoring station located on site (Site No. 2) includes monitors for particulate matter less than 10 micrometers in diameter ( $\text{PM}_{10}$ ), particulate matter 2.5 micrometers in diameter and smaller ( $\text{PM}_{2.5}$ ), and  $\text{SO}_2$ . All monitors located at Site No. 2 will continue to be operated by Progress Energy Florida (PEF) and PEF will continue reporting data from these monitors as required by Special Condition 1.A.2. of the Conditions of Certification. Based on the Post-certification Amendment, dated June 19, 2008, the Department determined that PEF could cease to operate and remove the Site No. 4 monitoring station ( $\text{SO}_2$  only). New or existing monitoring devices shall be located as designated by the Department. The monitoring devices for sulfur dioxide shall meet the requirements of 40 CFR 53.

[PPSC PA 77-09, and order modifying conditions of certification, OGC Case No. 83-0818, dated February 2, 1984, and Rules 62-2 13.440 and 62-296.405(1)(c)3., F.A.C.; Department letter dated July 23, 2008.]



## ATTACHMENT CR-FI-C9

### List of Unregulated Emissions Units and/or Activities.

Progress Energy Florida

Crystal River Plant

Unregulated Emissions Units and/or Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

E.U. ID No.	Brief Description of Emissions Units and/or Activity
017	Fuel and lube oil tanks and vents <sup>1</sup>
018	Sewage treatment, water treatment, lime storage <sup>2</sup>
019	Three 3500 kW diesel generators associated with Unit <sup>3</sup>
021	Miscellaneous gas and diesel engines > 500 hp <sup>4</sup>

#### Notes:

1. This unregulated emissions unit consists of the following facilities:

Associated with Units 1 and 2:

Number 2 fuel oil, 210,000 gal capacity, tank # 10

Lube oil vents, one each at Unit 1 and 2.

Rotocloner with air filter at Unit 1.

Oil vent at Unit 1.

Associated with Unit 3:

Equipment diesel tanks, tanks 2 through 8, 15, 16, 22 and 23, capacities from 30 gallons to 30,118 gallons.

Lube oil tank, 25,000 gallon capacity, tank #9.

Two small cooling towers west of Main Building.

Two lube oil vents.

Associated with Units 4 and 5:

Number 2 fuel oil, 256,200 gal capacity, tank # 1, and 255,318 gal capacity, tank # 2.

Equipment diesel tanks, tanks 3 and 4, capacity of 250 gallons, each.

Lube oil tank, 30,000 gallon capacity, tank #16.

Lube oil vents.

Associated with the Crystal River Site:

Equipment diesel tanks, E.O.F. #01, capacity of 2,000 gallons and E.O.F. # 02, capacity of 25 gallons.

Waste oil tank, Garage # 01, 150 gallon capacity.

Mineral spirits tanks, O.C. # 01, 80 gallon capacity, N. Sub. # 04, 1,100 gallon capacity.

Transmission oil tanks, N. Sub. # 01 through 03, capacity of 1,100 gallons each.

UST for diesel- 2 @ 10,000 gal each and one @ 20,000 gal.

UST for gasoline- one @ 10,000 gal each.

2. This unregulated emissions unit consists of the following facilities:

Associated with Units 1, 2, 4 and 5:

Water treatment systems for all EUSGUs

Sewage treatment plant.

Lime storage.

3. The 3<sup>rd</sup> generator is an Emergency Stationary RICE, without emission limitations (see 40 CFR 63 Subpart ZZZZ).

4. Miscellaneous, non-road engines.

## **ATTACHMENT CR-FI-C9 (continued)**

### **List of Insignificant Emissions Units and/or Activities.**

Progress Energy Florida  
Crystal River Plant

---

The below listed emissions units and/or activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

---

#### **Brief Description of Emissions Units and/or Activities**

---

1. Vehicle diesel and gasoline tanks.
2. Diesel fire pump and tank at Unit 1.
3. Diesel fire pump and tank at Unit 3 (FWP-7)
4. Diesel pump driver for emergency feedwater (1,670 BHP)
5. Diesel generator for security bldg and system (backup)
6. 260 kW emergency diesel generator at Unit 3 technical support center.
7. Unit 3 diesel generator air compressors.
8. Unit 3 halon fire protection system.
9. Fire pump house emergency diesel generator units and electric generator units.
10. Laboratory facilities.
11. CEM equipment and calibration gas storage and venting.
12. Surface coating of less than 6.0 gallons per day.
13. Brazing, soldering and welding.
14. Grounds maintenance.
15. Miscellaneous gas and diesel engines (under 500 hp).
16. Miscellaneous material handling activities.
17. Parts washers.
18. Miscellaneous material cleaning equipment (e.g., self contained sand blasting).
19. 175 kW emergency diesel generator for the Site Admin. Bldg.
20. Sand Blasting
21. Concrete batch plants

**ATTACHMENT CR-FI-C10**  
**Acid Rain Application**

# Acid Rain Part Application

For more information, see instructions and refer to 40 CFR 72.30 and 72.31 and Chapter 62-214, F.A.C.

This submission is: **Renewal**

## STEP 1

Identify the source by plant name, State, and ORIS code

Plant Name	Crystal River	State	Fl.	ORIS Code	628
------------	---------------	-------	-----	-----------	-----

## STEP 2

Enter the unit ID# for every Acid Rain unit at the Acid Rain source in column "a." For new units, enter the requested information in columns "c" and "d."

a	b	c	d
Unit ID#	Unit will hold allowances in accordance with 40 CFR 72.9C(1)	New Units  Commence Operation Date	New Units  Monitor Certification Deadline
1	Yes	No	
2	Yes	No	
4	Yes	No	
5	Yes	No	
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		

Crystal River

Plant Name (from Step 1)

**STEP 3**  
Read the standard  
requirements

Acid Rain Part Requirements

- (1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
  - (i) Submit a complete Acid Rain part application (including a compliance plan) under 40 CFR part 72 and Rules 62-214.320 and 330, F.A.C., in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
  - (ii) Submit in a timely manner any supplemental information that the Department determines is necessary in order to review an Acid Rain part application and issue or deny an Acid Rain part.
- (2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
  - (i) Operate the unit in compliance with a complete Acid Rain part application or a superseding Acid Rain part issued by the Department; and
  - (ii) Have an Acid Rain Part.

Monitoring Requirements

- (1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75, and Rule 62-214.420, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

- (1) The owners and operators of each source and each Acid Rain unit at the source shall:
  - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another Acid Rain unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
  - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
  - (i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
  - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain part application, the Acid Rain part, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

- (1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
  - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
  - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

- (1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the EPA or the Department:
  - (i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
  - (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
  - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and

Crystal River

Plant Name (from Step 1)

STEP 3,  
Cont'd.Recordkeeping and Reporting Requirements (cont)

(iv) Copies of all documents used to complete an Acid Rain part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain part application, an Acid Rain part, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.

(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.

(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.

(4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.

(5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.

(6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 75.11 (NO<sub>x</sub> averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

(7) Each violation of a provision of 40 CFR parts 72, 73, 75, 76, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities.

No provision of the Acid Rain Program, an Acid Rain part application, an Acid Rain part, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or

(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

## STEP 4

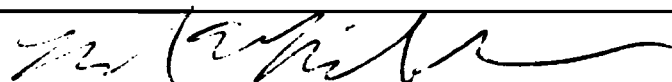
Read the  
certification  
statement, sign,  
and date

Certification

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Brenda E. Brickhouse

Signature



Date 4/23/09

# **Acid Rain Program**

## **Instructions for**

### **Acid Rain Part Application**

**(40 CFR 72.30 - 72.31 and Rule 62-214.320, F.A.C.)**

*The Acid Rain Program requires the designated representative to submit an Acid Rain part application for each source with an Acid Rain unit. A complete Certificate of Representation must be received by EPA before the part application is submitted to the title V permitting authority. A complete Acid Rain part application, once submitted, is binding on the owners and operators of the Acid Rain source and is enforceable in the absence of an Acid Rain part until the title V permitting authority either issues an Acid Rain part to the source or disapproves the application.*

Please type or print. The alternate designated representative may sign in lieu of the designated representative. If assistance is needed, contact the title V permitting authority.

**STEP 1** Use the plant name and ORIS Code listed on the Certificate of Representation for the plant. An ORIS code is a 4 digit number assigned by the Energy Information Agency (EIA) at the U.S. Department of Energy to power plants owned by utilities. If the plant is not owned by a utility but has a 5 digit facility code (also assigned by EIA), use the facility code. If no code has been assigned or if there is uncertainty regarding what the code number is, contact EIA at (202) 287-1730 (for ORIS codes), or (202) 287-1927 (for facility codes).

**STEP 2** For column "a," identify each Acid Rain unit at the Acid Rain source by providing the appropriate unit identification numbers, consistent with the unit identification numbers entered on the Certificate of Representation and with unit identification numbers used in reporting to DOE and/or EIA. For new units without identification numbers, owners and operators may assign such numbers consistent with EIA and DOE requirements.

For columns "c" and "d," enter the commence operation date(s) and monitor certification deadline(s) for new units in accordance with 40 CFR 72.2 and 75.4, respectively.

### **Submission Deadlines**

For new units, an initial Acid Rain part application must be submitted to the title V permitting authority 24 months before the date the unit commences operation. Acid rain part renewal applications must be submitted at least 6 months in advance of the expiration of the acid rain portion of a title V permit, or such longer time as provided for under the title V permitting authority's operating permits regulation.

### **Submission Instructions**

Submit this form to the appropriate title V permitting authority. If you have questions regarding this form, contact your local, State, or EPA Regional acid rain contact, or call EPA's Acid Rain Hotline at (202) 564-9620.



# Certificate of Representation

Page 1

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ☐ New ☒ Revised (revised submissions must be completed in full; see instructions)

This submission includes combustion or process sources under 40 CFR part 74 ☐

## STEP 1

Identify the source by  
plant name, State, and  
ORIS code.

Plant Name	State	ORIS Code
Crystal River	FL	628

## STEP 2

Enter requested  
information for the  
designated representative.

Name	
Address	
Phone Number	Fax Number
E-mail address (if available)	

## STEP 3

Enter requested  
information for the  
alternate designated  
representative, if applicable.

Name	Brenda E. Brickhouse
Address	FLORIDA POWER CORPORATION DBA PROGRESS ENERGY FLORIDA, INC. P.O. Box 14042, PEF 903 St. Petersburg, FL 33733
Phone Number	(727) 820-5153
Fax Number	(727) 820-5229
E-mail address (if available)	brenda.brickhouse@pgnmail.com



**STEP 4**

Complete Step 5, read the certifications, and sign and date. For a designated representative of a combustion or combustion or process source under 40 CFR part 74, the references in the certifications to "affected unit" or "affected units" also apply to the combustion or process source under 40 CFR part 74 and the references to "affected source" also apply to the source at which the source is located.

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affected unit at the source.

I certify that I have given notice of the agreement, selecting me as the 'designated representative' for the affected unit at the source identified in this certificate of representation, in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general public notice.

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rain Program on behalf of the owners and operators of the affected source and of each affected unit at the source and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was selected as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.


Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected unit, or where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm power contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designated representative, as applicable, and of the agreement by which I was selected to each owner and operator of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowances by contract, that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative, if applicable, includes a procedure for the owners and operators of the source and affected units at the source to authorize the alternate designated representative to act in lieu of the designated representative.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature (designated representative)	Date
	Date 4/23/09

**STEP 5**

Provide the name of every owner and operator of the source and each affected unit (or combustion or process source) they own and or operate.

Name Progress Energy Corporation					<input checked="" type="checkbox"/> Owner	<input checked="" type="checkbox"/> Operator
ID# 1	ID# 2	ID# 4	ID# 5	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					<input type="checkbox"/> Owner	<input type="checkbox"/> Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					<input type="checkbox"/> Owner	<input type="checkbox"/> Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

Name					<input type="checkbox"/> Owner	<input type="checkbox"/> Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

**ATTACHMENT CR-FI-C11**  
**Phase II NOx Averaging Plan**



# Phase II NO<sub>x</sub> Averaging Plan

For more information, see instructions and refer to 40 CFR 76.11

NO<sub>x</sub> Averaging - Page 1

This submission is:

☐

New

☒

Revised

Page 1 of

3

## STEP 1

Identify the units participating in this averaging plan by plant name, State, and boiler ID# from NADB. In column (a), fill in each unit's applicable emission limitation from 40 CFR 76.5, 76.6, or 76.7. In column (b), assign an alternative contemporaneous annual emissions limitation (ACEL) in lb/mmBtu to each unit. In column (c), assign an annual heat input limitation in mmBtu to each unit. Continue to page 3 if necessary.

Plant Name	State	ID#	(a) Emission Limitation	(b) ACEL	(c) Annual Heat Input Limit
Asheville	NC	1	0.46	0.15	9,773,847
Asheville	NC	2	0.46	0.15	9,627,813
Cape Fear	NC	5	0.40	0.35	6,185,400
Cape Fear	NC	6	0.40	0.35	7,612,800
H.F. Lee	NC	1	0.40	0.60	5,758,095
H.F. Lee	NC	2	0.46	0.50	5,649,210
H.F. Lee	NC	3	0.46	0.47	13,417,560
Mayo	NC	1A	0.46	0.15	16,685,025
Mayo	NC	1B	0.46	0.15	16,685,025

## STEP 2

Use the formula to enter the Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan and the Btu-weighted annual average emission rate for the same units if they are operated in compliance with 40 CFR 76.5, 76.6, or 76.7. The former must be less than or equal to the latter.

Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan

0.44

≤

Btu-weighted annual average emission rate for same units operated in compliance with 40 CFR 76.5, 76.6 or 76.7

0.44

$$\frac{\sum_{i=1}^n (R_{Li} \times HI_i)}{\sum_{i=1}^n HI_i}$$

≤

$$\frac{\sum_{i=1}^n [R_{Li} \times HI_i]}{\sum_{i=1}^n HI_i}$$

Where,

$R_L$  = Alternative contemporaneous annual emission limitation for unit i, in lb/mmBtu, as specified in column (b) of Step 1;

$R_A$  = Applicable emission limitation for unit i, in lb/mmBtu, as specified in column (a) of Step 1;

$HI_i$  = Annual heat input for unit i, in mmBtu, as specified in column (c) of Step 1;

$n$  = Number of units in the averaging plan

## CRYSTAL RIVER POWER PLANT

NO<sub>x</sub> Averaging - Page 2

Page 2 of 3

Plant Name (from Step 1)

☒ This plan is effective for calendar year 2010 through calendar year 2014 unless notification to terminate the plan is given.

☐ Treat this plan as ☐ identical plans, each effective for one calendar year for the following calendar years: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ unless notification to terminate one or more of these plans is given.

## STEP 3

Mark one of the two options and enter dates.

## Step 4

Read the special provisions and certification, enter the name of the designated representative, and sign and date

## Special Provisions

Emission Limitations

Each affected unit in an approved averaging plan is in compliance with the Acid Rain emission limitation for NO<sub>x</sub> under the plan only if the following requirements are met:

(i) For each unit, the unit's actual annual average emission rate for the calendar year, in lb/mmBtu, is less than or equal to its alternative contemporaneous annual emission limitation in the averaging plan, and

(a) For each unit with an alternative contemporaneous emission limitation less stringent than the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7, the actual annual heat input for the calendar year does not exceed the annual heat input limit in the averaging plan,

(b) For each unit with an alternative contemporaneous emission limitation more stringent than the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7, the actual annual heat input for the calendar year is not less than the annual heat input limit in the averaging plan, or

(ii) If one or more of the units does not meet the requirements of (i), the designated representative shall demonstrate, in accordance with 40 CFR 76.11(d)(1)(ii)(A) and (B), that the actual Btu-weighted annual average emission rate for the units in the plan is less than or equal to the Btu-weighted annual average rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations in 40 CFR 76.5, 76.6, or 76.7.

(iii) If there is a successful group showing of compliance under 40 CFR 76.11(d)(1)(ii)(A) and (B) for a calendar year, then all units in the averaging plan shall be deemed to be in compliance for that year with their alternative contemporaneous emission limitations and annual heat input limits under (i).

Liability

The owners and operators of a unit governed by an approved averaging plan shall be liable for any violation of the plan or this section at that unit or any other unit in the plan, including liability for fulfilling the obligations specified in part 77 of this chapter and sections 113 and 411 of the Act.

Termination

The designated representative may submit a notification to terminate an approved averaging plan, in accordance with 40 CFR 72.40(d), no later than October 1 of the calendar year for which the plan is to be terminated.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Brenda E. Brickhouse

Name

Signature

Date

11/23/01

## CRYSTAL RIVER POWER PLANT

Plant Name (from Step 1)

NO<sub>x</sub> Averaging - Page 3

## STEP 1

Continue the  
identification of  
units from Step 1,  
page 1, here.

			(a)	(b)	(c)
Plant Name	State	ID#	Emission Limitation	Alt. Contemp. Emission Limitation	Annual Heat Input Limit
H.B. Robinson	SC	1	0.40	0.525	12,879,540
Roxboro	NC	1	0.46	0.145	16,254,975
Roxboro	NC	2	0.40	0.145	32,789,849
Roxboro	NC	3A	0.46	0.235	17,651,860
Roxboro	NC	3B	0.46	0.235	17,651,860
Roxboro	NC	4A	0.46	0.225	17,928,281
Roxboro	NC	4B	0.46	0.225	17,928,281
L.V. Sutton	NC	1	0.40	0.605	6,536,531
L.V. Sutton	NC	2	0.46	0.605	6,725,250
L.V. Sutton	NC	3	0.46	0.50	28,232,325
Weatherspoon	NC	1	0.46	1.00	3,746,925
Weatherspoon	NC	2	0.46	1.00	3,798,165
Weatherspoon	NC	3	0.40	0.65	6,141,480
Crystal River	FL	1	0.40	0.57	37,112,400
Crystal River	FL	2	0.40	0.57	42,602,400
Crystal River	FL	4	0.46	0.59	79,385,400
Crystal River	FL	5	0.46	0.59	74,334,600

**(a)**

(b)

(c)

**Alt.  
Contemp.  
Emission  
Limitation**

### Annual Heat Input Limit

## STEP 1

**Continue the  
identification of  
units from Step 1,  
page 1, here.**

[illegible]



# Acid Rain Program

## Instructions for Phase II NO<sub>x</sub> Compliance Plan (40 CFR 76.9)

The U.S. Environmental Protection Agency has promulgated regulations designed to substantially reduce the annual emissions of nitrogen oxides (NO<sub>x</sub>) from coal-fired electric utilities. The NO<sub>x</sub> Emission Reduction regulations are found at 40 CFR part 76 and apply to each existing coal-fired utility unit that is subject to sulfur dioxide (SO<sub>2</sub>) emission reduction requirements under Sections 404, 405, or 409 of the Clean Air Act. Under 40 CFR 76.9, the owner or operator of each affected unit subject to 40 CFR part 76 must include a compliance plan for NO<sub>x</sub> emissions in the Acid Rain permit application for that unit. The designated representatives (DRs) of Phase I and Phase II NO<sub>x</sub>-affected units with Group 1 or Group 2 boilers must submit an initial Phase II NO<sub>x</sub> compliance plan to the appropriate title V air permitting authority (in most cases, the State or local air permitting authority) not later than January 1, 1998. A Group 1 boiler is a tangentially fired boiler or a dry bottom wall-fired boiler. A Group 2 boiler is a cell burner boiler, cyclone boiler, vertically fired boiler, or a wet bottom boiler. Once the title V permitting authority receives the Phase II NO<sub>x</sub> compliance plans, it will in turn review them and incorporate approved plans into the Phase II Acid Rain permits issued by the permitting authority to Phase II affected sources.

### General Instructions

- (1) Please type or print in black ink.
  - (2) NADB is the National Allowance Data Base for the Acid Rain Program. To obtain the database on diskette, call the Acid Rain Hotline at (202) 343-9620. This data file is in dBase format for use on an IBM-compatible PC. It requires 2 megabytes of hard drive memory. If the unit is not listed in NADB, use the plant name, ORIS code, and boiler ID#(s) listed on the Certificate of Representation for the affected source.
  - (3) If more space is needed, photocopy the pertinent page. When you have completed the form, indicate the page order and total number of pages (e.g., 1 of 4, 2 of 4, etc.) in the boxes in the upper right hand corner of each page.
  - (4) Submit one complete set of all forms with original signatures to:
    - (a) The appropriate title V permitting authority (for NO<sub>x</sub> Averaging Plans, a copy of the plan must be submitted to any other title V permitting authority with jurisdiction over any of the units in the plan).
- and
- One copy to:
- (b) U.S. Environmental Protection Agency  
Clean Air Markets Division (6204J)  
Attn: Phase II NO<sub>x</sub>  
1200 Pennsylvania Ave., NW  
Washington, DC 20460
- (5) For assistance, call the Acid Rain Hotline at (202) 343-9620.

---

### NO<sub>x</sub> Compliance Options

#### STEP 2

##### General

Indicate a proposed method of compliance with the NO<sub>x</sub> emissions requirements for each unit at the source affected for NO<sub>x</sub> during Phase II. A Phase II NO<sub>x</sub> compliance plan must account for each year the Phase II acid rain permit will be effective. Further, a NO<sub>x</sub> compliance plan is in effect only through the term of the acid rain permit covering the NO<sub>x</sub>-affected units. A new NO<sub>x</sub> compliance plan must be submitted when an acid rain permit renewal application is due.

##### NO<sub>x</sub>-affected Units

To determine if an affected unit subject to Acid Rain SO<sub>2</sub> requirements is also subject to NO<sub>x</sub> emission limitations, see 40 CFR 76.1, the definitions at 40 CFR 76.2, and the emission limitations at 40 CFR 76.5, 76.6, and 76.7. Most existing coal-fired units that are subject to Acid Rain SO<sub>2</sub> requirements and that have a Group 1 or Group 2 boiler are also subject to the NO<sub>x</sub> emission limitations under 40 CFR part 76.



### Phase I Group 1 Boilers

Compliance options (a) and (b) are standard annual emission limitations, one of which may be selected for a Phase I Group 1 boiler. The limits also apply to Phase II Group 1 boilers that are covered by an early election plan previously approved by U.S. EPA.

### Early Election

Compliance option (c), NOX early election, is available only to Phase II Group 1 boilers with early election plans submitted by January 1, 1997 and approved by U.S. EPA. All such plans terminate no later than December 31, 2007. DRs with NOX early election units must select option (c) and either (a) or (b), the Phase I Group 1 standard emissions limit specified for the unit in the plan. If the termination date of the plan will be prior to the expiration date of the acid rain permit covering an early election unit, the DR must indicate an additional NOX compliance option that will apply to the unit beginning when the plan terminates through the date by which the acid rain permit will expire. In such cases the DR must mark option (c) and either (a) or (b), as well as the additional box(es) denoting the additional, follow-on NOX compliance option. For early election units in a common stack, see also the instructions under Common Stacks.

### Phase II Group 1 Boilers

Compliance options (d) and (e) denote standard annual emission limitations, one of which may be selected for a Phase II Group 1 boiler.

### Phase II Group 2 Boilers

Compliance options (f) through (i) denote standard annual emission limitations, one of which may be selected for a Phase II Group 2 boiler.

### NOX Averaging

Compliance option (j) denotes the annual emission limitation under a NOX averaging plan, which may be selected in lieu of a standard annual emission limit for Group 1 or Group 2 boilers with the same owner or operator and the same DR. See instructions below and include Phase II NOX averaging form.

### Common Stacks

A unit that utilizes a common stack and is separately monitored for NOX (i.e., has its own NOx monitor and diluent monitor) is treated as the same as a unit that emits only through its own separate stack.

A unit (other than an early election unit) that utilizes a common stack and is not monitored separately must select one of the applicable common stack options. If the unit shares a common stack with other affected units and no nonaffected units and if each of the units has a NOX emission limitation, three options are available: comply with the most stringent NOX emission limitation applicable

to any unit utilizing the common stack (option (k)); include the units in a NOX averaging plan (option (l)); or use an approved method for apportioning the combined NOX emission rate in the common stack (option (m)). If the unit shares a common stack with at least one other unit that does not have a NOX emission limitation or with at least one non-affected unit, you must use an approved method for apportioning the combined NOX emission rate (option (m)), unless, of course, the unit is separately monitored. An early election unit that utilizes a common stack, that is not monitored separately, and whose early election plan specifies option (k) or (m) for the unit, must select such option.

If an apportionment option is chosen, check, in addition to option (m), the box at Step 2 that indicates the applicable emission limitation and submit to U.S. EPA the documentation supporting apportionment with the monitoring plan submission.

### Alternative Emissions Limitations

Compliance option (n) must be selected by a Phase II Group 1 or Group 2 boiler that is applying for an AEL demonstration period, or final AEL, starting in Phase II. Compliance option (n) must also be chosen by a boiler that is renewing for Phase II a final AEL approved by U.S. EPA (see instructions accompanying Phase II AEL Demonstration Period, Final AEL Petition, and AEL Renewal forms and include appropriate form).

Compliance option (o) must be selected by a boiler that has applied to U.S. EPA for an AEL demonstration period or final AEL which is undergoing review by U.S. EPA. If a final AEL is subsequently approved by U.S. EPA, a revised Phase II NOX compliance plan must be submitted marking option (o) and attaching an AEL Renewal form. If an AEL demonstration period or final AEL is subsequently disapproved by U.S. EPA, a revised Phase II NOX compliance plan must be submitted indicating which Phase II NOX compliance option will be used by the boiler.

### Repowering Extension Plans

Compliance option (p) must be selected by a boiler that is covered by either an approved repowering extension plan or a plan that is undergoing review. If a repowering extension plan undergoing review is subsequently disapproved, a revised Phase II NOX compliance plan must be submitted indicating which Phase II NOX compliance option will be used by the boiler. If the termination date of either the repowering extension plan undergoing review or the approved plan is prior to the expiration date of the acid rain permit covering the repowered (or replacement) boiler under the plan, the DR must indicate an additional NOX compliance option that will apply to the boiler beginning when the plan terminates through the date by which the acid rain permit will expire. In such cases the DR must mark option (p), as well as additional box(es) denoting the additional, follow-on NOX compliance option.

### NOX Averaging Plan

Under 40 CFR 76.11 any affected units under control of the same owner or operator and with the same designated representative may average their NOX emission rate, rather than each unit complying on an individual-unit basis with the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7. Units with no common owner or operator may not average their emissions. You may submit an averaging plan (or a revision to an approved averaging plan) with the appropriate title V permitting authority(s) at any time up to and including January 1 of the calendar year for which the averaging plan will become effective. If the plan is restricted to units located within a single permitting authority's jurisdiction, you may submit the plan at any time up to and including July 1 of the calendar year for which the plan will become effective.

#### STEP 1

Each unit identified for inclusion in the averaging plan in Phase II must be a Group 1 or Group 2 boiler subject to an emission limitation under 40 CFR 76.5, 76.6, or 76.7. Enter each unit's applicable emission limitation from 40 CFR 76.5, 76.6, or 76.7 in column (a). If a unit with an alternative emission limitation demonstration period or a final alternative emission limitation under 40 CFR 76.10 participates in an averaging plan, enter the applicable emission limitation from 40 CFR 76.5, 76.6, or 76.7, not the interim or alternative limit, in column (a).

For units utilizing a common stack that are averaging pursuant to 40 CFR 75.17(a)(2)(i)(B), the same alternative contemporaneous emission limitation must be entered in column (b) for each unit utilizing the common stack. Different annual heat input limits may be entered for these units in column (c). Units not utilizing the common stack may also be included in the averaging plan with the common stack units.

The annual heat input limit entered at column (c) will be a minimum limit if the value in column (b) is less than the value in column (a) for that unit. It will be a maximum limit if the value in column (b) is greater than the value in column (a). The values entered for each unit at columns (b) and (c) must satisfy the formula at Step 2.

#### STEP 2

The entries in Step 2 must demonstrate that the Btu-weighted annual emission rate averaged over the units in the plan is less than or equal to the Btu-weighted annual average emission rate for the same units if they are each operated, during the same period of time, in compliance with the applicable emission limitations in 40 CFR 76.5, 76.6, or 76.7. Use the equation that appears in Step 2 to demonstrate that the alternative contemporaneous annual emission limitations and annual heat input values assigned to the units in Step 1 satisfy this criterion. For units with an interim emission limitation or an alternative emission limitation, the applicable emission limitation for the equation shall equal the applicable emissions limitation under 40 CFR 76.5, 76.6, or 76.7.

#### STEP 3

The second option is included to avoid the need to submit identical plans each for a different year if you want each plan to be effective for only one year.

### Paperwork Burden Estimate

The burden on the public for collecting and reporting of information under this request is fixed per response indicated. Send comments regarding this collection of information, including suggestions for reducing the burden, to: Chief, Information Policy Branch (PM-223), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW Washington, D.C. 20460; and to: Paperwork Reduction Project (OMB#2060-0258), Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. **Do not send your forms to these addresses; see paragraph(4) of the General Instructions on Page 1 for form submission information.**

FORM	HOURS
NOX Compliance Plan	10
NOX Averaging Plan	200

**EMISSION ATTACHMENT CR-F1-C12**  
**CAIR Part**

For more information, see instructions and refer to 40 CFR 96.121, 96.122, 96.221, 96.222, 96.321 and 96.322; and Rule 62-296.470, F.A.C.

## STEP 1

ORIS or EIA Plant Code:

628

**For new units, enter the requested information in columns "e" and "f."**

[illegible]

**CRYSTAL RIVER POWER PLANT**

Plant Name (from STEP 1)

**STEP 3**

**Read the  
standard  
requirements.**

**CAIR NO<sub>x</sub> ANNUAL TRADING PROGRAM**

**CAIR Part Requirements.**

- (1) The CAIR designated representative of each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall:
  - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.122 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
  - (ii) [Reserved];
- (2) The owners and operators of each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall have a CAIR Part included in the Title V operating permit issued by the DEP under 40 CFR Part 96, Subpart CC, and operate the source and the unit in compliance with such CAIR Part.

**Monitoring, Reporting, and Recordkeeping Requirements.**

- (1) The owners and operators, and the CAIR designated representative, of each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HH, shall be used to determine compliance by each CAIR NO<sub>x</sub> source with the following CAIR NO<sub>x</sub> Emissions Requirements.

**NO<sub>x</sub> Emission Requirements.**

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall hold, in the source's compliance account, CAIR NO<sub>x</sub> allowances available for compliance deductions for the control period under 40 CFR 96.154(a) in an amount not less than the tons of total NO<sub>x</sub> emissions for the control period from all CAIR NO<sub>x</sub> units at the source, as determined in accordance with 40 CFR Part 96, Subpart HH.
- (2) A CAIR NO<sub>x</sub> unit shall be subject to the requirements under paragraph (1) of the NO<sub>x</sub> Requirements starting on the later of January 1, 2009, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.170(b)(1) or (2) and for each control period thereafter.
- (3) A CAIR NO<sub>x</sub> allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NO<sub>x</sub> Requirements, for a control period in a calendar year before the year for which the CAIR NO<sub>x</sub> allowance was allocated.
- (4) CAIR NO<sub>x</sub> allowances shall be held in, deducted from, or transferred into or among CAIR NO<sub>x</sub> Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FF and GG.
- (5) A CAIR NO<sub>x</sub> allowance is a limited authorization to emit one ton of NO<sub>x</sub> in accordance with the CAIR NO<sub>x</sub> Annual Trading Program. No provision of the CAIR NO<sub>x</sub> Annual Trading Program, the CAIR Part, or an exemption under 40 CFR 96.105 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR NO<sub>x</sub> allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart EE, FF, or GG, every allocation, transfer, or deduction of a CAIR NO<sub>x</sub> allowance to or from a CAIR NO<sub>x</sub> unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NO<sub>x</sub> unit.

**Excess Emissions Requirements.**

If a CAIR NO<sub>x</sub> source emits NO<sub>x</sub> during any control period in excess of the CAIR NO<sub>x</sub> emissions limitation, then:

- (1) The owners and operators of the source and each CAIR NO<sub>x</sub> unit at the source shall surrender the CAIR NO<sub>x</sub> allowances required for deduction under 40 CFR 96.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AA, the Clean Air Act, and applicable state law.

**Recordkeeping and Reporting Requirements.**

- (1) Unless otherwise provided, the owners and operators of the CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the DEP or the Administrator.
  - (i) The certificate of representation under 40 CFR 96.113 for the CAIR designated representative for the source and each CAIR NO<sub>x</sub> unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
  - (ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
  - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO<sub>x</sub> Annual Trading Program.
  - (iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NO<sub>x</sub> Annual Trading Program or to demonstrate compliance with the requirements of the CAIR NO<sub>x</sub> Annual Trading Program.
- (2) The CAIR designated representative of a CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall submit the reports required under the CAIR NO<sub>x</sub> Annual Trading Program, including those under 40 CFR Part 96, Subpart HH.

**STEP 3,  
Continued**

<b>CRYSTAL RIVER POWER PLANT</b>
Plant Name (from STEP 1)

**Liability.**

- (1) Each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit shall meet the requirements of the CAIR NO<sub>x</sub> Annual Trading Program.
- (2) Any provision of the CAIR NO<sub>x</sub> Annual Trading Program that applies to a CAIR NO<sub>x</sub> source or the CAIR designated representative of a CAIR NO<sub>x</sub> source shall also apply to the owners and operators of such source and of the CAIR NO<sub>x</sub> units at the source.
- (3) Any provision of the CAIR NO<sub>x</sub> Annual Trading Program that applies to a CAIR NO<sub>x</sub> unit or the CAIR designated representative of a CAIR NO<sub>x</sub> unit shall also apply to the owners and operators of such unit.

**Effect on Other Authorities.**

No provision of the CAIR NO<sub>x</sub> Annual Trading Program, a CAIR Part, or an exemption under 40 CFR 96.105 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO<sub>x</sub> source or CAIR NO<sub>x</sub> unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

**CAIR SO<sub>2</sub> TRADING PROGRAM**

**CAIR Part Requirements.**

- (1) The CAIR designated representative of each CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall:
  - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.222 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
  - (ii) [Reserved];
- (2) The owners and operators of each CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall have a CAIR Part included in the Title V operating permit issued by the DEP under 40 CFR Part 96, Subpart CCC, for the source and operate the source and each CAIR unit in compliance with such CAIR Part.

**Monitoring, Reporting, and Recordkeeping Requirements.**

- (1) The owners and operators, and the CAIR designated representative, of each CAIR SO<sub>2</sub> source and each SO<sub>2</sub> CAIR unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HHH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HHH, shall be used to determine compliance by each CAIR SO<sub>2</sub> source with the following CAIR SO<sub>2</sub> Emission Requirements.

**SO<sub>2</sub> Emission Requirements.**

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall hold, in the source's compliance account, a tonnage equivalent in CAIR SO<sub>2</sub> allowances available for compliance deductions for the control period, as determined in accordance with 40 CFR 96.254(a) and (b), not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO<sub>2</sub> units at the source, as determined in accordance with 40 CFR Part 96, Subpart HHH.
- (2) A CAIR SO<sub>2</sub> unit shall be subject to the requirements under paragraph (1) of the Sulfur Dioxide Emission Requirements starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.270(b)(1) or (2) and for each control period thereafter.
- (3) A CAIR SO<sub>2</sub> allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the SO<sub>2</sub> Emission Requirements, for a control period in a calendar year before the year for which the CAIR SO<sub>2</sub> allowance was allocated.
- (4) CAIR SO<sub>2</sub> allowances shall be held in, deducted from, or transferred into or among CAIR SO<sub>2</sub> Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FFF and GGG.
- (5) A CAIR SO<sub>2</sub> allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO<sub>2</sub> Trading Program. No provision of the CAIR SO<sub>2</sub> Trading Program, the CAIR Part, or an exemption under 40 CFR 96.205 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR SO<sub>2</sub> allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart FFF or GGG, every allocation, transfer, or deduction of a CAIR SO<sub>2</sub> allowance to or from a CAIR SO<sub>2</sub> unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR SO<sub>2</sub> unit.

**Excess Emissions Requirements.**

- If a CAIR SO<sub>2</sub> source emits SO<sub>2</sub> during any control period in excess of the CAIR SO<sub>2</sub> emissions limitation, then:
- (1) The owners and operators of the source and each CAIR SO<sub>2</sub> unit at the source shall surrender the CAIR SO<sub>2</sub> allowances required for deduction under 40 CFR 96.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law, and
  - (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AAA, the Clean Air Act, and applicable state law.

<b>CRYSTAL RIVER POWER PLANT</b>
Plant Name (from STEP 1)

**STEP 3,  
Continued**

**Recordkeeping and Reporting Requirements.**

(1) Unless otherwise provided, the owners and operators of the CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Department or the Administrator.

(i) The certificate of representation under 40 CFR 96.213 for the CAIR designated representative for the source and each CAIR SO<sub>2</sub> unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.213 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HHH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HHH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR SO<sub>2</sub> Trading Program.

(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR SO<sub>2</sub> Trading Program or to demonstrate compliance with the requirements of the CAIR SO<sub>2</sub> Trading Program.

(2) The CAIR designated representative of a CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall submit the reports required under the CAIR SO<sub>2</sub> Trading Program, including those under 40 CFR Part 96, Subpart HHH.

**Liability.**

(1) Each CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit shall meet the requirements of the CAIR SO<sub>2</sub> Trading Program.

(2) Any provision of the CAIR SO<sub>2</sub> Trading Program that applies to a CAIR SO<sub>2</sub> source or the CAIR designated representative of a CAIR SO<sub>2</sub> source shall also apply to the owners and operators of such source and of the CAIR SO<sub>2</sub> units at the source.

(3) Any provision of the CAIR SO<sub>2</sub> Trading Program that applies to a CAIR SO<sub>2</sub> unit or the CAIR designated representative of a CAIR SO<sub>2</sub> unit shall also apply to the owners and operators of such unit.

**Effect on Other Authorities.**

No provision of the CAIR SO<sub>2</sub> Trading Program, a CAIR Part, or an exemption under 40 CFR 96.205 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR SO<sub>2</sub> source or CAIR SO<sub>2</sub> unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

**CAIR NO<sub>x</sub> OZONE SEASON TRADING PROGRAM**

**CAIR Part Requirements.**

(1) The CAIR designated representative of each CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall:

(i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.322 and Rule 62-298.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and

(ii) [Reserved];

(2) The owners and operators of each CAIR NO<sub>x</sub> Ozone Season source required to have a Title V operating permit or air construction permit, and each CAIR NO<sub>x</sub> Ozone Season unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the DEP under 40 CFR Part 96, Subpart CCCC, for the source and operate the source and the unit in compliance with such CAIR Part.

**Monitoring, Reporting, and Recordkeeping Requirements.**

(1) The owners and operators, and the CAIR designated representative, of each CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart H-H-H, and Rule 62-298.470, F.A.C.

(2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart H-H-H, shall be used to determine compliance by each CAIR NO<sub>x</sub> Ozone Season source with the following CAIR NO<sub>x</sub> Ozone Season Emissions Requirements.

**NO<sub>x</sub> Ozone Season Emission Requirements.**

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NO<sub>x</sub> Ozone Season allowances available for compliance deductions for the control period under 40 CFR 96.354(a) in an amount not less than the tons of total NO<sub>x</sub> emissions for the control period from all CAIR NO<sub>x</sub> Ozone Season units at the source, as determined in accordance with 40 CFR Part 96, Subpart H-H-H.

(2) A CAIR NO<sub>x</sub> Ozone Season unit shall be subject to the requirements under paragraph (1) of the NO<sub>x</sub> Ozone Season Emission Requirements starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.370(b)(1), (2), or (3) and for each control period thereafter.

(3) A CAIR NO<sub>x</sub> Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NO<sub>x</sub> Ozone Season Emission Requirements, for a control period in a calendar year before the year for which the CAIR NO<sub>x</sub> Ozone Season allowance was allocated.

(4) CAIR NO<sub>x</sub> Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NO<sub>x</sub> Ozone Season Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FFFF and GGGG.

(5) A CAIR NO<sub>x</sub> Ozone Season allowance is a limited authorization to emit one ton of NO<sub>x</sub> in accordance with the CAIR NO<sub>x</sub> Ozone Season Trading Program. No provision of the CAIR NO<sub>x</sub> Ozone Season Trading Program, the CAIR Part, or an exemption under 40 CFR 96.305 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.

(6) A CAIR NO<sub>x</sub> Ozone Season allowance does not constitute a property right.

(7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart EEEE, FFFF or GGGG, every allocation, transfer, or deduction of a CAIR NO<sub>x</sub> Ozone Season allowance to or from a CAIR NO<sub>x</sub> Ozone Season unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NO<sub>x</sub> Ozone Season unit.

<b>CRYSTAL RIVER POWER PLANT</b>
Plant Name (from STEP 1)

### Excess Emissions Requirements.

If a CAIR NO<sub>x</sub> Ozone Season source emits NO<sub>x</sub> during any control period in excess of the CAIR NO<sub>x</sub> Ozone Season emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall surrender the CAIR NO<sub>x</sub> Ozone Season allowances required for deduction under 40 CFR 96.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AAAA, the Clean Air Act, and applicable state law.

### Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the DEP or the Administrator.

(i) The certificate of representation under 40 CFR 96.313 for the CAIR designated representative for the source and each CAIR NO<sub>x</sub> Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HHHH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HHHH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO<sub>x</sub> Ozone Season Trading Program.

(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NO<sub>x</sub> Ozone Season Trading Program or to demonstrate compliance with the requirements of the CAIR NO<sub>x</sub> Ozone Season Trading Program.

(2) The CAIR designated representative of a CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall submit the reports required under the CAIR NO<sub>x</sub> Ozone Season Trading Program, including those under 40 CFR Part 96, Subpart HHHH.

### Liability.

(1) Each CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit shall meet the requirements of the CAIR NO<sub>x</sub> Ozone Season Trading Program.

(2) Any provision of the CAIR NO<sub>x</sub> Ozone Season Trading Program that applies to a CAIR NO<sub>x</sub> Ozone Season source or the CAIR designated representative of a CAIR NO<sub>x</sub> Ozone Season source shall also apply to the owners and operators of such source and of the CAIR NO<sub>x</sub> Ozone Season units at the source.

(3) Any provision of the CAIR NO<sub>x</sub> Ozone Season Trading Program that applies to a CAIR NO<sub>x</sub> Ozone Season unit or the CAIR designated representative of a CAIR NO<sub>x</sub> Ozone Season unit shall also apply to the owners and operators of such unit.

### Effect on Other Authorities.

No provision of the CAIR NO<sub>x</sub> Ozone Season Trading Program, a CAIR Part, or an exemption under 40 CFR 96.305 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO<sub>x</sub> Ozone Season source or CAIR NO<sub>x</sub> Ozone Season unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

## STEP 4

### **Certification (for designated representative or alternate designated representative only)**

**Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.**

I am authorized to make this submission on behalf of the owners and operators of the CAIR source or CAIR units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name: Patricia Q. West		Title: Manager, Environmental Services - Florida
Company Owner Name FLORIDA POWER CORPORATION DBA PROGRESS ENERGY FLORIDA, INC.		
Phone: 727.820.5739	E-mail Address: patricia.west@pgnmail.com	
Signature <i>Patricia Q. West</i>	Date 7/23/09	



# Clean Air Interstate Rule (CAIR) Program

## Instructions for CAIR Part Form

(40 CFR 96.121, 96.122, 96.221, 96.222, 96.321, 96.322,  
and Rule 62-296.470, F.A.C.)

*The CAIR Program requires the designated representative or alternate designated representative to submit a CAIR Part form for each source with a CAIR unit. A complete Certificate of Representation must be received by EPA before the CAIR Part form is submitted to the DEP Bureau of Air Regulation.*

### DEFINITIONS:

"CAIR" - Clean Air Interstate Rule  
"CFR" - Code of Federal Regulations  
"DOE" - U.S. Department of Energy  
"EIA" - U.S. Energy Information Agency  
"F.A.C." - Florida Administrative Code  
"DEP" - Florida Department of Environmental Protection  
"NO<sub>x</sub>" - Nitrogen oxides  
"ORIS" - Office of Regulatory Information Systems  
"SO<sub>2</sub>" - Sulfur dioxide

Please type or print. The alternate designated representative may sign in lieu of the designated representative. If assistance is needed, contact the DEP Bureau of Air Regulation at (850) 488-0114.

**STEP 1** Use the plant name and ORIS Code listed on the Certificate of Representation for the plant. An ORIS code is a 4-digit number assigned by the EIA at the DOE to power plants owned by utilities. If the plant is not owned by a utility but has a 5-digit plant code (also assigned by EIA), use the plant code. If no code has been assigned or if there is uncertainty regarding what the code number is, contact EIA at (202) 586-2402.

**STEP 2** For column "a," identify each CAIR unit at the CAIR source by providing the appropriate unit identification numbers, consistent with the unit identification numbers entered on the Certificate of Representation and with unit identification numbers used in reporting to DOE and/or EIA. For new units without identification numbers, owners and operators may assign such numbers consistent with EIA and DOE requirements. For columns "b," "c," and "d," indicate to which CAIR program(s) each unit is subject by placing an "X" in the column(s). For columns "e" and "f," enter the expected commence commercial operation date(s) and expected monitor certification deadline(s) for new units in accordance with 40 CFR 96.102, 96.202, and 96.302; and 40 CFR 96.170(b), 96.270(b), and 96.370(b), respectively.

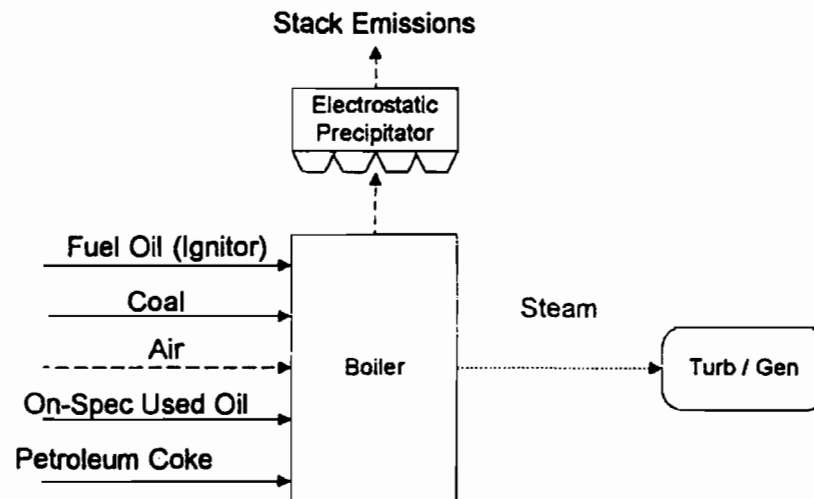
**STEP 3** Read the standard requirements.

**STEP 4** Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.

**Submission deadlines:** See Rule 62-213.420, F.A.C.

**Submit this form to:** DEP Bureau of Air Regulation  
MS 5505  
2600 Blair Stone Rd  
Tallahassee, FL 32399-2400

**EMISSION UNIT 001**  
**No.1 Unit, FFFSG**



CLIENT/PROJECT  
Progress Energy Florida, Inc



**Golder  
Associates**

TAMPA, FLORIDA

TITLE  
**Process Flow Diagram  
Boilers 1, 2, 3, and 4  
Crystal River Power Plant**

DRAWN

CHECKED

REVIEWED

DATE  
4/21/2009

NOT TO  
SCALE

FILE NO.

Job No.  
083-89614

DWG NO.

SUBTITLE

REV. NO.

CR-EU1-I1

**ATTACHMENT CR-EU1-I2  
FUEL ANALYSIS**

**Coal**

<u>Parameter</u>	<u>Typical Value</u>
Moisture Content (%)	7.5
Ash Content (%)	8.9
Sulfur Content (%)	1.2 (maximum)
Heat Content (Btu/lb)	12,000 (minimum) 12,500 (maximum)

Note: The coal is burned in Units No. 1 and 2. Except where noted, the values listed are general or typical values based upon information obtained from the suppliers. The coal is supplied by approximately 3 suppliers in eastern Kentucky.

**No. 2 Fuel Oil**

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	30 <sup>1</sup>	-
Relative density	7.1 lb/gal <sup>2</sup>	
Heat content	19,500 Btu / lb (HHV)	
% sulfur	0.04 <sup>2</sup>	0.5 <sup>3</sup>
% nitrogen	0.025 - 0.03	
% ash	negligible	0.1 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) FPC's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the PEF fuel procurement specification.

<sup>2</sup> Data from laboratory analysis.

<sup>3</sup> Data from current air permit.

**ATTACHMENT CR-EU1-I2 (continued)**  
**FUEL ANALYSIS**

**On-Spec Used Oil**

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	28 <sup>1</sup>	-
Relative density	7.4lb/gal <sup>2</sup>	
Heat content	18,700 Btu / lb (HHV)	
% sulfur	0.3 - 0.5	2.5 <sup>3</sup>
% nitrogen	0.3	
% ash	0.4 - 0.9	

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) FPC's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the PEF fuel procurement specification.

<sup>2</sup> Data from laboratory analysis.

<sup>3</sup> Data from current air permit.

**EMISSION ATTACHMENT CR-EU1-I3**  
**Detailed Description of Control Equipment**

## Detailed Description of Control Equipment

### Florida Power Corporation, Crystal River Plant, Unit 1, Electrostatic Precipitator

Control Equipment Parameters	Value
Manufacturer	Buell Engineering Co., Inc.
Model No.	BA 1.6X40K343-12.3P
Date of Installation	11/76
Inlet Gas Temperature (deg. F)	252-292
Inlet Gas Flow Rate (acfm)	1,523,516
Primary Voltage (VAC)	500
Secondary Voltage (kV)	45
Primary Current (Amps)	175-225
Secondary Current (D.C. milliamps)	1100-1400
Pressure Drop Across Unit (inches of H <sub>2</sub> O, WG)	+ or - 20
PM Outlet Loading (lb/hr)	375
	@ 0.1 lb/MMBtu

**ATTACHMENT CR-EU1-I4**  
**PROCEDURES FOR STARTUP AND SHUTDOWN**  
**MINIMIZING EXCESS EMISSIONS**

Startup of the fossil-fuel boilers begins when fuel oil is introduced into one or more burners within the boiler and lighted (commencement of combustion). Startup is complete and steady-state operation begins when the combustion process has stabilized and the megawatt load on the unit is stable.

Shutdown of the fossil-fuel boilers begins when unit megawatt load is decreased to below 10 percent of maximum and continues until the final burner gun is removed from service and the final Induced-draft or Forced-draft fan is removed from service.

Excess emissions may be detected during all modes of boiler operation by any one of several continuous emissions monitors. Continuous monitors are currently in place for NO<sub>x</sub>, SO<sub>2</sub>, and opacity. An audible and visual alarm are activated whenever permitted values for any of the above parameters are approached.

Countermeasures which may be taken in the event of excess emissions include, but are not limited to:

- proper excess air adjustments
- recognizing and removal of faulty burners
- fuel oil temperature adjustments
- proper and timely operation of boiler cleaning devices
- removal of the unit from system-dispatch mode
- reduction of unit megawatt load
- stopping and restarting of boiler cleaning devices
- lowering load rate
- pressure rate changes

Knowledge of the appropriate countermeasures to take under an excess emissions condition is a part of the routine operator training for the engineers who operate the boilers. In addition, plant operations and supervisory staff are periodically given training. Topics include current permit limits, maximum allowable duration of excess emissions, appropriate countermeasures for excess emissions, duty to notify, etc.



**EMISSION ATTACHMENT CR-EU1-I5**  
**Compliance Demonstration Reports/Records**

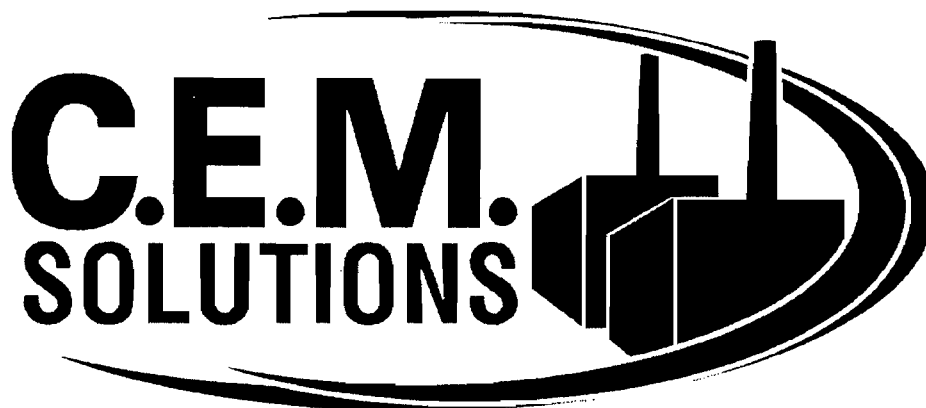
# ***Particulate Matter and Visible Emissions Test Report***

*Completed for:*

***Florida Power Corporation dba  
Progress Energy Florida, Inc.  
Crystal River Power Plant  
Units 1 (EU-001)***

**Test Report Number: 20-3244-01-001**

**Submitted: May 12 and 13, 2008**



**Particulate Matter and Visible Emissions  
Test Report**

**Florida Power Corporation dba Progress Energy Florida,  
Inc.**

**Crystal River Power Plant, Unit 1  
Crystal River, Florida**

**C.E.M. Solutions Project No.: 3244**

**Testing Completed: May 12 and 13, 2008**

**C.E.M. Solutions, Inc. Report Number: 20-3244-01-001**

**C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, Florida 34442  
Phone: 352-489-4337**

## Plant's Authorization and Validity Statement

I hereby certify that to the best of my knowledge, all applicable field procedures and calculations comply with Florida Department of Environmental Protection requirements, and all test data and plant operating data are true and correct.

---

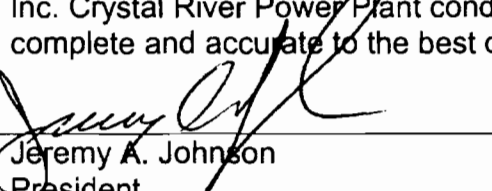
Mr. Bernie Cumbie  
Plant Manager

---

Date

## Statement of Validity

I hereby certify the information and data provided in this emissions test report for tests performed at the Florida Power Corporation dba Progress Energy Florida Inc. Crystal River Power Plant conducted on May 12, 2008 and May 13, 2008 are complete and accurate to the best of my knowledge.



\_\_\_\_\_  
Jeremy A. Johnson  
President  
C.E.M. Solutions, Inc.

## Project Background

Name of Source Owner: Florida Power Corporation dba Progress Energy Florida, Inc.

Address of Owner: 299 First Avenue North  
St. Petersburg, Florida 33701

Source Identification: Facility: 0170004  
Emissions Unit: 1 (EU-001)

Location of Source: Crystal River, Florida

Type of Operation: SIC Code: 4911

Tests Performed: Method 1 – Traverse Points  
Method 2 – Stack Gas Volumetric Flow and Velocity  
Method 3A – Determination of Molecular Weight  
Method 4 – Stack Gas Moisture Content  
Method 9 – Determination of Opacity of Emissions  
Method 17 – Particulate Matter  
Method 19 – Determination of Emissions Rates

Test Supervisor: Mr. Charles Horton

Date(s) Tests Conducted: May 12 and 13, 2008

Site Test Coordinator: Mr. Charles Dufeny

Regulatory Observers: No Attendees

## **C.E.M. Solutions, Inc Test Personnel**

Project Field Manager:

Mr. Charles Horton

Test Technicians:

Mr. Robert Douglas  
Mr. Chris Harrell

## Table of Contents

1.0	Introduction.....	1
2.0	Facility Description .....	2
2.1	Process Equipment.....	2
2.2	Regulatory Requirements .....	2
3.0	Test Program/Operating Conditions .....	4
4.0	Test Methods.....	5
4.1	Sample and Velocity Traverse Points .....	5
4.2	Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tubes) .....	6
4.2.1	Method 2 Quality Assurance/Quality Control Procedures .....	6
4.3	Moisture Content Determination .....	7
4.3.1	Method 4 Quality Assurance/Quality Control Procedures .....	7
4.4	Particulate Matter Determination.....	7
4.4.1	Sample Recovery and Analysis .....	8
4.4.2	Quality Assurance/Quality Control Procedures .....	8
4.5	Visible Emissions Determination.....	10
4.6	CO <sub>2</sub> and O <sub>2</sub> Instrument Analyzer Methods.....	10
4.6.1	Quality Assurance/Quality Control Procedures .....	11
5.0	Test Results.....	12
5.1	Unit 1 (EU -001).....	12
5.1.1	Particulate Matter.....	12
5.1.2	Visible Emissions.....	12

## List of Tables

Table 1: Compliance Test Results .....	1
Table 2: Emissions Limitations and Standards.....	3
Table 3: Heat Input during Test.....	4
Table 4: Summary of EPA Reference Methods.....	5
Table 5: Particulate Matter Isokinetic Summary .....	9
Table 6: Summary of EPA Reference Methods and Instrumentation .....	10
Table 7: Reference Method Calibration Span and Calibration Gases Used.....	11

## List of Figures

Figure 1: Method 17 Sampling Train .....	9
--	---



## **Appendices**

Appendix A: Facility Operating Data  
Appendix B: Mathematical Equations  
Appendix C: Sample Location Diagram/Traverse Points  
Appendix D: Reference Method QA/QC  
Appendix D-1: Method 17 QA/QC  
Appendix D-2: Instrumental Analyzer (3A) QA/QC  
Appendix E: Reference Method Data  
Appendix E-1: Method 17  
Appendix E-2: Method 9  
Appendix E-3: Method 3A

## 1.0 Introduction

Florida Power Corporation dba Progress Energy Florida, Inc. (PEF) retained C.E.M. Solutions, Inc. to conduct emissions testing to determine levels of particulate matter (PM) and visible emissions (VE) emissions from the Unit 1 boiler exhausts (emissions unit EU-001) at its Crystal River Power Plant located in Crystal River, Florida.

The test program was conducted to determine the compliance status of Unit 1 in regards to its emissions limitations and standards outlined in Title V Air Operating Permit 0170004-015-AV. Target pollutants include the following:

- PM (lb/mmBtu)
- VE (in percent)

Mr. Charles Dufeny of the Progress Energy Florida Inc. coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the Florida Department of Environmental Protection.

Unit 1 was found to be in compliance with the permitted emissions limitations during the test program as summarized in Table 1.

The test program and results are presented and discussed in this report.

**Table 1: Compliance Test Results**  
**Unit 1**  
**Crystal River Power Plant**

Unit(s)	Pollutant	Unit Operating Mode	Reported Emissions Rate	Permitted Emissions Rate	Compliance Test Status (Pass/Fail)
1	PM	Normal	0.03 lb/mmBtu	0.1 lb/mmBtu	Pass
1	PM	Soot Blowing	0.02 lb/mmBtu	0.3 lb/mmBtu	Pass
1	VE	Normal	11.3 %	≤40 %	Pass
1	VE	Soot Blowing	10.2 %	≤60 %	Pass

## **2.0 Facility Description**

The Crystal River Power Plant Unit 1 is pulverized coal dry bottom boiler, tangentially-fired Fossil Fuel Steam Generator. Unit 1 is allowed to fire bituminous coal or bituminous coal and bituminous coal briquette. Unit 1 is a nominal 440.5 megawatt (electric) steam generator. The maximum operation heat input rate is 3750 mmBtu/hr for Unit 1.

Fossil fuel fired steam generator Unit 1 began commercial operation in 1966.

### **2.1 Process Equipment**

Emissions are controlled from the unit with a high efficiency electrostatic precipitator, manufactured by Buell Manufacturing Company, Inc. Unit 1 exhausts through a 500 foot stack.

### **2.2 Regulatory Requirements**

The facility is required to conduct annual emissions testing to determine PM and VE emissions in accordance with Title V Permit Number 0170004-015-AV.

The Unit 1 emissions limitations and standards are summarized in Table 2.

**Table 2: Emissions Limitations and Standards  
Unit 1  
Crystal River Power Plant**

<b>Pollutant/Standard</b>	<b>Emission Limit</b>	<b>Units</b>	<b>Permit Condition</b>
PM lb/mmBtu	0.1 during normal (steady state), and 0.3 during soot blowing	Unit 1	A.6 and A.7
VE % <sup>a</sup>	40% during normal (steady state), and 60% during soot blowing	Unit 1	A.4.a and A.5

<sup>a</sup> six-minute average

### 3.0 Test Program/Operating Conditions

The test program was conducted to determine the compliance status of Unit 1 PM and VE emissions in regards to Title V Operating Permit 0170004-015-AV.

Testing was completed on May 12, 2008 (steady state) and May 13, 2008 (soot-blowing).

Table 3 summarizes the average heat input during the test program.

**Table 3: Heat Input during Test  
Progress Energy Florida  
Unit 1  
Crystal River Power Plant**

<b>Unit/ operating mode</b>	<b>Calculated Heat Input (mmBtu/hr)</b>	<b>Maximum Heat Input (mmBtu/hr)</b>	<b>Percent Max H.I.</b>
1 steady state	3505.3	3750.0	95.0 %
1 soot-blowing	3434.5	3750.0	91.6%
Average:			93.3%

Unit 1 fuel flow and fuel analysis reports are located in Appendix A.

Fuel flow and fuel analysis reports were provided by Progress Energy.

## 4.0 Test Methods

All testing was performed in accordance with methods approved by the USEPA and FDEP. The following discusses the methods, as well as quality assurance and sample handling procedures.

Table 4 summarizes the EPA test methods utilized to complete the test program.

**Table 4: Summary of EPA Reference Methods**

**Progress Energy Florida  
Unit 1  
Crystal River Power Plant**

<b>EPA Method</b>	<b>Description</b>
1	Sample and Velocity Traverses for Stationary Sources
2	Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot)
3A	Gas Analysis for Determining Dry Molecular Weight (Instrument Analyzer Procedure)
4	Moisture Content in Stack Gases
9	Visible emissions (Visible Emissions)
17	Particulate Emissions from Stationary Sources

### 4.1 Sample and Velocity Traverse Points

Sample and velocity traverse points were determined utilizing EPA Method 1.

The Unit 1 exhaust stack inner diameter, at the sample location, is 15.2 feet (182 inches). The emissions sampling location on Unit 1 is 223 feet downstream from the nearest flow disturbance and 250 feet from the stack exhaust.

A diagram of the sample location can be viewed in Appendix C.

## **4.2 Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tubes)**

Method 2 was used to determine the volumetric flow rate of the stack effluent gas.

Stack temperature differential pressure readings were taken with an S type pitot tube and Type K temperature sensor at each sample traverse point.

### **4.2.1 Method 2 Quality Assurance/Quality Control Procedures**

The S type pitot tube was inspected visually and measured to meet the design specifications of EPA Method 2, for a pitot coefficient of 0.84.

The incline manometer and each leg of the pitot tube was leak checked before and immediately after each test run.

Thermocouple sensors were calibrated prior to the test program and a post test check was performed after testing completion.

The incline manometer was leveled and zeroed before each test run.

Appendix D contains the completed QA/QC forms.

### **4.3 Moisture Content Determination**

Moisture content of the stack gas was determined by Method 4.

Stack gas was sampled at each traverse point, passed through pre-weighed impingers and then through a calibrated dry gas meter. Moisture is removed from the sample gas in the pre-weighed impingers, which are submerged in an ice bath, and later analyzed for moisture weight gain. Moisture is determined based upon the amount of moisture weight gain and sample gas collected.

Field moisture data sheets are also located in Appendix E.

#### **4.3.1 Method 4 Quality Assurance/Quality Control Procedures**

The moisture sampling train was leak checked prior to each test run at approximately 15 inches hg and immediately after each run at a vacuum higher than the highest vacuum recorded during the respective test run. Results are recorded on the moisture field data sheets.

Weighing to determine moisture content was conducted with a balance having an accuracy of 0.5 grams.

Gas temperature at the exit of the impingers was maintained at less than 68 degrees Fahrenheit.

### **4.4 Particulate Matter Determination**

USEPA Method 17 was used to determine particulate emissions. Stack gas was extracted isokinetically from the gas stream; particulate emissions are measured gravimetrically by determining the amount of particulate matter collected on the stainless steel nozzle and quartz fiber filter. The probe liner temperature was maintained at  $248 \pm 25$  degrees Fahrenheit.

Sample volume was measured by passing the gas through a set of weighed impingers used for moisture content, then passed through a calibrated dry gas meter. An S type pitot tube is attached to the probe to measure stack gas velocity and to maintain sampling conditions between 90% and 110% isokinetic. A type K temperature sensor is also attached to the probe to measure the stack gas temperature.

Isokinetic conditions were maintained throughout each test run of the test program as demonstrated in Table 5.

A minimum of 30 dscf of sample was taken each test run over a sampling period of approximately 60 minutes.



Method 17 field data sheets are located in Appendix E.

Figure 1 contains a diagram of the Method 17 sampling train.

#### **4.4.1 Sample Recovery and Analysis**

After each sample run, the nozzle and filter holder ahead of the filter were brushed and rinsed with acetone. Contents were stored in a leak free container for transport to the laboratory. The impingers were weighed for increase, to the nearest 0.5 gram, to determine moisture gain.

Particulate matter was determined by drying each filter at 230 degrees Fahrenheit for three hours, desiccated to a constant weight and recorded to the nearest 0.1 mg. Sample from the probe nozzle and filter holder were evaporated in a tared beaker, desiccated to a constant weight, and recorded to the nearest 0.1 mg.

Appendix E contains the analytical results for each run.

#### **4.4.2 Quality Assurance/Quality Control Procedures**

The probe nozzles were inspected and measured across three different diameters to determine the appropriate nozzle diameter.

Before and after each test run, the manometer was leveled and zeroed. Leak checks of the sampling train were conducted before and immediately after each test run.

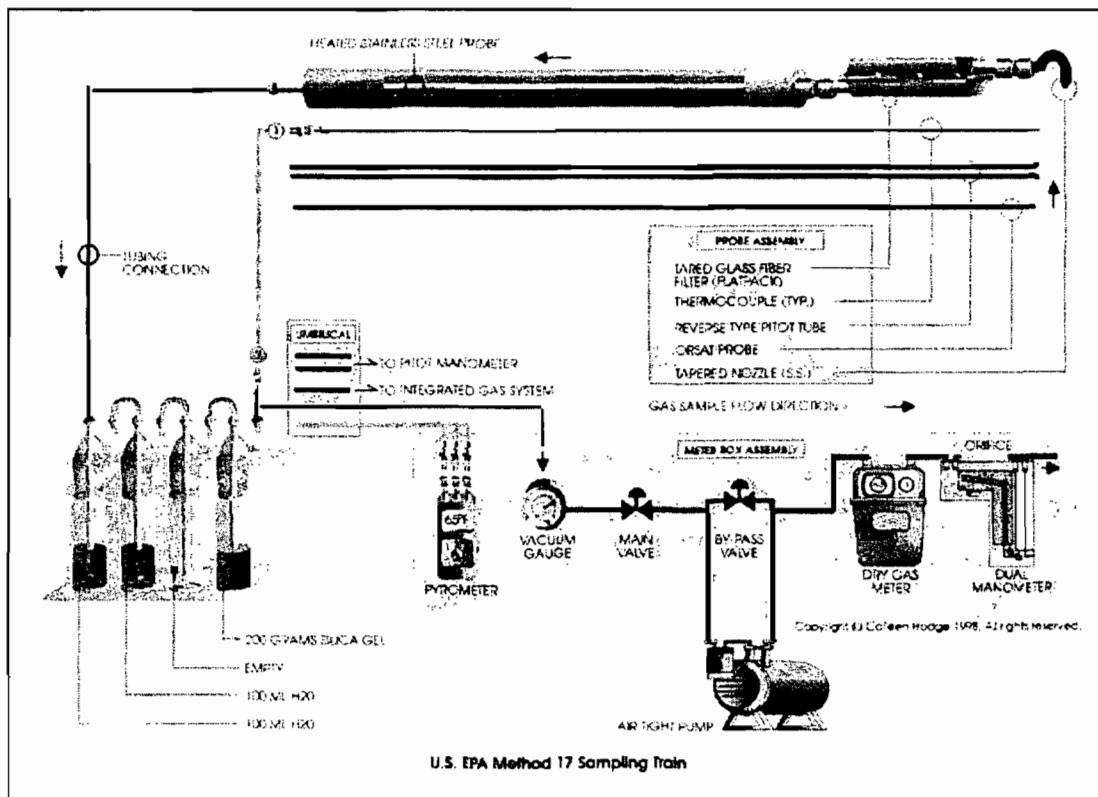
The dry gas meter was fully calibrated within six months prior to the test program using a set of EPA critical orifices. Post test program dry meter checks were completed to verify the accuracy of the meter's  $Y_i$ .

Completed QA/QC forms are located in Appendix D.

**Table 5: Particulate Matter Isokinetic Summary**  
**Progress Energy Florida**  
**Unit 1**  
**Crystal River Power Plant**

Unit/Operating Mode	% Isokinetic				Tolerance
	Run 1	Run 2	Run 3	Average(s)	
Unit 1 Normal	99.6	99.2	100.5	99.8	90-110
Unit 1 Soot-Blowing	100.0	102.3	100.0	100.8	

**Figure 1: Method 17 Sampling Train**



## 4.5 Visible Emissions Determination

USEPA Method 9 was utilized to determine visible emissions.

Visible emissions observations were performed by a FDEP certified visual emissions reader. Readings were taken at 15 second intervals and reduced into six minute averages as required by the applicable EPA standard. One-sixty minute visible emissions run was performed while the unit was operating at maximum capacity during each operating condition.

Method 9 data summary, field data and VE reader's certification are located in Appendix E.

## 4.6 CO<sub>2</sub> and O<sub>2</sub> Instrument Analyzer Methods

CO<sub>2</sub> reference method data was determined using instrument analyzer procedures. O<sub>2</sub> was back calculated using the fuel F<sub>o</sub> factor and stack moisture content. CO<sub>2</sub> and O<sub>2</sub> data was used to determine stack gas molecular weight. Table 6 summarizes the EPA methods and instrumentation:

**Table 6: Summary of EPA Reference Methods and Instrumentation**  
**Progress Energy Florida**  
**Unit 1**  
**Crystal River Power Plant**

Unit/Pollutant	EPA Method	Instrument	Serial Number
Unit 1 CO <sub>2</sub>	3A	CAI ZRH1	N4J0831T

All reference method analyzers used meet or exceed applicable performance specifications detailed in the appropriate method.

Gaseous emissions were tested using an in-stack dilution extraction probe. Gas samples were continuously extracted from the stack by a gas sample probe and diluted at a ratio of approximately 100:1 with clean, dry instrument air (dilution air). Samples were then transported to gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers.

Instrument outputs were recorded continuously with a Windows compatible personal computer, compiled into 15 second averages, and stored in a database for future reference.

Instrument ranges and calibration gases were chosen in accordance with each pollutant's applicable EPA method. Instrument ranges and calibration gases used are shown in Table 7:

**Table 7: Reference Method Calibration Span and Calibration Gases Used  
Progress Energy Florida  
Unit 1  
Crystal River Power Plant**

<b>Pollutant</b>	<b>Test Location</b>	<b>Calibration Span</b>	<b>Calibration Gases<sup>a</sup></b>
CO <sub>2</sub>	Unit 1	18.98 %	0.0 % CO <sub>2</sub> 9.1 % CO <sub>2</sub> 18.98 % CO <sub>2</sub>

<sup>a</sup> Concentrations, CO<sub>2</sub> is in a balance of purified nitrogen (N<sub>2</sub>). All analyzers were zeroed with ultra high purity N<sub>2</sub>. All calibration gases have been certified to NIST traceable standards.

Calibration gas Certificates of Analysis can be found in Appendix D.

#### **4.6.1 Quality Assurance/Quality Control Procedures**

All sampling, analytical, and Quality Assurance/Quality Control (QA/QC) procedures outlined in the EPA methods were followed. All test equipment was calibrated before or during use in the field. Interference checks and response time checks were performed on each instrumental analyzer, as applicable, before field use. In the field, each analyzer and the entire instrument measurement system was checked for system bias before and following each test run using the calibration gases listed in Table 7.

Appendix D contains the QA/QC checks.

## **5.0 Test Results**

The following presents the results of the test program. Supporting calculations and field data summaries are presented in Appendices B and E, respectively.

### **5.1 Unit 1 (EU -001)**

#### **5.1.1 Particulate Matter**

The three-run average particulate matter emissions during the normal (steady state) portion of the test program was 0.030 lb/mmBtu, passing the emissions limitation of 0.1 lb/mmBtu.

The three-run average particulate matter emissions during the soot blowing portion of the test program was 0.025 lb/mmBtu, passing the emissions limitation of 0.3 lb/mmBtu.

#### **5.1.2 Visible Emissions**

The highest six-minute visible emissions observed during the normal (steady state) portion of the test program were 11.3 percent, passing the 40 percent emissions limitation.

The highest six-minute visible emissions observed during the soot blowing portion of the test program were 10.2 percent, passing the 60 percent emissions limitation.

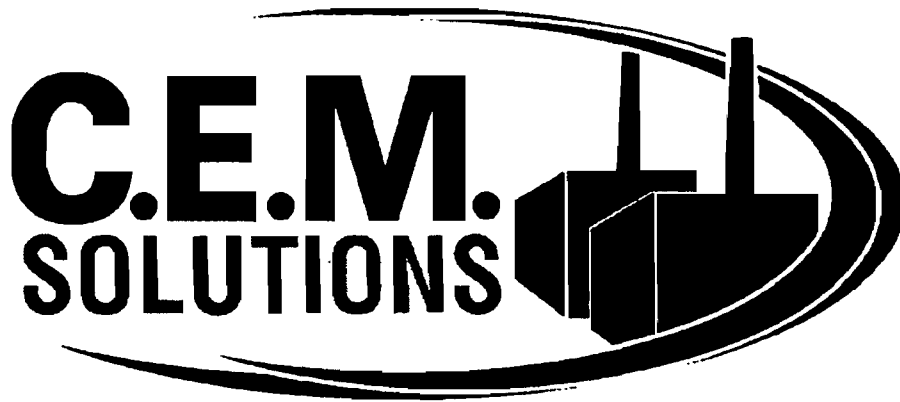
# ***Relative Accuracy Test Audit***

*Completed for:*

***Progress Energy Florida, Inc.  
Crystal River Energy Complex  
Unit 1 (EU-001)***

**Test Report Number: 20-3244-01**

**Test Completed: May 6, 14 and 15, 2008**



# **Relative Accuracy Test Audit Report**

**Progress Energy Florida, Inc.  
Crystal River Power Plant, Unit 1  
Crystal River, Florida**

**C.E.M. Solutions Project No. 3244**

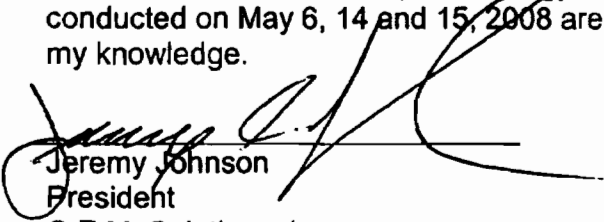
**Testing Completed: May 6, 14 and 15, 2008**

**C.E.M. Solutions, Inc Report Number: 20-3244-01**

**C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, Florida 34442  
Phone: 352-489-4337**

## Statement of Validity

I hereby certify the information and data provided in this emissions test report for tests performed at the Progress Energy Florida Crystal River Power Plant, conducted on May 6, 14 and 15, 2008 are complete and accurate to the best of my knowledge.



Jeremy Johnson  
President

C.E.M. Solutions, Inc.



## Project Background

Name of Source Owner: Progress Energy Florida

Address of Owner: 299 First Avenue North  
St. Petersburg, FL 33701

Source Identification: Oris Code 628  
Facility ID: 0170004  
Emissions Unit: 001

Location of Source: Citrus County, Florida

Type of Operation: SIC Code: 4911

Tests Performed: Method 1 – Traverse Points  
Method 2F – Stack Gas Volumetric Flow and Velocity Using  
Three Dimensional Probes  
Method 3A – Determination of Oxygen and Carbon Dioxide  
Method 4 – Stack Gas Moisture Content  
Method 6C – Determination of Sulfur Dioxide  
Method 7E – Determination of Nitrogen Oxides  
Method 19 – Determination of Nitrogen Oxide Emissions Rates

Test Supervisor: Mr. Charles Horton

Date(s) Tests Conducted: May 6, 2008: Normal load (High) gaseous RATA  
May 14, 2008: Low load flow, runs 1 – 3  
Mid load flow, runs 1 - 3  
High load flow, runs 1 - 9 RATA  
May 15, 2008: Low load flow, runs 4 – 9  
Mid load flow, runs 4 - 9

Site Test Coordinator: Ms. Erika Tuchbaum-Biro  
Mr. Charles Dufeny

State Regulatory Observers: No Attendees

## **C.E.M. Solutions, Inc Test Personnel**

**Project Field Manager:**

**Mr. Charles Horton**

**Test Technicians:**

**Mr. Robert Douglas  
Mr. Chris Harrell**

## Table of Contents

1.0	Introduction.....	1
2.0	Facility Description .....	3
2.1	Process Equipment.....	3
2.2	Regulatory Requirements .....	3
3.0	Test Program/Operating Conditions .....	5
4.0	Test Methods.....	6
4.1	NO <sub>x</sub> , SO <sub>2</sub> , CO <sub>2</sub> Relative Accuracy Test Audit (RATA) .....	6
4.2	Volumetric Flow Relative Accuracy Test Audit (RATA).....	7
4.2.1	Method 2F: Determination of Velocity and Volumetric Flow With 3-D Probes .....	7
4.2.2	Method 3: Determination of Dry Gas Molecular Weight.....	7
4.2.3	Method 4: Determination of Moisture Content in Stack Gases .....	8
4.3	Sampling Location/Traverse Points/Test Run Duration .....	8
4.3.1	Gaseous Traverse Points and Run Durations.....	8
4.3.2	Volumetric Flow Traverse Points and Run Durations .....	9
4.3.3	Moisture Traverse Points and Run Durations .....	9
4.3.4	Molecular Weight Traverse Points and Run Durations .....	9
4.4	Quality Assurance/Quality Control Procedures .....	10
5.0	Relative Accuracy Test Audit Results.....	11
5.1	SO <sub>2</sub> RATA Results.....	11
5.2	NO <sub>x</sub> RATA Results .....	11
5.3	CO <sub>2</sub> RATA Results.....	11
5.4	Volumetric Flow RATA Results .....	11

## List of Tables

Table 1: RATA Results.....	2
Table 2: CEMS RATA Performance.....	4
Table 3: Summary of EPA Reference Methods and Instrumentation .....	6
Table 4: Reference Method Instrument Ranges and Calibration Gases .....	6
Table 5: Unit 1 SO <sub>2</sub> Relative Accuracy Test Audit Summary .....	12
Table 6: Unit 1 NO <sub>x</sub> Relative Accuracy Test Audit Summary .....	13
Table 7: Unit 1 CO <sub>2</sub> Relative Accuracy Test Audit Summary .....	14
Table 8: Unit 1 High Load Flow Relative Accuracy Test Audit Summary .....	15
Table 9: Unit 1 Mid Load Flow Relative Accuracy Test Audit Summary.....	16
Table 10: Unit 1 Low Load Flow Relative Accuracy Test Audit Summary .....	17

## **Appendices**

Appendix A: Mathematical Equations

Appendix B: Reference Method Calibration Gas Certificates of Analysis

Appendix C: Sample Location Diagram and Traverse Points

Appendix D: Reference Method Quality Assurance/Quality Control Checks

    Appendix D-1: Volumetric Flow and Gaseous RATA

    Appendix D-2: Volumetric Flow Equipment

Appendix E: Reference Method Run Data

Appendix F: CEMS Run Data

## 1.0 Introduction

Progress Energy Florida, Inc. retained C.E.M. Solutions, Inc. to perform a Relative Accuracy Test Audit (RATA) on its Unit 1 Continuous Emissions Monitoring System (CEMS) located at the Crystal River Power Plant in Crystal River, Florida.

The test program conducted included Relative Accuracy Test Audits (RATAs) on the following CEMS analyzers at Crystal River Power Plant Unit 1 (EU -001):

- SO<sub>2</sub> ppm
- NO<sub>x</sub> lb/mmBtu
- CO<sub>2</sub> %
- Volumetric Flow WSCFH

The test program was conducted in order to evaluate the accuracy of the Unit 1 CEMS in accordance with the United States Environmental Protection Agency (USEPA) requirements in the Code of Federal Regulations, Title 40, Part 75, Appendix B, and section 2.3.1. The test program and results are presented and discussed in this report.

Ms. Erika Tuchbaum-Biro and Mr. Charles Dufeny of Progress Energy Florida, Inc. coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the USEPA.

Only the final successful Volumetric Flow RATA attempt is included in this report. The initial Flow RATA was attempted on 5/6/2008, but was cancelled because of a failing RA at the high load level. A subsequent Flow RATA at the high level was conducted on 5/7/2008 and passed, but was failing at the low operating level RATA on 5/8/2008 and cancelled. The Flow RATA at the mid and high operating levels was completed successfully on 5/9/2008; however, the low level Flow RATA on 5/13/2008 was cancelled due to a high (failing) RA. The final passing Flow RATA was completed at the low and mid operating levels on 5/14/2008 and 5/15/2008 and at the high operating level on 5/14/2008.

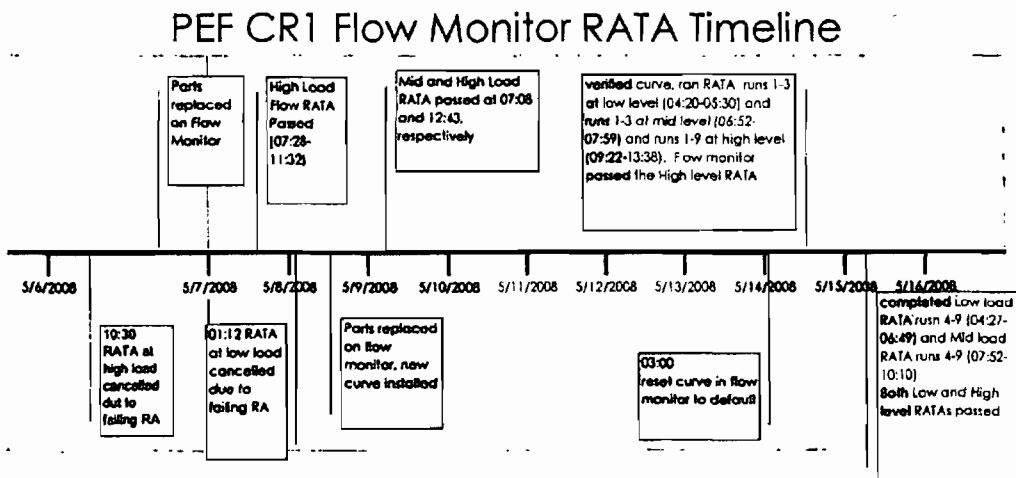
Figure 1 is a timeline summarizing the Flow RATA attempts.

Table 1 summarizes the results of the final RATAs conducted on Unit 1.

**Table 1: RATA Results  
Crystal River Power Plant  
Unit 1**

<b>RATA</b>	<b>% RA</b>	<b>BAF</b>
SO <sub>2</sub> ppm	3.4%	1.000
NO <sub>x</sub> -diluent	4.9%	1.000
CO <sub>2</sub>	2.2%	1.017
Flow	2.34% High load 1.64% Mid load 1.06% Low load	1.000

**Figure 1: Flow RATA Timeline  
Crystal River Power Plant  
Unit 1**



Please Note: All times are EST

Probationary Calibrations completed after flow monitor maintenance

## **2.0 Facility Description**

Crystal River Unit 1 is a fossil fuel steam generator consisting of a tangentially fired boiler, rated at 440.5 MW, 3750 MMBtu/hr. Primary fuel is bituminous coal or a bituminous coal and bituminous coal briquette mixture. Distillate fuel oil may be burned as a startup fuel. This unit may also burn oily flyash.

### **2.1 Process Equipment**

Fossil Fuel Steam Generator, Unit 1 is a pulverized coal dry bottom boiler, tangentially-fired. Emissions are controlled from the unit with a high efficiency electrostatic precipitator, manufactured by Buell Manufacturing Company, Inc. Emissions are exhausted through a brick and mortar 499 ft. stack.

### **2.2 Regulatory Requirements**

The facility is required to conduct RATAs on the SO<sub>2</sub> pollutant concentration monitor, NO<sub>x</sub>-diluent CEMS, CO<sub>2</sub> pollutant concentration monitor, and flow monitor in accordance with 40CFR75, App. B, section 2.3.1.1 in order to validate emissions data collected by the NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub>, and flow CEMS for the Acid Rain Program.

RATAs were required to be conducted on the gaseous and flow CEMS at the designated normal operating load level defined in section 6.5.2.1 of 40CFR75, Appendix A, while firing on primary fuel used during normal (high load) operation. Additional RATAs were required to be completed on the flow monitor at the low and mid range operating level.

The Relative Accuracies of the Unit 1 CEMS are required to meet the performance specifications listed in Table 2.

**Table 2: CEMS RATA Performance Specifications**

<b>RATA</b>	<b>Semiannual (% RA)</b>	<b>Annual (% RA)</b>
SO <sub>2</sub> ppm	7.5% < RA ≤ 10.0% or ± 15.0 ppm <sup>1</sup>	RA ≤ 7.5% ± 12.0 ppm <sup>1</sup>
NO <sub>x</sub> -diluent	7.5% < RA ≤ 10.0% or ± 0.020 lb/mmBtu <sup>1</sup>	RA ≤ 7.5% or ± 0.015lb/mmBtu <sup>1</sup>
CO <sub>2</sub> or O <sub>2</sub> pollutant	7.5% < RA ≤ 10.0% or ± 1.0% CO <sub>2</sub> /O <sub>2</sub> <sup>1</sup>	RA ≤ 7.5% or ± 1.0% CO <sub>2</sub> /O <sub>2</sub> <sup>1</sup>
Flow	7.5% < RA ≤ 10.0% or ± 1.5 fps <sup>1</sup>	RA ≤ 7.5% <sup>1</sup>

<sup>1</sup> The difference between monitor and reference method mean values applies to low emitters only



### **3.0 Test Program/Operating Conditions**

The Relative Accuracy Test Audit was conducted to determine the relative accuracy of Unit 1's NO<sub>x</sub>-diluent, SO<sub>2</sub> and CO<sub>2</sub> concentration, and flow monitoring CEMS.

Testing was completed on May 6, 2008 (gaseous RATA) and May 14 and 15, 2008 (flow RATAs).

Unit 1 operated at an average of 160 gross megawatts during the low load flow RATA and 279 megawatts during the mid load flow RATA. During testing at the high load level, also designated as the normal operating level, Unit 1 operated at an average 383 gross megawatts during the flow RATA and 393 megawatts during the gaseous RATA.

Ms. Erika Tuchbaum-Biro and Mr. Charles Dufeny of Progress Energy Florida were present to coordinate plant operations throughout the test program.

## 4.0 Test Methods

All testing was performed in accordance with methods approved by the USEPA and FDEP. The following discusses the methods, as well as quality assurance and sample handling procedures.

### 4.1 NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub> Relative Accuracy Test Audit (RATA)

NO<sub>x</sub> and SO<sub>2</sub> reference method (RM) data was determined using instrument analyzer procedures. In addition, diluent gas concentrations of oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) were also measured via instrumental methods. CO<sub>2</sub> data was also used to calculate NO<sub>x</sub> pollutant emissions in pounds per million Btu. Data collected by the reference method is compared to the Unit 1 CEMS data. Mathematical equations used to determine calculated emissions standards and RATA accuracy are located in Appendix A. Table 3 summarizes the EPA methods and instrumentation:

**Table 3: Summary of EPA Reference Methods and Instrumentation  
Crystal River Power Plant  
Unit 1**

Pollutant	EPA Method	Instrument	Serial Number
NO <sub>x</sub>	7E	TEI Model 42CHL	401904667
SO <sub>2</sub>	6C	TEI Model 43C	43C-56507-308
CO <sub>2</sub>	3A	Servomex 1440	N4J0831T

All reference method analyzers used meet or exceed applicable performance specifications detailed in the appropriate method.

Gaseous emissions were tested using an in-stack dilution extraction probe. Gas samples were continuously extracted from the stack by a gas sample probe and diluted at a ratio of approximately 100:1 with clean, dry instrument air (dilution air). Samples were then transported to gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers.

Instrument outputs were recorded continuously with a Windows compatible personal computer, compiled into 15 second averages, and stored in a database for future reference.

Instrument ranges and calibration gases were chosen in accordance with each pollutant's applicable EPA method. Instrument ranges and calibration gases used are shown in Table 4:

**Table 4: Reference Method Calibration Span and Calibration Gases**

**Crystal River Power Plant  
Unit 1**

<b>Pollutant</b>	<b>Test Location</b>	<b>Calibration Span</b>	<b>Calibration Gases<sup>a</sup></b>
NO <sub>x</sub>	Unit 1	486.0 ppm	0.0 ppm NO 287.0 ppm NO 486.0 ppm NO
SO <sub>2</sub>	Unit 1	971.0 ppm	0.0 ppm SO <sub>2</sub> 489.0 ppm SO <sub>2</sub> 971.0 ppm SO <sub>2</sub>
CO <sub>2</sub>	Unit 1	18.98 %	0.0 % CO <sub>2</sub> 9.1 % CO <sub>2</sub> 18.98 % CO <sub>2</sub>

<sup>a</sup> Concentrations of NO, SO<sub>2</sub> and CO<sub>2</sub> are in a balance of purified nitrogen (N<sub>2</sub>). All analyzers were zeroed with ultra high purity N<sub>2</sub>. All calibration gases have been certified to NIST traceable standards.

Calibration gas Certificates of Analysis can be found in Appendix B.

## **4.2 Volumetric Flow Relative Accuracy Test Audit (RATA)**

The following subsections describe the EPA Methods used to determine the Reference Method Volumetric Flow. All methods and QA/QC protocols were followed as described in the appropriate test methodologies.

### **4.2.1 Method 2F: Determination of Velocity and Volumetric Flow With 3-D Probes**

A 3-D DAT probe was used to determine the velocity pressure and yaw and pitch angles of the flow velocity vector in the stack. The method determined the yaw angle directly by rotating the probe to null the pressure across a pair of symmetrically placed ports on the probe head. The pitch angle was calculated using probe-specific calibration curves. From these values and a determination of the stack gas density, the average axial velocity of the stack gas was calculated. The average gas volumetric flow rate in the stack was then determined from the average axial velocity.

### **4.2.2 Method 3: Determination of Dry Gas Molecular Weight**

Method 3 was used to determine dry gas molecular weight of the sample gas. During high load, oxygen and carbon dioxide emissions were measured using instrument method 3A. The instrument analyzers were calibrated using the reference gases listed in Table 4. Collected data was corrected for instrument calibration drift for each run.

Oxygen emissions were back calculated using Equation 3B-2, a procedure accepted by the USEPA Clean Air Markets Division.

#### **4.2.3 Method 4: Determination of Moisture Content in Stack Gases**

Stack gas moisture content was determined utilizing Method 4. In Method 4, gas sample is extracted, at a rate no more than 0.75 cubic feet per minute, from the stack through a probe, inserted at least one meter from the stack wall, then sent through a set of pre-weighed impingers. Moisture is removed from the gas and collected in the impinger train. The gas exiting the sample train is maintained at a temperature less than or equal to 68 degrees Fahrenheit. The amount of gas pulled through the sample train is measure by a calibrated dry gas metering system.

At the end of the sampling run, the contents of the impingers are measured gravimetrically to the nearest 0.5 gram. Stack gas moisture is calculated based upon the impinger weight gain and the volume of gas collected.

### **4.3 Sampling Location/Traverse Points/Test Run Duration**

Unit 1's exhaust stack inner diameter, at the sample location, is 15.18 feet (182.2"). The emissions sampling location is 223 feet downstream from the nearest flow disturbance, and 250 feet upstream from the stack exhaust. A diagram of the sample location can be viewed in Appendix C.

#### **4.3.1 Gaseous Traverse Points and Run Durations**

Gas sample traverse points were located in accordance with 40CFR, Part 75, Appendix A, Section 6.5.6(b)(2) at 4.4%(8.02"), 14.6%(26.6"), and 29.6%(53.9") from the inner wall of the stack. Each point was sampled for seven minutes, equaling a total of 21 minutes per test run. A minimum of nine, but no more than 12, test runs were completed.

#### **4.3.2 Volumetric Flow Traverse Points and Run Durations**

Velocity traverse points were determined in accordance with EPA Method 1. A total of 16 traverse points (four points per port) were used to complete each flow test run. Sufficient time was allowed for differential pressure and stack temperature readings to stabilize at each point before readings were recorded. Each flow run was a minimum of five minutes in duration.

#### **4.3.3 Moisture Traverse Points and Run Durations**

The moisture sample probe was inserted at least one meter inside the stack from the inner wall.

During volumetric flow testing, one moisture run, in which a minimum of 21 cubic feet of sample was collected, was completed for every three reference method volumetric flow runs as required in 40CFR75, Appendix A, Section 6.5.7.

#### **4.3.4 Molecular Weight Traverse Points and Run Durations**

During reference method gaseous test runs (at high load), CO<sub>2</sub> data was collected at the traverse points and for the same period of time as discussed previously in section 4.3.1.

#### **4.4 Quality Assurance/Quality Control Procedures**

All sampling, analytical, and Quality Assurance/Quality Control (QA/QC) procedures outlined in the EPA methods were followed. All test equipment was calibrated before or during use in the field. Interference checks, response time checks, and NO<sub>2</sub> to NO converter checks were performed on each instrumental analyzer, as applicable, before field use. In the field, each analyzer and the entire instrument measurement system was checked for system bias before and following each test run using the calibration gases listed in Table 4. Appendix D contains the QA/QC checks.

The reference method 3-D type volumetric flow probe was leak checked prior to and following each test run. A minimum of 3" of pressure, or a pressure corresponding to approximately 75% of the measurement device's range, was applied to each leg of the test probe and tested for a minimum period of 15 seconds to confirm stability.

The moisture train was leak tested before and following each test run at a vacuum equal to or higher than the highest vacuum observed during each test run. A failed leak check occurs when there is more than .02 cubic feet of movement over a period of one minute.

## **5.0 Relative Accuracy Test Audit Results**

The following presents the results of the test program. Tables 5 through 10 summarize the SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, high load flow, mid load flow, and low load flow RATA results, respectively. Supporting RM field data and calculated values are presented in Appendix E. CEMS support data are located in Appendix F.

### **5.1 SO<sub>2</sub> RATA Results**

The SO<sub>2</sub> CEMS relative accuracy over the nine test runs was 3.4%. Unit 1 SO<sub>2</sub> CEMS also passed the Bias Adjustment Factor Test, therefore no bias (1.000) is assigned to the CEMS data.

### **5.2 NO<sub>x</sub> RATA Results**

Unit 1 NO<sub>x</sub>-Diluent CEMS relative accuracy was 4.9%. Unit 1's NO<sub>x</sub>-diluent CEMS passed the BAF test. A BAF of 1.000 has been assigned to Unit 1 NO<sub>x</sub> CEMS.

### **5.3 CO<sub>2</sub> RATA Results**

The CO<sub>2</sub> CEMS had a relative accuracy of 2.2% over the nine run test period.

### **5.4 Volumetric Flow RATA Results**

Unit 1 volumetric flow's relative accuracy at the high operating level (normal operating level) was 2.34%. An accuracy of 1.64% was recorded at Unit 1's mid operating level. An accuracy of 1.06% was recorded at Unit 1's low operating level.

Unit 1 flow monitor passed the BAF test at the high load (normal) level, therefore no bias (1.000) is applied to the CEMS data.

**Table 5: Unit 1 SO2 Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 1  
High Load 40CFR75 RATA  
Date:5/6/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	SO <sub>2</sub> RM WET ppm	SO <sub>2</sub> CEM WET ppm	Difference Like ppm
Run 1	6-May	8:01:00	8:22:00	390	622.5	636.8	-14.3
Run 2	6-May	8:41:00	9:02:00	390	613.5	633.1	-19.6
Run 3	6-May	9:37:00	9:58:00	391	623.9	640.4	-16.5
Run 4	6-May	12:11:00	12:32:00	394	618.3	631.3	-13.0
Run 5	6-May	13:00:00	13:21:00	393	618.3	625.1	-6.8
Run 6	6-May	13:40:00	14:01:00	393	606.5	624.7	-18.2
Run 7	6-May	14:22:00	14:43:00	394	606.0	626.9	-20.9
Run 8	6-May	15:11:00	15:32:00	394	613.4	633.1	-19.7
Run 9	6-May	15:55:00	16:16:00	394	619.4	643.6	-24.2

Average: 393 615.8 ppm 632.8 ppm -17.0 ppm

Bias Test (pass/fail): **Passed**  
Bias Adjustment Factor: **1.000**  
Method of RA Determination: **Part 75, Standard Emitter**

Standard Deviation: 5.1146  
Confidence Coefficient: 3.9314  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: **3.404**  
Maximum RA 10.00  
RA Status **Passed**



**Table 6: Unit 1 NO<sub>x</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 1  
High Load 40CFR75 RATA  
Date: 5/6/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	NO <sub>x</sub> RM lbs/mmBtu	CEM lbs/mmBtu	Difference Like lbs/mmBtu
Run 1	6-May	8:01:00	8:22:00	390	0.352	0.358	-0.006
Run 2	6-May	8:41:00	9:02:00	390	0.351	0.364	-0.013
Run 3	6-May	9:37:00	9:58:00	391	0.350	0.359	-0.009
Run 4	6-May	12:11:00	12:32:00	394	0.353	0.365	-0.012
Run 5	6-May	13:00:00	13:21:00	393	0.348	0.363	-0.015
Run 6	6-May	13:40:00	14:01:00	393	0.349	0.367	-0.018
Run 7	6-May	14:22:00	14:43:00	394	0.347	0.364	-0.017
Run 8	6-May	15:11:00	15:32:00	394	0.343	0.359	-0.016
Run 9	6-May	15:55:00	16:16:00	394	0.339	0.357	-0.018

Average: 393 0.348 0.362 -0.014 lbs/mmBtu

**Bias Test (pass/fail): Passed**  
**Bias Adjustment Factor: 1.000**  
**Method of RA Determination: Part 75, Standard Emitter**

Standard Deviation: 0.0042  
Confidence Coefficient: 0.0032  
T-Factor: 2.306  
Number of runs Reported: 9

Note:  
All ppm values are corrected to lbs/mmBtu NO<sub>x</sub>  
using RM CO<sub>2</sub> and CEM CO<sub>2</sub> as diluents

**Relative Accuracy: 4.882**  
**Maximum RA 10.00**  
**RA Status Passed**

**Table 7: Unit 1 CO<sub>2</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 1  
High Load 40CFR75 RATA  
Date: 5/6/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	CO2 RM WET % V/V	CO2 CEM WET % V/V	CO2 Difference Like % V/V
Run 1	6-May	8:01:00	8:22:00	390	12.1	12.0	0.1
Run 2	6-May	8:41:00	9:02:00	390	12.1	12.0	0.1
Run 3	6-May	9:37:00	9:58:00	391	12.3	12.1	0.2
Run 4	6-May	12:11:00	12:32:00	394	12.2	12.0	0.2
Run 5	6-May	13:00:00	13:21:00	393	12.2	11.9	0.3
Run 6	6-May	13:40:00	14:01:00	393	12.2	11.9	0.3
Run 7	6-May	14:22:00	14:43:00	394	12.2	12.0	0.2
Run 8	6-May	15:11:00	15:32:00	394	12.3	12.0	0.3
Run 9	6-May	15:55:00	16:16:00	394	12.4	12.2	0.3

Average: 393 12.2 % 12.0 % 0.2 %

Bias Test (pass/fail): Failed  
Bias Adjustment Factor: 1.017  
Method of RA Determination: Part 75, Average RM Value

Standard Deviation: 0.0771  
Confidence Coefficient: 0.0593  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 2.2  
Maximum RA 10.0  
RA Status Passed

**Table 8: Unit 1 High Load Flow Relative Accuracy Test Audit Summary**

**Volumetric Flow Relative Accuracy Determination**

Test Performed For:  
Progress Energy  
Crystal River Plant  
Unit 1  
High Load RATA  
Date: 5/14/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	14-May	8:22:00	8:41:00	383	53633000.0	55012000.0	-1379000.0
Run 2	14-May	8:47:00	9:04:00	383	53936000.0	54950000.0	-1014000.0
Run 3	14-May	9:16:00	9:33:00	383	53829000.0	55087000.0	-1258000.0
Run 4	14-May	10:27:00	10:45:00	384	54054000.0	55176000.0	-1122000.0
Run 5	14-May	10:51:00	11:06:00	383	53947000.0	55064000.0	-1117000.0
Run 6	14-May	11:13:00	11:29:00	384	53776000.0	55050000.0	-1274000.0
Run 7	14-May	11:40:00	11:55:00	383	54193000.0	55063000.0	-870000.0
Run 8	14-May	12:00:00	12:16:00	384	53926000.0	55151000.0	-1225000.0
Run 9	14-May	12:24:00	12:38:00	383	54047000.0	55080000.0	-1033000.0

Average: 383 53,926,777.8 SCFH 55,070,333.3 SCFH -1,143,555.6 SCFH

Bias Test (pass/fail): Passed  
Bias Adjustment Factor: 1.000  
Method of RA Determination: Part 75, Standard Emitter

Standard Deviation: 156999.2923  
Confidence Coefficient: 120680.1227  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 2.344  
Maximum RA 10.00  
RA Status Passed

**Table 9: Unit 1 Mid Load Flow Relative Accuracy Test Audit Summary**

**Volumetric Flow Relative Accuracy Determination**

Test Performed For:  
Progress Energy  
Crystal River Plant  
Unit 1  
Mid Load RATA  
5/14/2008 and 5/15/2008

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	14-May	5:52:00	6:11:00	278	43446000.0	43569000.0	-123000.0
Run 2	14-May	6:19:00	6:34:00	279	42924000.0	43451000.0	-527000.0
Run 3	14-May	6:44:00	6:59:00	279	42665000.0	43141000.0	-476000.0
Run 4	15-May	6:52:00	7:08:00	280	42675000.0	42798000.0	-123000.0
Run 5	15-May	7:14:00	7:27:00	279	42338000.0	42726000.0	-388000.0
Run 6	15-May	7:39:00	7:52:00	278	41656000.0	42571000.0	-915000.0
Run 7	15-May	8:04:00	8:22:00	279	42309000.0	42624000.0	-315000.0
Run 8	15-May	8:28:00	8:42:00	280	43058000.0	42672000.0	386000.0
Run 9	15-May	8:56:00	9:10:00	279	41645000.0	42595000.0	-950000.0

Average: 279 42,524,000.0 SCFH 42,905,222.2 SCFH -381,222.2 SCFH

Bias Test (pass/fail): Passed  
Bias Adjustment Factor: 1.000  
Method of RA Determination: Part 75, Standard Emitter

Standard Deviation: 413079.8282  
Confidence Coefficient: 317520.6946  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 1.643  
Maximum RA 10.00  
RA Status Passed

**Table 10: Unit 1 Low Load Flow Relative Accuracy Test Audit Summary**

**Volumetric Flow Relative Accuracy Determination**

Test Performed For:

Progress Energy

Crystal River Plant

Unit 1

Low Load RATA

5/14/2008 and 5/15/2008

Test Performed By:

C.E.M. Solutions, Inc.

1183 E. Overdrive Circle

Hernando, FL 34442

Ph: 352-489-4337

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	14-May	3:20:00	3:38:00	157	29401000.0	29576000.0	-175000.0
Run 2	14-May	3:52:00	4:11:00	159	29361000.0	29757000.0	-396000.0
Run 3	14-May	4:17:00	4:33:00	159	29667000.0	29765000.0	-98000.0
Run 4	15-May	3:27:00	3:46:00	162	30350000.0	30470000.0	-120000.0
Run 5	15-May	3:53:00	4:07:00	161	30098000.0	30340000.0	-242000.0
Run 6	15-May	4:17:00	4:30:00	160	29982000.0	30354000.0	-372000.0
Run 7	15-May	4:43:00	4:59:00	161	30473000.0	30134000.0	339000.0
Run 8	15-May	5:07:00	5:21:00	160	30386000.0	30124000.0	262000.0
Run 9	15-May	5:35:00	5:49:00	161	29768000.0	30036000.0	-268000.0

Average: 160 29,942,888.9 SCFH 30,061,777.8 SCFH -118,888.9 SCFH

**Bias Test (pass/fail): Passed**

**Bias Adjustment Factor: 1.000**

**Method of RA Determination: Part 75, Standard Emitter**

Standard Deviation: 258981.3914

Confidence Coefficient: 199070.3629

T-Factor: 2.306

Number of runs Reported: 9

**Relative Accuracy: 1.062**

**Maximum RA 10.00**

**RA Status Passed**

**ATTACHMENT CR-EU1-I6**  
**Identification of Applicable Requirements**

## APPLICABLE REQUIREMENTS LISTING - POWER PLANTS ACID RAIN UNITS

### EMISSION UNIT ID: EU1-UNIT 1 AND EU2-UNIT 2; CRYSTAL RIVER PLANT

#### FDEP Rules:

##### Air Pollution Control-General Provisions:

- 62-204.800(12) (State Only) - Acid Rain Program
- 62-204.800(13) (State Only) - Allowances
- 62-204.800(14) (State Only) - Acid Rain Program Monitoring

##### Stationary Sources-General:

- 62-210.650 - Circumvention; EUs with control device
- 62-210.700(1) - Malfunction only for FFSG
- 62-210.700(2) - Existing FFSG; startup/shut down
- 62-210.700(3) - Existing FFSG; sootblowing/load change
- 62-210.700(4) - maintenance
- 62-210.700(6)

##### Acid Rain:

- 62-214.300 - Acid Rain Units (Applicability)
- 62-214.320 - Acid Rain Units (Application Shield)
- 62-214.330 - Compliance Options (if 214.430)
- 62-214.340 - Exemptions (new units, retired units)
- 62-214.350(2);(3);(6) - Acid Rain Units (Certification)
- 62-214.370 - Acid Rain Units (Revisions; correction; potentially applicable if a need arises)
- 62-214.430 - Acid Rain Units (Compliance Options-if required)

##### Stationary Sources-Emission Standards:

- 62-296.405(1)(a) - FFSG;VE
- 62-296.405(1)(b) - FFSG; PM
- 62-296.405(1)(c)1.j. - FFSG;Oil-SO<sub>2</sub> (general limit)
- 62-296.405(1)(c)2.d. - FFSG;Coal-SO<sub>2</sub>(general limit; see rule)
- 62-296.405(1)(e) - FFSG;Test Methods
- 62-296.405(1)(f) - FFSG; CEMS

##### Stationary Sources-Emission Monitoring (where stack test is required):

- 62-297.310(1) - Test Runs-Mass Emission
- 62-297.310(2)(b) - Operating Rate; other than CTs;no CT
- 62-297.310(3) - Calculation of Emission
- 62-297.310(4)(a)1. - Applicable Test Procedures;Sampling time
- 62-297.310(4)(b) - Sample Volume
- 62-297.310(4)(c) - Required Flow Rate Range-PM/H<sub>2</sub>SO<sub>4</sub>/F
- 62-297.310(4)(d) - Calibration

- 62-297.310(4)(e) - EPA Method 5-only
- 62-297.310(5) - Determination of Process Variables
- 62-297.310(6)(a) - Permanent Test Facilities-general
- 62-297.310(6)(c) - Sampling Ports
- 62-297.310(6)(d) - Work Platforms
- 62-297.310(6)(e) - Access
- 62-297.310(6)(f) - Electrical Power
- 62-297.310(6)(g) - Equipment Support
- 62-297.310(7)(a)2. - FFSG excess emissions
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4. - PM exemption if <400 hrs/yr
- 62-297.310(7)(a)5. - PM FFSG semi annual test required if >200 hrs/yr
- 62-297.310(7)(a)6. - PM quarterly monitoring if >100 hrs/yr
- 62-297.310(7)(a)7. - FDEP Notification - 15 days
- 62-297.310(7)(a)9. - Waiver of Compliance Tests (Fuel Sampling)
- 62-297.310(7)(c) - Test Reports
- 62-297.310(8)

#### Acid Rain-Permits:

- 40 CFR 72.9(a) - Permit Requirements
- 40 CFR 72.9(b) - Monitoring Requirements
- 40 CFR 72.9(c)(1) - SO<sub>2</sub> Allowances-hold allowances
- 40 CFR 72.9(c)(2) - SO<sub>2</sub> Allowances-violation
- 40 CFR 72.9(c)(3)(iii) - SO<sub>2</sub> Allowances-Phase II Units (listed)
- 40 CFR 72.9(c)(4) - SO<sub>2</sub> Allowances-allowances held in ATS
- 40 CFR 72.9(c)(5) - SO<sub>2</sub> Allowances-no deduction for 72.9(c)(1)(i)
- 40 CFR 72.9(d) - NO<sub>x</sub> Requirements
- 40 CFR 72.9(e) - Excess Emission Requirements
- 40 CFR 72.9(f) - Recordkeeping and Reporting
- 40 CFR 72.9(g) - Liability
- 40 CFR 72.20(a) - Designated Representative; required
- 40 CFR 72.20(b) - Designated Representative; legally binding
- 40 CFR 72.20(c) - Designated Representative; certification requirements
- 40 CFR 72.21 - Submissions
- 40 CFR 72.22 - Alternate Designated Representative
- 40 CFR 72.23 - Changing representatives; owners
- 40 CFR 72.30(a) - Requirements to Apply (operate)
- 40 CFR 72.30(c) - Requirements to Apply (reapply before expiration)
- 40 CFR 72.30(d) - Requirements to Apply (submittal requirements)
- 40 CFR 72.32 - Permit Application Shield
- 40 CFR 72.33(a) - Dispatch System ID;Phase I treatment
- 40 CFR 72.33(b) - Dispatch System ID;unit/system ID
- 40 CFR 72.33(c) - Dispatch System ID;ID requirements
- 40 CFR 72.33(d) - Dispatch System ID;ID change
- 40 CFR 72.33(e) - Dispatch System ID;Phase I with no ID
- 40 CFR 72.33(f) - Dispatch System ID;Phase I petition
- 40 CFR 72.40(a) - General; compliance plan
- 40 CFR 72.40(b) - General; multi-unit compliance options
- 40 CFR 72.40(c) - General; conditional approval



- 40 CFR 72.40(d) - General; termination of compliance options
- 40 CFR 72.51 - Permit Shield
- 40 CFR 72.90 - Annual Compliance Certification

Monitoring Part 75:

- 40 CFR 75.5 - Prohibitions
- 40 CFR 75.10(a)(1) - Primary Measurement; SO<sub>2</sub>; except 75.11&.16; Subpart D
- 40 CFR 75.10(a)(2) - Primary Measurement; NO<sub>x</sub>; except 75.12&.17; Subpart E
- 40 CFR 75.10(a)(3)(i) - Primary Measurement; CO<sub>2</sub>; monitor
- 40 CFR 75.10(a)(3)(ii) - Primary Measurement; CO<sub>2</sub>; Appendix G
- 40 CFR 75.10(a)(3)(iii) - Primary Measurement; CO<sub>2</sub>; O<sub>2</sub> monitor
- 40 CFR 75.10(a)(4) - Primary Measurement; Opacity; except 75.14&.18
- 40 CFR 75.10(b) - Primary Measurement; Performance Requirements
- 40 CFR 75.10(c) - Primary Measurement; Heat Input; Appendix F
- 40 CFR 75.10(d) - Primary Measurement; Hourly Operating ; Opacity; SO<sub>2</sub>
- 40 CFR 75.10(e) - Primary Measurement; Optional Backup Monitor
- 40 CFR 75.10(f) - Primary Measurement; Minimum Measurement
- 40 CFR 75.10(g) - Primary Measurement; Minimum Recording
- 40 CFR 75.11(a) - SO<sub>2</sub> Monitoring; Coal Units
- 40 CFR 75.11(b) - SO<sub>2</sub> Monitoring; Moisture Correction (dry basis)
- 40 CFR 75.12(a) - NO<sub>x</sub> Monitoring; Coal; Non-peaking oil/gas units
- 40 CFR 75.12(b) - NO<sub>x</sub> Monitoring; Determination of NO<sub>x</sub> emission rate; Appendix F
- 40 CFR 75.13(a) - CO<sub>2</sub> Monitoring; Continuous monitor
- 40 CFR 75.13(b) - CO<sub>2</sub> Monitoring; Appendix G
- 40 CFR 75.13(c) - CO<sub>2</sub> Monitoring; Appendix F
- 40 CFR 75.14(a) - Opacity Monitoring; Coal and oil units
- 40 CFR 75.20(a)(5) - Initial Certification Approval Process; Loss of Certification
- 40 CFR 75.20(b) - Recertification Procedures (if recertification necessary)
- 40 CFR 75.20(c) - Certification Procedures (if recertification necessary)
- 40 CFR 75.20(e) - Certification Peaking/by-pass
- 40 CFR 75.21(a) - QA/QC; CEMS; Appendix B
- 40 CFR 75.21(b) - QA/QC; Opacity; Part 51 Appendix M
- 40 CFR 75.21(c) - QA/QC; Calibration Gases
- 40 CFR 75.21(d) - QA/QC; Notification of RATA
- 40 CFR 75.21(e) - QA/QC; Audits
- 40 CFR 75.21(f) - QA/QC; CEMS
- 40 CFR 75.22 - Reference Methods
- 40 CFR 75.24 - Out-of-Control Periods; CEMS
- 40 CFR 75.30(a)(1) - General Missing Data Procedures; SO<sub>2</sub>
- 40 CFR 75.30(a)(2) - General Missing Data Procedures; flow
- 40 CFR 75.30(a)(3) - General Missing Data Procedures; NO<sub>x</sub>
- 40 CFR 75.30(a)(4) - General Missing Data Procedures; SO<sub>2</sub>
- 40 CFR 75.30(d) - General Missing Data Procedures; SO<sub>2</sub>
- 40 CFR 75.32 - Monitoring Data Availability for Missing Data
- 40 CFR 75.33 - Standard Missing Data Procedures
- 40 CFR 75.35 - Missing Data for SO<sub>2</sub>
- 40 CFR 75.36 - Missing Data for Heat Input
- 40 CFR 75.40 - Alternate Monitoring Systems-General

40 CFR 75.41	- Alternate Monitoring Systems-Precision Criteria
40 CFR 75.42	- Alternate Monitoring Systems-Reliability Criteria
40 CFR 75.43	- Alternate Monitoring Systems-Accessability Criteria
40 CFR 75.44	- Alternate Monitoring Systems-Timeliness Criteria
40 CFR 75.45	- Alternate Monitoring Systems-Daily QA
40 CFR 75.46	- Alternate Monitoring Systems-Missing data
40 CFR 75.47	- Alternate Monitoring Systems-Criteria for Class
40 CFR 75.48	- Alternate Monitoring Systems-Petition
40 CFR 75.53	- Monitoring Plan ; revisions
40 CFR 75.54(a)	- Recordkeeping-general
40 CFR 75.54(b)	- Recordkeeping-operating parameter
40 CFR 75.54(c)	- Recordkeeping-SO2
40 CFR 75.54(d)	- Recordkeeping-NOx
40 CFR 75.54(e)	- Recordkeeping-CO2
40 CFR 75.54(f)	- Recordkeeping-Opacity
40 CFR 75.56	- Certification; QA/QC Provisions
40 CFR 75.55	- General Recordkeeping (Specific Situations)
40 CFR 75.60	- Reporting Requirements-General
40 CFR 75.61	- Reporting Requirements-Notification cert/recertification
40 CFR 75.62	- Reporting Requirements-Monitoring Plan
40 CFR 75.63	- Reporting Requirements-Certification/Recertification
40 CFR 75.64(a)	- Reporting Requirements-Quarterly reports; submission
40 CFR 75.64(b)	- Reporting Requirements-Quarterly reports; DR statement
40 CFR 75.64(c)	- Rep. Req.; Quarterly reports; Compliance Certification
40 CFR 75.64(d)	- Rep. Req.; Quarterly reports; Electronic format
40 CFR 75.65	- Opacity Reports
Appendix A-1.	- Installation and Measurement Locations (Completed)
Appendix A-2.	- Equipment Specifications (Completed)
Appendix A-3.	- Performance Specifications
Appendix A-4.	- Data Handling and Acquisition Systems
Appendix A-5.	- Calibration Gases
Appendix A-6.	- Certification Tests and Procedures
Appendix B	- QA/QC Procedures
Appendix C-1.	- Missing Data; SO2/NOx for controlled sources
Appendix C-2.	- Missing Data; Load-Based Procedure; NOx & flow
Appendix F	- Conversion Procedures
Appendix G-2.	- Determination of CO2; from combustion sources
Appendix H	- Traceability Protocol

Acid Rain Program-NOx Emission Reduction (these are future requirements that may overlap with the term of the Title V permit):

40 CFR 76.5(g)	- NOx emission limitations; Group 1; Phase II; Jan. 1, 2000
40 CFR 76.8	- Early Election; Group 1; Phase II (this is a elective regulation)
40 CFR 76.9(2)	- Permit Application/Compliance Plans; Phase II (1/1/98); Early Election (1/1/97 )
40 CFR 76.10	- Alternative Emission Limitations (elective)
40 CFR 76.11	- Emission Averaging (elective)
40 CFR 76.13	- Compliance and Excess Emissions

40 CFR 76.14                      - Monitoring Recordkeeping and Reporting

Acid Rain Program-Excess Emissions (these are future requirements that may overlap with the term of the Title V permit):

40 CFR 77.3                      - Offset Plans (future)

40 CFR 77.5(b)                  - Deductions of Allowances (future)

40 CFR 77.6                      - Excess Emissions Penalties (SO<sub>2</sub> and NO<sub>x</sub>;future)



# Florida Department of Environmental Protection

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

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

## STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NOTICE OF FINAL PERMIT

In the Matter of an  
Application for Permit by:

Mr. Bernie M. Cumbie, Manager  
Florida Power Corporation dba Progress Energy Florida, Inc.  
2929 Allen Parkway, Suite 2200  
St. Petersburg, Florida 33701

Title V Permit Project No.: 0170004-015-AV  
Crystal River Power Plant  
Citrus County

Enclosed is Final Permit Number 0170004-015-AV. The purpose of this revision is to reflect changes made to the coal yard that are authorized by permit number 0170004-014-AC (which was issued concurrently with this Title V permit revision). In order to decrease the time required to unload a coal barge, Progress Energy has chosen to replace the existing clamshell bucket and traveling gantry with a new crane-operated clamshell bucket on a traveling gantry. This replacement will increase the unloading capabilities from 1,500 tons of coal per hour to 2,500 tons of coal per hour. To accommodate this increase, the speed of the conveyors and crusher feeding boilers 1 and 2 is being increased from 600 tons per hour to 900 tons per hour. This permitting action will also be used to replace Appendix TV-4, Title V Conditions (version dated 02/12/02) with Appendix TV-6, Title V Conditions (version dated 6/23/06), as well as other minor administrative corrections as described in the Statement of Basis.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief  
Bureau of Air Regulation

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final permit) was sent by Internet e-mail before the close of business on 2/22/07 to the person(s) listed:

Mr. Bernie M. Cumbie, Manager, Progress Energy Florida, Inc. ([bernie.cumbie@pgnmail.com](mailto:bernie.cumbie@pgnmail.com))

Mr. Dave Meyer, Progress Energy Florida, Inc. ([dave.meyer@pgnmail.com](mailto:dave.meyer@pgnmail.com))

Mr. Scott Osbourn, P.E., Golder Associates ([sosbourn@golder.com](mailto:sosbourn@golder.com))

Ms. Cindy Zhang-Torres, P.E., DEP – SWD ([cindy.zhang-torres@dep.state.fl.us](mailto:cindy.zhang-torres@dep.state.fl.us))

U.S. EPA, Region 4

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

*Paulina J. Soto* *2/22/07*  
(Clerk) (Date)

## **FINAL Determination**

Title V Air Operation Permit Revision  
FINAL Title V Air Operation Permit No.: 0170004-015-AV  
Florida Power Corporation dba Progress Energy Florida, Inc.  
Crystal River Power Plant  
Page 1 of 1

### **I. Comment(s).**

No comments were received from the USEPA during their 45 day review period of the PROPOSED Permit.

### **II. Conclusion.**

*In conclusion, the permitting authority hereby issues the FINAL Permit.*

# **STATEMENT OF BASIS**

FINAL Title V Revision Permit No.: 0170004-015-AV  
Florida Power Corporation dba Progress Energy Florida, Inc.  
Crystal River Power Plant  
Citrus County

The Title V air operation permit renewal (permit number 0170004-011-AV) became final on December 28, 2004, and effective on January 1, 2005. This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

The purpose of this revision is to reflect changes made to the coal yard that are authorized by permit number 0170004-014-AC (which is being issued concurrently with this Title V permit revision). In order to decrease the time required to unload a coal barge, Progress Energy has chosen to replace the existing clamshell bucket and traveling gantry with a new crane-operated clamshell bucket on a traveling gantry. This replacement will increase the unloading capabilities from 1,500 tons of coal per hour to 2,500 tons of coal per hour. To accommodate this increase, the speed of the conveyors and crusher feeding boilers 1 and 2 is being increased from 600 tons per hour to 900 tons per hour. This permitting action will also be used to replace Appendix TV-4, Title V Conditions (version dated 02/12/02) with Appendix TV-6, Title V Conditions (version dated 6/23/06), as well as other minor administrative corrections as described below.

This facility consists of four coal-fired fossil fuel steam generating (FFSG) units with electrostatic precipitators; two natural draft cooling towers for FFSG Units 4 and 5; helper mechanical cooling towers for FFSG Units 1, 2 and Nuclear Unit 3; coal, fly ash, and bottom ash handling facilities; and relocatable diesel fired generator(s). The nuclear unit (Unit 3) is not considered part of this permit, although certain emissions units associated with Unit 3 are included in this permit.

Also included in this permit are miscellaneous unregulated and insignificant emissions units and activities.

Based on the renewal Title V permit application received June 30, 2004, this facility is a major source of hazardous air pollutants (HAPs).

The following changes are being made to Title V Air Operation Permit Renewal No. 0170004-011-AV as a result of this permitting action:

1. All occurrences of "Appendix TV-4, Title V Conditions (version dated 2/12/02)" have been replaced by "Appendix TV-6, Title V Conditions (version dated 6/23/06)".
2. To update the contact address for the Southwest District office, Facility-wide Condition 10. is changed as follows:

10. The Permittee shall submit all compliance related notifications and reports required of this permit to the Department's Southwest District office:

Department of Environmental Protection  
Southwest District Office  
~~3804 Coconut Palm Drive~~ 13051 North Telecom Parkway  
~~Tampa, Florida 33619-8218~~ Temple Terrace, FL 33637-0926  
Telephone: ~~813/744-6100~~ 813/632-7600  
Fax: ~~813/744-6084~~ 813/632-7668

3. The following conditions in Section III, Subsection H. (Emissions Unit 016) have been changed as follows:

**Subsection H. This section addresses the following emissions unit.**

E.U. ID No.	Brief Description
016	Material handling activities for coal-fired steam units.

Emissions Unit 016 is material handling activities for coal-fired steam units. This emissions unit consists of a crane-operated clam-shell bucket mounted on a traveling gantry, enclosed conveyor belts, coal crushers and storage bunkers used for the storage and transport of coal, fly ash and bottom ash for FFSG Units 1, 2, 4 and 5. This unit also encompasses fly ash and bottom ash handling equipment associated with Units 4 and 5 which are and not addressed by other emissions units. Emissions are particulate matter and PM<sub>10</sub> from these activities.

{Permitting note(s): This emissions unit is regulated partially under Power Plant Siting Certification PA 77-09(Units 4 and 5 only). The material handling activities are also regulated by PSD permit AC 09-162037 / PSD-FL-139; and, are subject to NSPS 40 CFR 60 Subpart Y. This emissions unit is also regulated under permit number 0170004-014-AC (issued concurrently with this revised permit number 0170004-015-AV), which authorized the replacement of the barge unloading equipment to decrease the time required to unload coal barges, and the increase in conveying and crushing speeds of the equipment feeding coal to units 1 and 2.}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Emission Limitations and Standards**

**H.1. Pursuant to 40 CFR 60.252 Standards for Particulate Matter.**

(c) The owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.  
[40 CFR 60.252 (coal facilities associated with Units 1, 2, 4 and 5)]

**H.2. Visible Emissions.** The owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater, six minute average. To the extent possible, the equipment that comprises the coal



processing equipment at this facility (crushers, conveyors, drop points, and storage bunkers) shall be covered or enclosed at all times the equipment is in operation. Except for the barge load-out and the stacker re-claimer sections of the conveying system that are required by design to be open, and which are not specifically subject to regulation under 40 CFR 60, Subpart Y, any other open section of the coal processing equipment shall be required to have an annual visible emission test conducted upon it, as outlined in Condition H.4.  
[PPSC PA 77-09 (coal facilities associated with Units 1, 2, 4 and 5); and, 0170004-014-AC]

### **H.3. No Change**

### **Test Methods and Procedures**

**H.4. Visible Emissions.** (This condition applies to coal facilities associated with emissions units 001, 002, 004 and 003 -- FFSG Units 1, 2, 4 and 5.) Pursuant to 40 CFR 60.254 Test Methods and Procedures:

(2) EPA Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity. When required by the Department, or annually as specified in Condition 3, EPA Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity (see Appendix A - 40 CFR 60, Subpart A Standard Conditions, attached).  
[40 CFR 60.254(2); and, 0170004-014-AC]

{Permitting Note: Except as specified in Condition H.2., annual testing is not being required because the regulated emissions points are either enclosed or confined within a building.}

~~**H.5. Visible Emissions.** (This condition applies to coal facilities associated with emissions units 001 and 002 -- FFSG Units 1 and 2.) VE Test Method. EPA Method 9 shall be used to determine opacity.~~  
[Rules 62-4.070(3), 62-213.440 and 62-297.401, F.A.C.]

{Permitting note: For those emissions points containing a baghouse (ash silos), the permittee shall perform and record the results of weekly qualitative observations of visible emissions checks (e.g., Method 22) with follow-up Method 9 tests within 24 hours of any abnormal visible emissions.}

### **Common Conditions**

**H.65.** This emissions unit is also subject to conditions **I.1, ~~I.2~~, I.4, I.5, and I.14** (~~condition I.2 is also not applicable to activities at units subject to NSPS 40 CFR 60 (i.e., activities at FFSG Units 4 and 5)~~) contained in **Subsection I. Common Conditions**. This emissions unit is also subject to conditions **I.6.(a)9 & (b), I.12(a)2 and I.15.(a) & (b)**; the other provisions of conditions **I.6, I.12 and I.15** are not applicable to this emissions unit.

**H.76.** These emissions units are also subject to conditions **J.1, J.2, J.3(b), (c) and (d) and J.4** contained in **Subsection J. NSPS Common Conditions**.

**H.7.** This emissions unit is also subject to the applicable terms and conditions contained in the attached Appendix A, 40 CFR 60, Subpart A Standard Conditions, and the attached Appendix Y, 40 CFR 60, Subpart Y Standard Conditions.  
[0170004-014-AC]

4. For consistency with changes made to Specific Condition H.5., Common Conditions I.2. and I.3. are changed as follows:

**~~I.2. (This condition is not applicable to emissions units 004 and 003 -- FFSG Units 4 and 5.)~~** Excess emissions resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.  
[Rule 62-210.700(1), F.A.C.]

**~~I.3. (This condition applies to emissions units 001 and 002 -- FFSG Units 1 and 2.)~~** Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.  
[Rule 62-210.700(2), F.A.C.]

Florida Power Corporation dba Progress Energy Florida, Inc.  
Crystal River Power Plant  
**Facility ID No.:** 0170004  
Citrus County

Title V Air Operation Permit Revision  
**FINAL Permit No.:** 0170004-015-AV

Permitting Authority:  
State of Florida  
Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation  
Title V Section

Mail Station #5505  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Telephone: 850/488-1344  
Fax: 850/922-6979

Compliance Authority:  
Department of Environmental Protection  
Southwest District Office  
13051 North Telecom Parkway  
Temple Terrace, FL 33637-0926  
Telephone: 813/632-7600  
Fax: 813/632-7668

Title V Air Operation Permit Revision  
FINAL Permit No.: 0170004-015-AV

Table of Contents

<b>Section</b>	<b>Page Number</b>
Placard Page .....	1
I. Facility Information .....	2 - 3
A. Facility Description.	
B. Summary of Emissions Unit ID No(s). and Brief Description(s).	
C. Relevant Documents.	
II. Facility-wide Conditions .....	4 - 6
III. Emissions Unit(s) and Conditions	
A. Emissions Units 001& 002, Fossil Fuel Steam Generator, Units 1& 2 .....	7 - 10
B. Emissions Units 004 & 003, Fossil Fuel Steam Generator, Units 4 & 5 .....	11 - 19
C. Emissions Units 006, 008, 009, 010, Fly Ash Transfer & Storage, Units 1 & 2 .....	20 - 21
D. Emissions Unit 014, Bottom Ash Storage Silo For Units 1 and 2 .....	22 - 23
E. Facility, E.U. 7775047, 001, Relocatable Diesel Fired Generator(s) .....	24 - 26
F. Emissions Unit 013, Cooling Towers For Units 1, 2, and 3 .....	27 - 28
G. Emissions Unit 015, Cooling Towers For Units 4 and 5 .....	29 - 30
H. Emissions Unit 016, Material Handling Activities For Coal-Fired Steam Units .....	31 - 32
I. Common Conditions .....	33 - 37
J. NSPS Common Conditions .....	38 - 42
K. Used Oil Common Condition .....	43 - 44
L. Portable Cooling Towers .....	45 - 46
IV. Acid Rain Part	
A. Acid Rain, Phase II .....	47 - 49



# Florida Department of Environmental Protection

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

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

**Permittee:**

Florida Power Corporation  
dba Progress Energy Florida, Inc.  
One Power Plaza  
263 13<sup>th</sup> Avenue South, BB1A  
St. Petersburg, FL 33701-5511

**FINAL Permit No.:** 0170004-015-AV

**Facility ID No.:** 0170004

**SIC Nos.:** 49, 4911

**Project:** Title V Air Operation Permit Revision

This facility is located on Power Line Road, West of U.S. Hwy. 19, Crystal River, Citrus County; UTM Coordinates: Zone 17, 334.3 km East and 3204.5 km North; Latitude: 28° 57' 34" North and Longitude: 82° 42' 1" West.

**STATEMENT OF BASIS:** This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit. The purpose of this revision is to incorporate the terms and conditions of permit number 0170004-014-AC relating to the replacement of the coal barge unloading equipment.

**Referenced attachments made a part of this permit:**

Appendix A, 40 CFR 60, Subpart A Standard Conditions

Appendix Y, 40 CFR 60, Subpart Y Standard Conditions

Appendix U-1, List of Unregulated Emissions Units and/or Activities

Appendix I-1, List of Insignificant Emissions Units and/or Activities

Appendix CAM

Appendix TV-6, Title V Conditions (version dated 06/23/06)

Appendix SS-1, Stack Sampling Facilities (version dated 10/07/96)

Appendix P, Sensitive Paper Sampling Locations and Apparatus

Table 297.310-1, Calibration Schedule (version dated 10/07/96)

Figure 1 - Summary Report-Gaseous And Opacity Excess Emission And Monitoring System Performance Report (version dated 7/96)

Phase II Acid Rain Application/Compliance Plans received 12/22/95 and 06/30/2004

Phase I Acid Rain permit dated 3/27/97

Alternate Sampling Procedure: ASP Number 97-B-01 and ASP Number 00-E-01

Order Granting Petition for Reduced Frequency of Particulate Testing, OGC Case No. 86-1576, Order dated December 12, 1986 (Emissions Unit 001)

Best Management Plan. KBN, November 1990

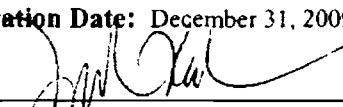
Figure A, Ambient Air Monitoring Locations, Crystal River, Florida

**Effective Date:** May 29, 2006

**Revision Effective Date:** February 14, 2007

**Renewal Application Due Date:** July 5, 2009

**Expiration Date:** December 31, 2009

  
Joseph Kahn, Director  
Division of Air Resource Management

**Section I. Facility Information.**

**Subsection A. Facility Description.**

This facility consists of four coal-fired fossil fuel steam generating (FFSG) units with electrostatic precipitators; two natural draft cooling towers for FFSG Units 4 and 5; helper mechanical cooling towers for FFSG Units 1, 2 and Nuclear Unit 3; coal, fly ash, and bottom ash handling facilities, and relocatable diesel fired generator(s). The nuclear unit (Unit 3) is not considered part of this permit, although certain emissions units associated with Unit 3 are included in this permit.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the initial Title V permit application received June 14, 1996 and renewal application received June 30, 2004, this facility is a major source of hazardous air pollutants (HAPs).

**Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).**

<b>E.U. ID No.</b>	<b>Brief Description</b>
001	Fossil Fuel Steam Generator (FFSG), Unit 1
002	FFSG, Unit 2
004	FFSG, Unit 4
003	FFSG, Unit 5
006	Fly ash transfer (Source 1) from FFSG Unit 1
008	Fly ash storage silo (Source 3) for FFSG Units 1 and 2
009	Fly ash transfer (Source 4) from FFSG Unit 2
010	Fly ash transfer (Source 5) from FFSG Unit 2
014	Bottom ash storage silo for FFSG Units 1 and 2, with associated vacuum blower exhausts and bin vent filter (total of three emission points)
7775047, 001	Relocatable diesel generator(s) will have a maximum (combined) heat input of 25.74 MMBtu/hour while being fueled by 186.3 gallons of new No. 2 fuel oil per hour with a maximum (combined) rating of 2460 kilowatts.
013	Cooling towers for FFSG Units 1, 2, and 3, used to reduce plant discharge water temperature
015	Cooling towers for FFSG Units 4 and 5 used to reduce plant discharge water temperature
016	Material handling activities for coal-fired steam units

<b>Unregulated Emissions Units and/or Activities</b>	
017	Fuel and lube oil tanks and vents
018	Sewage treatment, water treatment, lime storage
019	Three 3500 kW diesel generators associated with Unit 3

***Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.***

**Subsection C. Relevant Documents.**

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

Appendix H-1, Permit History/ID Number Changes

Table 1-1, Summary of Air Pollutant Standards and Terms

Table 2-1, Summary of Compliance Requirements

Documents on file with USEPA:

Risk Management Plan submitted to the RMP Reporting Center on 06/21/99 (received date).

These documents are on file with the permitting authority:

Initial Title V Permit Application received June 14, 1996

BACT Determination dated 8/29/90 (Cooling Tower Drift Emission Rate)

BACT Determinations ordered 2/5/79 (proposed 1/26/79) and 8/16/79 (Fly Ash Transfer)

Revision to Permit Application received April 17, 1998

Letter received November 9, 1998, from Mr. Scott Osbourn.

Letter received August 2, 1999, from Mr. J. Michael Kennedy

Title V Permit Revision Application received September 5, 2000

Renewal Title V Permit Application received June 30, 2004

Letter received September 22, 2004, from Mr. Mike Olive

Title V Revision Application Received July 14, 2006

Request for Additional Information Sent August 11, 2006

Additional Information Letter Received September 5, 2006, from Mr. Scott Osbourn

## Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-6, TITLE V CONDITIONS is a part of this permit.

{Permitting note: APPENDIX TV-6, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided a copy when requested or otherwise appropriate.}

2. **Not Federally Enforceable. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited.**

The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

[Rule 62-296.320(2), F.A.C.]

3. **General Particulate Emission Limiting Standards. General Visible Emissions Standard.**

Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.

[Rule 62-296.320(4)(b)1. & 4, F.A.C.]

4. **Prevention of Accidental Releases (Section 112(r) of CAA).**

a. As required by Section 112(r)(7)(B)(iii) of the CAAA and 40 CFR 68, the owner or operator shall submit an updated Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center.

b. As required under Section 252.941(1)(c), F.S., the owner or operator shall report to the appropriate representative of the Department of Community Affairs (DCA), as established by department rule, within one working day of discovery of an accidental release of a regulated substance from the stationary source, if the owner or operator is required to report the release to the United States Environmental Protection Agency under Section 112(r)(6) of the CAAA.

c. The owner or operator shall submit the required annual registration fee to the DCA on or before April 1, in accordance with Part IV, Chapter 252, F.S. and Rule 9G-21, F.A.C.

Any required written reports, notifications, certifications, and data required to be sent to the DCA, should be sent to:

Department of Community Affairs  
Division of Emergency Management  
2555 Shumard Oak Boulevard  
Tallahassee, FL 32399-2100  
Telephone: 850/413-9921, Fax: 850/488-1739

Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to:

RMP Reporting Center  
Post Office Box 1515  
Lanham-Seabrook, MD 20703-1515  
Telephone: 301/429-5018



Any required reports to be sent to the National Response Center, should be sent to:

National Response Center  
EPA Office of Solid Waste and Emergency Response  
USEPA (5305 W)  
401 M Street, SW  
Washington, D.C. 20460  
Telephone: 1/800/424-8802

Send the required annual registration fee using approved forms made payable to:

Cashier  
Department of Community Affairs  
State Emergency Response Commission  
2555 Shumard Oak Boulevard  
Tallahassee, FL 32399-2149

[Part IV, Chapter 252, F.S. and Rule 9G-21, F.A.C.]

**5. Unregulated Emissions Units and/or Activities.** Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit.

[Rule 62-213.440(1), F.A.C.]

**6. Insignificant Emissions Units and/or Activities.** Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.

[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]

**7. Not Federally Enforceable. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions.** The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. The owner or operator shall:

- a. Tightly cover or close all VOC or OS containers when they are not in use.
- b. Tightly cover all open tanks which contain VOC or OS when they are not in use.
- c. Maintain all pipes, valves, fittings, etc., which handle VOC or OS in good operating condition.
- d. Immediately confine and clean up VOC or OS spills and make sure wastes are placed in closed containers for reuse, recycling or proper disposal.

[Rule 62-296.320(1)(a), F.A.C.; Proposed by applicant in the initial Title V permit application received June 14, 1996]

**8. Not Federally Enforceable.** No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility may include, as needed:

- a. Maintenance of paved areas as needed.
- b. Regular mowing of grass and care of vegetation.
- c. Limiting access to plant property by unnecessary vehicles.

[Rule 62-296.320(4)(c)2., F.A.C.; Proposed by applicant in the initial Title V permit application received June 14, 1996]

**9. When appropriate any recording, monitoring or reporting requirements that are time-specific shall be in accordance with the effective date of this permit, which defines day one.**

[Rule 62-213.440, F.A.C.]

10. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Southwest District office:

Department of Environmental Protection  
Southwest District Office  
13051 North Telecom Parkway  
Temple Terrace, FL 33637-0926  
Telephone: 813/632-7600  
Fax: 813/632-7668

Any reports, data, notifications, certifications and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency  
Region 4  
Air, Pesticides & Toxics Management Division  
Air and EPRCA Enforcement Branch  
Air Enforcement Section  
61 Forsyth Street  
Atlanta, GA 30303-8960  
Phone: 404/562-9155  
Fax: 404/562-9163 or 404/562-9164

11. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted within 60 (sixty) days after the end of the calendar year using DEP Form number 62-213.900(7), F.A.C. [Rule 62-213.440(3), F.A.C.]  
{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51. of APPENDIX TV-6, TITLE V CONDITIONS)}

12. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.  
[Rule 62-213.420(4), F.A.C.]

### Section III. Emissions Unit(s) and Conditions.

#### Subsection A. This section addresses the following emissions units.

E.U. ID No.	Brief Description
001	Fossil Fuel Steam Generator, Unit 1: a tangentially fired unit, rated at 440.5 MW, 3750 MMBtu/hr, burning bituminous coal; or a bituminous coal and bituminous coal briquette mixture. Distillate fuel oil may be burned as a startup fuel. Emissions are exhausted through a 499 ft. stack. This unit may also burn oily flyash.
002	Fossil Fuel Steam Generator, Unit 2: a tangentially fired unit, rated at 523.8 MW, 4795 MMBtu/hr, burning bituminous coal; or a bituminous coal and bituminous coal briquette mixture. Distillate fuel oil may be burned as a startup fuel. Emissions are exhausted through a 502 ft. stack. This unit may also burn oily flyash.

Fossil Fuel Steam Generators, Units 1 and 2, are pulverized coal dry bottom boilers, tangentially-fired. Emissions are controlled from each unit with a high efficiency electrostatic precipitator, manufactured by Buell Manufacturing Company, Inc.

#### Compliance Assurance Monitoring (CAM) Requirements

These emissions units are subject to the Compliance Assurance Monitoring (CAM) requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C.

[40 CFR 64; and, Rules 62-204.800 and 62-213.440(1)(b)1.a., F.A.C.]

{Permitting Notes: These emissions units are regulated under Acid Rain, Phase I and II and Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with More than 250 million Btu per Hour Heat Input, and Power Plant Siting Certification PA 77-09 conditions. Fossil fuel fired steam generator Unit 1 began commercial operation in 1966. Fossil fuel fired steam generator Unit 2 began commercial operation in 1969.}

#### The following specific conditions apply to the emissions unit(s) listed above:

{Permitting note: In addition to the requirements listed below, these emissions units are also subject to the standards and requirements contained in the Acid Rain Part of this permit (see Section IV).}

#### Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The maximum operation heat input rates are as follows:

Unit No.	MMBtu/hr Heat Input	Fuel Type
001	3750	Bituminous Coal; or Bituminous Coal and Bituminous Coal Briquette Mixture
002	4795	Bituminous Coal; or Bituminous Coal and Bituminous Coal Briquette Mixture

[Rules 62-4.160(2), 62-210.200(PTE) and 62-296.405, F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in

determining future rule applicability. Regular record keeping is not required for heat input. Instead the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

**A.2. Emissions Unit Operating Rate Limitation After Testing.** See specific condition I.11.  
[Rule 62-297.310(2), F.A.C.]

**A.3. Methods of Operation. Fuels.** The only fuels allowed to be burned by this permit are: bituminous coal; a bituminous coal and bituminous coal briquette mixture, and distillate fuel oil for startup. These emissions units may also burn used oil in accordance with other conditions of this permit (see **Subsection K**). Emissions units 001 and 002 may also burn oily flyash in accordance with specific condition A.16 of this permit.  
[Rule 62-213.410, F.A.C.; 0170004-002-AO; 0170004-005-AO; and, 0170004-006-AC]

### **Emission Limitations and Standards**

**A.4.a. Visible Emissions - Emissions Unit 001.** Visible emissions shall not exceed 40 percent opacity, six minute average. Emissions units governed by this visible emissions standard shall compliance test for particulate matter emissions annually.  
[Rule 62-296.405(1)(a), F.A.C.; and OGC Case No. 86-1576, Order dated December 12, 1986.]

**A.4.b. Visible Emissions - Emissions Unit 002.** Visible emissions shall not exceed 20 percent opacity, six minute average, except for one two-minute period per hour during which opacity shall not exceed 40 percent. Emissions units governed by this visible emissions limit shall compliance test for particulate matter emissions annually and as otherwise required by Chapter 62-297, F.A.C.  
[Rule 62-296.405(1)(a), F.A.C.]

**A.5. Visible Emissions - Soot Blowing and Load Change.** Excess emissions from existing fossil fuel steam generators resulting from boiler cleaning (soot blowing) and load change shall be permitted provided the duration of such excess emissions shall not exceed 3-hours in any 24 hour period and visible emissions shall not exceed Number 3 of the Ringelmann Chart (60 percent opacity), six minute average, and providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of the excess emissions shall be minimized.

A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more.

Visible emissions above 60 percent opacity shall be allowed for not more than 4, six (6)-minute periods, during the 3-hour period of excess emissions allowed by this condition, for boiler cleaning and load changes, at units which have installed and are operating continuous opacity monitors.

[Rule 62-210.700(3), F.A.C. Note: these units have operational continuous opacity monitors.]

**A.6. Particulate Matter.** Particulate matter emissions shall not exceed 0.1 pound per million Btu heat input , as measured by applicable compliance methods.  
[Rule 62-296.405(1)(b), F.A.C.]

**A.7. Particulate Matter - Soot Blowing and Load Change.** Particulate matter emissions shall not exceed an average of 0.3 pound per million Btu heat input during the 3-hours in any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.  
[Rule 62-210.700(3), F.A.C.]

{Permitting note: The averaging time for the particulate matter standard corresponds to the cumulative sampling time of the specified test method.}

**A.8. Sulfur Dioxide.**

(a) When burning coal, sulfur dioxide emissions shall not exceed 2.1 pounds per million Btu heat input, 24-hour average.

(b) The maximum percent sulfur content of the coal/briquette mixture shall not exceed 1.05%, by weight, averaged on an annual basis.

[Rule 62-213.440, F.A.C.; PPSC PA 77-09; 0170004-003-AC; and, 0170004-006-AC]

**Test Methods and Procedures**

**A.9. Particulate Matter.** The test methods for particulate emissions shall be EPA Methods 17 or 5 incorporated by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet. EPA Method 5 may be used with filter temperature no more than 320 degrees Fahrenheit. For EPA Method 17, stack temperature shall be less than 375 degrees Fahrenheit. The owner or operator may use EPA Method 5 to demonstrate compliance. EPA Method 3 or 3A with Orsat analysis shall be used when the oxygen based F-factor, computed according to EPA Method 19, is used in lieu of heat input. Acetone wash shall be used with EPA Method 5 or 17. [Rules 62-213.440, 62-296.405(1)(e)2., and 62-297.401, F.A.C.]

**A.10. Visible Emissions.** The test method for visible emissions shall be EPA Method 9, incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. [Rules 62-296.405(1)(e)1. and 62-297.401, F.A.C.]

**A.11. Sulfur Dioxide.** The test methods for sulfur dioxide emissions shall be EPA Methods 6, 6A, 6B, or 6C, incorporated by reference in Chapter 62-297, F.A.C. Fuel sampling and analysis may be used as an alternate sampling procedure if such a procedure is incorporated into the operation permit for the emissions unit. If the emissions unit obtains an alternate procedure under the provisions of Rule 62-297.620, F.A.C., the procedure shall become a condition of the emissions unit's permit. The Department will retain the authority to require EPA Method 6 or 6C if it has reason to believe that exceedences of the sulfur dioxide emissions limiting standard are occurring. Results of an approved fuel sampling and analysis program shall have the same effect as EPA Method 6 test results for purposes of demonstrating compliance or noncompliance with sulfur dioxide standards. **The permittee may use the EPA test methods, referenced above, to demonstrate compliance; however, as an alternate sampling procedure authorized by permit, the permittee may demonstrate compliance using fuel sampling and analysis.** If the permittee elects to discontinue fuel sampling and analysis, it shall perform a stack test for sulfur dioxide at the time of the next particulate matter test, and annually thereafter until fuel sampling and analysis is resumed. [Rules 62-213.440, 62-296.405(1)(e)3. and 62-297.401, F.A.C.]

**A.12. Sulfur Dioxide.** The owner or operator may demonstrate compliance with the sulfur dioxide limitation using fuel sampling and analysis. This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. See specific conditions A.11 and A.13. [Rule 62-296.405(1)(f)1.b., F.A.C.]

**A.13. Sulfur Dioxide - Fuel Sampling.** The following fuel sampling and analysis program shall be used as an alternate sampling procedure authorized by permit to demonstrate compliance with the sulfur dioxide standard:

- Determine and record the as-fired fuel sulfur content, percent by weight, for coal using appropriate ASTM methods such as, ASTM D2013-72, ASTM D3177-75, and ASTM D4239-85, or latest ASTM edition methods, to analyze a representative sample of coal following each fuel delivery.
- Record daily the amount of coal fired, the density of each fuel, the Btu value, and the percent sulfur content by weight of each fuel.
- Utilize the information in a. and b., above, to calculate the SO<sub>2</sub> emission rate to ensure compliance at all times.

[Rules 62-213.440, 62-296.405(1)(e)3., 62-296.405(1)(f)1.b. and 62-297.440, F.A.C.]

### **Monitoring of Operations**

**A.14. Annual Tests Required - PM and VE.** Except as provided in specific conditions I.6 and I.7 of this permit, emission testing for particulate matter emissions and visible emissions shall be performed annually. [Rules 62-4.070(3), 62-213.440, and 62-297.310(7), F.A.C.]

**A.15. Excess Emissions - Report.** Submit to the Southwest District Air Section a written report of emissions in excess of emission limiting standards as set forth in this permit, for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the owner or operator of the legal liability for violations. [Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

### **Oily Flyash**

**A.16. Oily Flyash.** These emissions units may burn oily flyash ("flyash") from Bartow Unit 1 in accordance with the following:

- a. Only flyash from Bartow Unit 1 may be burned in these emissions units. Once the accumulated backlog of Bartow Unit 1 flyash (estimated at approximately 13,000 tons) is burned, only the additional flyash generated at Bartow Unit 1 shall be burned in these emissions units.
- b. The maximum flyash blend rate shall not exceed 2% of the total boiler feed on a weight basis.
- c. The owner or operator shall make and maintain the following records for each day that flyash is burned in the boiler:
  1. Date and Unit number;
  2. Time period of flyash burning and start and end times;
  3. Total quantity of flyash burned in tons per day;
  4. Maximum flyash blend rate during period of flyash burn (percent flyash in total emissions unit fuel feed on a weight basis).

[Rules 62-4.070(3) and 62-213.440, F.A.C.; and, 0170004-005-AO]

### **Common Conditions**

**A.17.** These emissions units are also subject to conditions I.1 through I.15 contained in Subsection I. **Common Conditions.**

**A.18.** These emissions units are also subject to condition K.1 contained in Subsection K. **Used Oil Common Condition.**

### **Record Keeping and Reporting Requirements:**

**A.19. COMS for Periodic Monitoring:**

Periodic monitoring for opacity shall be COMS, which are maintained and operated in conformance with 40 CFR Part 75.

[Rule 62-213.440, F.A.C.]

**Subsection B. This section addresses the following emissions unit.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
004	Fossil Fuel Steam Generator, Unit 4, a dry bottom wall-fired unit, rated at 760 MW, 6665 MMBtu/hr, capable of burning bituminous coal, a bituminous coal and bituminous coal briquette mixture, and used oil, with number 2 fuel oil as a startup fuel, and natural gas as a startup and low-load flame stabilization fuel, with emissions exhausted through a 600 ft. stack.
003	Fossil Fuel Steam Generator, Unit 5, a dry bottom wall-fired unit, rated at 760 MW, 6665 MMBtu/hr, capable of burning bituminous coal, a bituminous coal and bituminous coal briquette mixture, and used oil, with number 2 fuel oil as a startup fuel, and natural gas as a startup and low-load flame stabilization fuel, with emissions exhausted through a 600 ft. stack.

Fossil Fuel Steam Generators, Units 4 and 5, are pulverized coal dry bottom boilers, wall-fired. Emissions are controlled from each unit with a high efficiency electrostatic precipitator, manufactured by Combustion Engineering.

**Compliance Assurance Monitoring (CAM) Requirements**

These emissions units are subject to the Compliance Assurance Monitoring (CAM) requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C.

[40 CFR 64; and, Rules 62-204.800 and 62-213.440(1)(b)1.a., F.A.C.]

{Permitting Notes: These emissions units are regulated under Acid Rain, Phase I and II and Rule 62-210.300, F.A.C., Permits Required; 40 CFR 60 Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971; and, Power Plant Siting Certification PA 77-09 conditions. Fossil fuel fired steam generator Unit 4 began commercial operation in 1982. Fossil fuel fired steam generator Unit 5 began commercial operation in 1984.}

**The following specific conditions apply to the emissions unit(s) listed above:**

{Permitting note: In addition to the requirements listed below, these emissions units are also subject to the standards and requirements contained in the Acid Rain Part of this permit (see Section IV).}

**Essential Potential to Emit (PTE) Parameters**

**B.1. Permitted Capacity.** The maximum operation heat input rates are as follows:

<b>Unit No.</b>	<b>MMBtu/hr Heat Input</b>	<b>Fuel Type</b>
004	6665	Bituminous Coal and Bituminous Coal /Bituminous Coal Briquette Mixture
003	6665	Bituminous Coal and Bituminous Coal /Bituminous Coal Briquette Mixture

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

{Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what

percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test. }

**B.2. Emissions Unit Operating Rate Limitation After Testing.** See specific condition I.11.  
[Rule 62-297.310(2), F.A.C.]

**B.3. Methods of Operation. Fuels.** The only fuel allowed to be burned is bituminous coal or bituminous coal and bituminous coal briquette mixture with the exception that number 2 fuel oil may be used as an ignitor fuel, and natural gas may be used as a startup and low-load flame stabilization fuel. Fuel oil shall not contain more than 0.73% sulfur by weight. These emissions units may also burn used oil in accordance with other conditions of this permit (see **Subsection K**).  
[Rule 62-213.410, F.A.C.; and, PPSC PA 77-09 and modified conditions]

**Emission Limitations and Standards**

**B.4. Pursuant to 40 CFR 60.42 Standard For Particulate Matter.**

(a) No owner or operator shall cause to be discharged into the atmosphere from any affected facility any gases which:

- (1) Contain particulate matter in excess of 43 nanograms per joule heat input (0.10 lb per million Btu) derived from fossil fuel.
  - (2) Exhibit greater than 20 percent opacity, six minute average, except for one six-minute period per hour of not more than 27 percent opacity.
- [40 CFR 60.42(a)(1) & (2)]

**B.5.a. Standard For Sulfur Dioxide.**

(a) No owner or operator shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of:

- (1) 340 nanograms per joule heat input (0.80 lb per million Btu), 24-hour average, derived from liquid fossil fuel.
  - (2) 520 nanograms per joule heat input (1.2 lb per million Btu), 24-hour average, derived from solid fossil fuel.
- (b) When different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

$$PS_{SO_2} = [y(340) + z(520)] / (y + z)$$

where:

$PS_{SO_2}$  is the prorated standard for sulfur dioxide when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired,

y is the percentage of total heat input derived from liquid fossil fuel, and

z is the percentage of total heat input derived from solid fossil fuel.

(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.  
[40 CFR 60.43(a), (b) and (c); and, PPSC PA 77-09]

**B.5.b. Standard For Sulfur Dioxide.** The maximum percent sulfur content of the coal/briquette mixture shall not exceed 0.68%, by weight, averaged on an annual basis. {See specific conditions **B.10.** and **B.11.**}  
[Rule 62-213.440, F.A.C.; and, 0170004-006-AC]

**B.6. Pursuant to 40 CFR 60.44 Standard For Nitrogen Oxides.**



(a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of 40 CFR 60, Subpart D, shall cause to be discharged into the atmosphere from any affected facility any gases which contain nitrogen oxides, expressed as NO<sub>2</sub> in excess of:

(1) 86 nanograms per joule heat input (0.20 lb per million Btu), 30-day rolling average, derived from gaseous fossil fuel.

(2) 129 nanograms per joule heat input (0.30 lb per million Btu), 30-day rolling average, derived from liquid fossil fuel.

(3) 300 nanograms per joule heat input (0.70 lb per million Btu), 30-day rolling average, derived from solid fossil fuel.

(b) When different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PS_{NO_x} = \frac{x(86) + y(130) + z(300)}{x + y + z}$$

where:

PS<sub>NO<sub>x</sub></sub> = is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels fired;

x = is the percentage of total heat input derived from gaseous fossil fuel;

y = is the percentage of total heat input derived from liquid fossil fuel; and,

z = is the percentage of total heat input derived from solid fossil fuel.

[40 CFR 60.44(a)(2) and (3), and (b); and, PPSC PA 77-09]

**B.7. Unit Specific State Only Limit For Nitrogen Oxides.** A unit specific, state-only average annual NO<sub>x</sub> emission limit of 0.50 lb/mmBtu applies. Compliance shall be demonstrated within the Annual Operating Report (AOR). [Applicant Request]

### **Test Methods and Procedures**

#### **B.8. Pursuant to 40 CFR 60.46 Test methods and Procedures.**

(a) When conducting emissions tests, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60 or other methods and procedures as specified in 40 CFR 60.46, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in 40 CFR 60.46(d).

(b) The owner or operator shall determine compliance with the particulate matter, SO<sub>2</sub>, and NO<sub>x</sub> standards in 40 CFR 60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of particulate matter, SO<sub>2</sub>, or NO<sub>x</sub> shall be computed for each run using the following equation:

$$E = C F_d (20.9) / (20.9 - \%O_2)$$

E = emission rate of pollutant, ng/J (1b/million Btu).

C = concentration of pollutant, ng/dscm (1b/dscf).

% O<sub>2</sub> = oxygen concentration, percent dry basis.

F<sub>d</sub> = factor as determined from Method 19.

(2) Method 5 shall be used to determine the particulate matter concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train may be set to provide a gas temperature no greater than 160 ± 14 °C (320 ± 25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The O<sub>2</sub> sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O<sub>2</sub> concentration for the run shall be the arithmetic mean of all the individual O<sub>2</sub> sample concentrations at each traverse point.

(iii) If the particulate run has more than 12 traverse points, the O<sub>2</sub> traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O<sub>2</sub> traverse points.

(3) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(4) Method 6 shall be used to determine the SO<sub>2</sub> concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The O<sub>2</sub> sample shall be taken simultaneously with, and at the same point as, the SO<sub>2</sub> sample. The SO<sub>2</sub> emission rate shall be computed for each pair of SO<sub>2</sub> and O<sub>2</sub> samples. The SO<sub>2</sub> emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 shall be used to determine the NO<sub>x</sub> concentration.

(i) The sampling site and location shall be the same as for the SO<sub>2</sub> sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO<sub>x</sub> sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The sample shall be taken simultaneously with, and at the same point as, the NO<sub>x</sub> sample.

(iii) The NO<sub>x</sub> emission rate shall be computed for each pair of NO<sub>x</sub> and O<sub>2</sub> samples. The NO<sub>x</sub> emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

(c) When combinations of fossil fuels are fired, the owner or operator (in order to compute the prorated standard as shown in 40 CFR 60.43(b) and 60.44(b)) shall determine the percentage (x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D 2015-77 (solid fuels), D 240-76 (liquid fuels), or D 1826-77 (gaseous fuels) (incorporated by reference-see 40 CFR 60.17) shall be used to determine the gross calorific values of the fuels.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

(d) The owner or operator may use the following as alternatives to the reference methods and procedures in 40 CFR 60.46 or in other sections as specified:

(1) The emission rate (E) of particulate matter, SO<sub>2</sub> and NO<sub>x</sub> may be determined by using the F<sub>c</sub> factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = C F_c (100 / \%CO_2)$$

where:

E = emission rate of pollutant, ng/J (lb/million Btu).

C = concentration of pollutant, ng/dscm (lb/dscf).

%CO<sub>2</sub> = carbon dioxide concentration, percent dry basis.

F<sub>c</sub> = factor as determined in appropriate sections of Method 19.

(ii) If and only if the average F<sub>c</sub> factor in Method 19 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B shall be used to determine the O<sub>2</sub> and CO<sub>2</sub> concentration according to the procedures in 40 CFR 60.46(b) (2)(ii), (4)(ii), or (5)(ii). Then if F<sub>o</sub> (average of three runs), as calculated from the equation in Method 3B, is more than ± 3 percent than the average F<sub>o</sub> value, as determined from the average values of F<sub>d</sub> and F<sub>c</sub> in Method 19, i.e., F<sub>oa</sub> = 0.209 (F<sub>da</sub> / F<sub>ca</sub>), then the following procedure shall be followed:

(A) When  $F_o$  is less than  $0.97 F_{oa}$ , then E shall be increased by that proportion under  $0.97 F_{oa}$ , e.g., if  $F_o$  is  $0.95 F_{oa}$ , E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When  $F_o$  is less than  $0.97 F_{oa}$  and when the average difference ( $\bar{d}$ ) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under  $0.97 F_{oa}$ , e.g., if  $F_o$  is  $0.95 F_{oa}$ , E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When  $F_o$  is greater than  $1.03 F_{oa}$  and when  $\bar{d}$  is positive, then E shall be decreased by that proportion over  $1.03 F_{oa}$ , e.g., if  $F_o$  is  $1.05 F_{oa}$ , E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B, Method 17 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of  $160^\circ\text{C}$  ( $320^\circ\text{F}$ ). The procedures of sections 2.1 and 2.3 of Method 5B may be used with Method 17 only if it is used after wet FGD systems. Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and  $\text{SO}_2$  may be determined simultaneously with the Method 5 train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 is used in place of the condenser (section 2.1.7) of Method 5.

(ii) All applicable procedures in Method 8 for the determination of  $\text{SO}_2$  (including moisture) are used:

(4) For Method 6, Method 6C may be used. Method 6A may also be used whenever Methods 6 and 3B data are specified to determine the  $\text{SO}_2$  emission rate, under the conditions in 40 CFR 60.46(d)(1).

(5) For Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the  $\text{O}_2$  concentration (% $\text{O}_2$ ) for the emission rate correction factor.

(6) For Method 3, Method 3A or 3B may be used.

(7) For Method 3B, Method 3A may be used.

[40 CFR 60.46(a), (b), (c) & (d)]

**B.9. Annual RATA Tests May Substitute for Annual  $\text{NO}_x$  and  $\text{SO}_2$  Tests.** Annual RATA tests performed for nitrogen oxides and sulfur dioxide may be substituted for the annual compliance tests for these pollutants. To substitute for the annual compliance tests, the owner or operator must notify the Department of the RATA tests and the results must be submitted as the compliance tests, in accordance with the requirements of specific conditions I.6.(a)9. and I.15 of this permit. The requirements of specific conditions I.9 and I.12.(a)1. shall not apply to these tests. The test runs shall be consecutively completed in a manner that fulfills the test length requirements of the EPA test methods.

[Request of applicant, February 11, 1998]

**B.10.** The permittee shall demonstrate compliance with the sulfur dioxide limit in specific condition **B.5.b.** by means of a fuel analysis provided by the vendor or the permittee upon each fuel delivery. See specific condition **B.5.b.** and **B.11.**

[Rule 62-213.440, F.A.C.; and, 0170004-006-AC]

**B.11. Sulfur Dioxide - Fuel Sampling.** The following fuel sampling and analysis program shall be used as an alternate sampling procedure authorized by permit to demonstrate compliance with the fuel sulfur standard:

- Determine and record the as-fired fuel sulfur content, percent by weight, for coal using appropriate ASTM methods such as, ASTM D2013-72, ASTM D3177-75, and ASTM D4239-85, or latest ASTM edition methods, to analyze a representative sample of coal following each fuel delivery.
- Record daily the amount of coal fired, the density of each fuel, the Btu value, and the percent sulfur content by weight of each fuel.
- Utilize the information in a. and b., above, to calculate the  $\text{SO}_2$  emission rate to ensure compliance at all times.

[Rule 62-213.440, F.A.C.; and, 0170004-006-AC]

### **Monitoring of Operations**

**B.12. Maintain Daily Log.** The owner or operator shall maintain a daily log of the amounts and types of fuels used and copies of fuel analyses containing information on sulfur content, ash content and heating values to facilitate calculations of emissions.

[PPSC PA 77-09]

**B.13. Annual Tests Required - PM, VE, SO<sub>2</sub> and NO<sub>x</sub>.** Except as provided in specific conditions **I.6** and **I.7** of this permit, emission testing for particulate matter emissions, visible emissions, sulfur dioxide and nitrogen oxides shall be performed annually.

[Rules 62-4.070(3), 62-213.440, and 62-297.310(7), F.A.C.]

**B.14. Pursuant to 40 CFR 60.45 Emission Monitoring.**

**CMS for Opacity, SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> are Required.**

(a) Each owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions, and carbon dioxide except as provided in 40 CFR 60.45(b).

(c) For performance evaluations under 40 CFR 60.13(c) and calibration checks under 40 CFR 60.13(d), the following procedures shall be used:

(1) Methods 6, 7, and 3B, as applicable, shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B are given in 40 CFR 60.46(d).

(2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60.

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent and for a continuous monitoring system measuring sulfur oxides or nitrogen oxides the span value shall be determined per the applicable requirements in 40 CFR Part 75.

(4) All span values computed under 40 CFR 60.45(c)(3) for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm.

(e) For any continuous monitoring system installed under 40 CFR 60.45(a), the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/million Btu):

(1) When a continuous monitoring system for measuring oxygen is selected, the measurement of the pollutant concentration and oxygen concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF[20.9/(20.9 - \text{percent } O_2)]$$

where:

E, C, F, and % O<sub>2</sub> are determined under 40 CFR 60.45(f).

(2) When a continuous monitoring system for measuring carbon dioxide is selected, the measurement of the pollutant concentration and carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_c [100/\text{percent } CO_2]$$

where:

E, C, F<sub>c</sub> and %CO<sub>2</sub> are determined under 40 CFR 60.45(f).

(f) The values used in the equations under 40 CFR 60.45(e) (1) and (2) are derived as follows:

(1) E = pollutant emissions, ng/J (lb/million Btu).

(2)  $C$  = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by  $4.15 \times 10^{-4}$  M ng/dscm per ppm ( $2.59 \times 10^{-9}$  M lb/dscf per ppm) where  $M$  = pollutant molecular weight, g/g-mole (lb/lb-mole).  $M = 64.07$  for sulfur dioxide and  $46.01$  for nitrogen oxides.

(3) %  $O_2$ , % $CO_2$  = oxygen or carbon dioxide volume (expressed as percent), determined with equipment specified under 40 CFR 60.45(a).

(4)  $F$ ,  $F_c$  = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted ( $F$ ), and a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted ( $F_c$ ), respectively. Values of  $F$  and  $F_c$  are given as follows:

(ii) For subbituminous and bituminous coal as classified according to ASTM D388-77 (incorporated by reference-see 40 CFR 60.17),  $F = 2.637 \times 10^{-7}$  dscm/J (9,820 dscf/million Btu) and  $F_c = 0.486 \times 10^{-7}$  scm  $CO_2$  /J (1,810 scf  $CO_2$  /million Btu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils,  $F = 2.476 \times 10^{-7}$  dscm/J (9,220 dscf/million Btu) and  $F_c = 0.384 \times 10^{-7}$  scm  $CO_2$  /J (1,430 scf  $CO_2$  /million Btu).

(iv) For gaseous fossil fuels,  $F = 2.347 \times 10^{-7}$  dscm/J (8,740 dscf/million Btu). For natural gas, propane, and butane fuels,  $F_c = 0.279 \times 10^{-7}$  scm  $CO_2$  /J (1,040 scf  $CO_2$  /million Btu) for natural gas,  $0.322 \times 10^{-7}$  scm  $CO_2$  /J (1,200 scf  $CO_2$  /million Btu) for propane, and  $0.338 \times 10^{-7}$  scm  $CO_2$  /J (1,260 scf  $CO_2$  /million Btu) for butane.

(5) The owner or operator may use the following equation to determine an  $F$  factor (dscm/J or dscf/million Btu) on a dry basis (if it is desired to calculate  $F$  on a wet basis, consult the Administrator) or  $F_c$  factor (scm  $CO_2$  /J, or scf  $CO_2$  /million Btu) on either basis in lieu of the  $F$  or  $F_c$  factors specified in 40 CFR 60.45(f)(4):

$$F = 10^{-6} \frac{[227.2 (\text{pct. II}) + 95.5 (\text{pct. C}) + 35.6 (\text{pct. S}) + 8.7 (\text{pct. N}) - 28.7 (\text{pct. O})]}{GCV}$$

$$F_c = \frac{2.0 \times 10^{-5} (\text{pct. C})}{GCV}$$

(SI units)

$$F = 10^6 \frac{3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O)}{GCV}$$

(English units)

$$F_c = \frac{20.0(\%C)}{GCV}$$

(SI units)

$$F_c = \frac{321 \times 10^3 (\%C)}{GCV}$$

(English units)

(i)  $H$ ,  $C$ ,  $S$ ,  $N$ , and  $O$  are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM method D3178-74 or D3176 (solid fuels) or computed from results using ASTM method D1137-53(75), D1945-64(76), or D1946-77 (gaseous fuels) as applicable. (These five methods are incorporated by reference-see 40 CFR 60.17.)

(ii) GCV is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015-77 for solid fuels and D1826-77 for gaseous fuels as applicable. (These two methods are incorporated by reference-see 40 CFR 60.17.)

(6) For affected facilities firing combinations of fossil fuels, the  $F$  or  $F_c$  factors determined by paragraphs 40 CFR 60.45(f)(4) or (f)(5) shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^n X_i (F_c)_i$$

where:

$X_i$  = the fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, etc.)

$F_i$  or  $(F_c)_i$  = the applicable  $F$  or  $F_c$  factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section.

$n$  = the number of fuels being burned in combination.

[40 CFR 60.45(a), (b), (c), (e) and (f); PPSC PA 77-09]

**COMS for Periodic Monitoring:**

Periodic monitoring for opacity shall be COMS, which are maintained and operated in conformance with 40 CFR Part 75.

[Rule 62-213.440, F.A.C.]

**B.15. Excess Emission Reports.**

(g) Excess emission reports shall be submitted to the Department for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission report shall include the information required in 40 CFR 60.7(c). Periods of excess emissions that shall be reported are defined as follows:

(1) Opacity. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(2) Sulfur dioxide. Excess emissions for affected facilities are defined as:

(i) Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under 40 CFR 60.43.

(3) Nitrogen oxides. Excess emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards under 40 CFR 60.44.

[40 CFR 60.45(g)]

**Other NSPS Subpart D Conditions**

**B.16. Pursuant to 40 CFR 60.41 Definitions.** As used in 40 CFR 60 Subpart D, all terms not defined in 40 CFR 60.41 shall have the meaning given them in the Act, and in Subpart A of 40 CFR 60.

**Ambient Air Monitoring**

**B.17. Ambient Air Monitoring.** The owner or operator shall continue to operate the existing ambient monitoring devices for sulfur dioxide and suspended particulate at the two existing locations (sites) designated on Figure A, Ambient Air Monitoring Locations, Crystal River, Florida, attached to this permit. The frequency of operation of each monitoring device for suspended particulate shall be every six days, and continuously for sulfur dioxide, unless otherwise specified by the Department. New or existing monitoring devices shall be located as designated by the Department. The monitoring devices for sulfur dioxide shall meet the requirements of 40 CFR 53.

[PPSC PA 77-09, and order modifying conditions of certification, OGC Case No. 83-0818, dated February 2, 1984, and Rules 62-213.440 and 62-296.405(1)(c)3., F.A.C.]

**B.18. Flue Gas Desulfurization (FGD) equipment.** Prior to the installation of any FGD equipment, plans and specifications for such equipment shall be submitted to the Department for review and approval.  
[PPSC PA 77-09]

**Common Conditions**

**B.19.** These emissions units are also subject to conditions I.1 through I.15, except for I.2 and I.3, contained in Subsection I. **Common Conditions.**

**B.20.** These emissions units are also subject to conditions J.1 through J.5 contained in Subsection J. **NSPS Common Conditions.**

**B.21.** These emissions units are also subject to condition K.1 contained in Subsection K. **Used Oil Common Condition.**

**Subsection C. This section addresses the following emissions units.**

E.U. ID No.	Brief Description
006	Fly ash transfer (Source 1) from Fossil Fuel Steam Generator (FFSG) Unit 1.
008	Fly ash storage silo (Source 3) for FFSG Units 1 and 2.
009	Fly ash transfer (Source 4) from FFSG Unit 2.
010	Fly ash transfer (Source 5) from FFSG Unit 2.

Emissions unit 006 is a fly ash transfer (Source 1) from Fossil Fuel Steam Generator (FFSG) Unit 1. This emissions unit consists of the fly ash conveying line, dense phase transfer vessel and separator used to transfer fly ash from the FFSG Unit 1 electrostatic precipitator to the fly ash storage silo (Source 3) at a design transfer rate of 44 tons per hour. Particulate matter emissions are controlled by a Monex Resources, Inc. Model MD80 baghouse at a design air flow of 1820 acfm.

Emissions unit 008 is a fly ash storage silo (Source 3) for FFSG Units 1 and 2. This emissions unit consists of the fly ash storage silo used to store fly ash from the electrostatic precipitators of FFSG Units 1 and 2. Fly ash is pneumatically conveyed from the FFSG Units 1 and 2 ESPs at a combined transfer rate of 174 tons per hour. Particulate matter emissions are controlled by a PulseKing Model M 100 S baghouse at a design air flow of 2546 acfm. Fly ash from the storage silo is disposed of either in a dry form by loading into enclosed tanker trucks or in a wet form by loading wet ash into open trucks.

Emissions unit 009 is a fly ash transfer (Source 4) from FFSG Unit 2. This emissions unit consists of the fly ash conveying line, dense phase transfer vessel and separator used to transfer fly ash from the FFSG Unit 2 ESP number 2C to the fly ash storage silo (Source 3) at a design transfer rate of 60 tons per hour. Particulate matter emissions are controlled by a Monex Resources, Inc. Model MD80 baghouse at a design air flow of 2200 acfm.

Emissions unit 010 is a fly ash transfer (Source 5) from FFSG Unit 2. This emissions unit consists of the fly ash conveying line, dense phase transfer vessel and separator used to transfer fly ash from the FFSG Unit 2 ESP number 2A and 2B to the fly ash storage silo (Source 3) at a maximum design transfer rate of 70 tons per hour. Particulate matter emissions are controlled by a Monex Resources, Inc. Model MD80 baghouse at a design air flow of 2800 acfm.

{Permitting note(s): These emissions units are regulated under Best Available Control Technology (BACT) Determinations ordered 2/5/79 (proposed 1/26/79) and 8/16/79.}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Essential Potential to Emit (PTE) Parameters**

**C.1. Permitted Capacity.** The transfer rates shall not exceed:

Emissions Unit	Transfer Rate (tons per hour)
006	44
008	174
009	60
010	70

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]



## Emission Limitations and Standards

**C.2. Emission Limitations.** Emissions of particulate matter from the following emissions units shall not exceed:

Emissions Unit	Emission Limit (pounds per hour)	Emission Limit (tons per year)
006	3.5 <sup>a</sup>	15.4 <sup>a</sup>
008	0.6 <sup>a</sup>	2.6 <sup>a</sup>
009	2.2 <sup>b</sup>	9.6 <sup>b, c</sup>
010	2.2 <sup>b</sup>	9.6 <sup>b, c</sup>

### Notes:

- a Emission limits based on a BACT Determination proposed 1/26/79, ordered 2/5/79. BACT for emissions units 006 and 007 included a VE limit of 5% opacity, six minute average.
  - b Emission limits based on a BACT Determination ordered 8/16/79.
  - c The tons per year limits for emissions units 009 and 010 have been corrected to one decimal place.
- [AC 09-25791]

**C.3. VE in Lieu of Stack Test.** Because the ash handling system emissions units are controlled with baghouses, the Department has waived particulate matter testing requirements and specified an alternate standard of 5% opacity. If the Department has reason to believe that the particulate emission standard applicable to each emissions unit (006, 008, 009 and 010) is not being met, it may require that compliance be demonstrated by stack testing in accordance with Chapter 62-297, F.A.C.

[Rule 62-297.620(4), F.A.C.; and, AC 09-256791]

**C.4. Additional Reasonable Precautions for Control of Particulate Matter Emissions.** The owner or operator shall take the following reasonable precautions to control emissions of particulate matter from transport of ash from emissions unit 008 for disposal or use. Ash for transport shall be wetted before loading into open trucks, or dry ash shall be transferred to enclosed tanker trucks.

[Rule 62-4.070(3), F.A.C.; and, AC 09-256791]

## Monitoring of Operations

**C.5. Annual VE Tests Required.** Each emissions unit (006, 008, 009 and 010) shall be tested for visible emissions annually using EPA Method 9. Each test shall be a minimum of thirty minutes in duration from each exhaust point, while transferring fly ash from both FFSG Units 1 and 2 to the silo (emissions unit 008) at the same time. The tests shall be conducted during a period when both FFSG Units 1 and 2 are operating at 90 to 100% of full load while sootblowing. A statement of the FFSG unit loads, verifying the tests were conducted during sootblowing, shall be submitted with the test reports.

[Rule 62-4.070(3), F.A.C.; and, AC 09-256791]

{Permitting note: For those emissions points containing a baghouse, the permittee shall perform and record the results of weekly qualitative observations of visible emissions checks (e.g., Method 22) with follow-up Method 9 tests within 24 hours of any abnormal visible emissions.}

## Common Conditions

**C.6.** These emissions units are also subject to conditions 1.1 through 1.15, except for 1.3, contained in Subsection 1. Common Conditions.

**Subsection D. This section addresses the following emissions unit.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
014	Bottom ash storage silo for FFSG Units 1 and 2, with associated vacuum blower exhausts and bin vent filter (total of three emission points).

Emissions unit 014 is a bottom ash storage silo for FFSG Units 1 and 2, with associated vacuum blower exhausts and bin vent filter (total of three emission points). This emissions unit consists of the system to collect and store bottom ash and economizer ash from both FFSG Units 1 and 2 at a total rate of 16 tons per hour (8 tons per hour from each FFSG unit) at an airflow rate of 2200 scfm from each unit. Ash is conveyed by vacuum from each FFSG unit by a separate vacuum blower, with air and ash passing through a baghouse (filter/separator) where ash is deposited in the silo and air is exhausted through the vacuum blower. Air displaced in the silo is vented through an additional bag filter (the bin vent filter) at an airflow rate of 2400 scfm. Ash stored in the silo is unloaded into trucks for sale, use or disposal at the on-site ash disposal facility. Ash will be wet via a pugmill before loading into open trucks, or dry ash will be transferred to enclosed tanker trucks.

{Permitting note(s): This emissions unit is regulated under Rule 62-296.320, F.A.C., and by applicable requirements of AC 09-235915.}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Essential Potential to Emit (PTE) Parameters**

**D.1. Permitted Capacity.** The transfer rates shall not exceed 16 tons per hour (8 tons per hour from each FFSG unit).  
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

**Emission Limitations and Standards**

**D.2. Visible Emissions (VE) Limitation.** Visible emissions shall be less than 20% opacity, six minute average, established by Rule 62-296.320(4)(b)1, F.A.C. See Section II, condition 3 of this permit.  
[Rule 62-296.320(4)(b)1, F.A.C.]

**D.3. Additional Reasonable Precautions for Control of Particulate Matter Emissions.** The owner or operator shall take the following reasonable precautions to control emissions of particulate matter from transport of ash from emissions unit 014 for disposal or use. Ash for transport shall be wet via a pugmill before loading into open trucks, or dry ash shall be transferred to enclosed tanker trucks.  
[Rule 62-4.070(3), F.A.C.; and, AC 09-235915]

**Monitoring of Operations**

**D.4. Annual VE Tests Required.** Each emission point of emissions unit 014 shall be tested for visible emissions annually using EPA Method 9. Each test shall be a minimum of thirty minutes in duration from each exhaust point, while transferring bottom ash and economizer ash from both FFSG Units 1 and 2 to the silo at the same time at 90-100% of design throughput rate of 8 TPH.  
[Rules 62-4.070(3) and 62-296.320(4)(b)4, F.A.C.; AC 09-235915; and, AO 09-248541]

{Permitting note: For those emissions points containing a baghouse, the permittee shall perform and record the results of weekly qualitative observations of visible emissions checks (e.g., Method 22) with follow-up Method 9 tests within 24 hours of any abnormal visible emissions.}

**Common Conditions**

**D.5.** This emissions unit is also subject to conditions **I.1** through **I.15**, except for **I.3**, contained in **Subsection I. Common Conditions**.

**Subsection E. This section addresses the following emissions unit.**

<b>Facility ID No.</b>	<b>E. U. ID No.</b>	<b>Brief Description</b>
7775047	-001	Relocatable diesel generator(s) will have a maximum (combined) heat input of 25.74 MMBtu/hour while being fueled by 186.3 gallons of new No. 2 fuel oil per hour with a maximum (combined) rating of 2460 kilowatts. Emissions from the generator(s) are uncontrolled.

The generators may be relocated to any of the following facilities:

1. Crystal River Plant, Powerline Road, Red Level, Citrus County.
2. Bartow Plant, Weedon Island, St. Petersburg, Pinellas County.
3. Higgins Plant, Shore Drive, Oldsmar, Pinellas County.
4. Bayboro Plant, 13th Ave. & 2nd St. South, St. Petersburg, Pinellas County.
5. Wildwood Reclamation Facility, State Road 462, 1 mi. east of U.S. 301, Wildwood, Sumter County.
6. Hines Energy Complex, County Road 555, 1 mi. southwest of Homeland, Polk County.
7. Anclote Power Plant, 1729 Baileys Road, Holiday, Pasco County

{Permitting notes: These emissions units are regulated under Rule 62-210.300, F.A.C., Permits Required. Each generator has its own stack. This section of the permit is only applicable when the generator(s) is(are) located at the Crystal River Plant.}

**The following specific conditions apply to the emissions units listed above regardless of location:**

**Essential Potential to Emit (PTE) Parameters**

**E.1. Permitted Capacity.** The maximum (combined) heat input rate shall not exceed 25.74 million Btu per hour. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

**E.2. Emissions Unit Operating Rate Limitation After Testing.** See specific condition E.9. [Rule 62-297.310(2), F.A.C.]

**E.3. Methods of Operation - Fuels.** Only new No. 2 fuel oil with a maximum sulfur content of 0.5%, by weight, shall be fired in the diesel generator(s). [Rule 62-213.410, F.A.C.; and, AC 09-202080.]

**E.4. Hours of Operation.** The hours of operation expressed as "engine-hours" shall not exceed 2970 hours in any consecutive 12 month period. The total hours of operation expressed as "engine-hours" shall be the summation of the individual hours of operation of each generator. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and, AC 09-202080.]

**Emission Limitations and Standards**

**E.5. Visible Emissions.** Visible emissions from each generator shall not be equal to or greater than 20 percent opacity, six minute average. [Rule 62-296.320(4)(b)1., F.A.C.; and, AC 09-202080.]

### **Monitoring of Operations**

**E.6. Fuel Sulfur Analysis.** The permittee shall demonstrate compliance with the liquid fuel sulfur limit by means of a fuel analysis provided by the vendor or permittee upon each fuel delivery. See specific condition E.3. and E.8. [Rule 62-213.440, F.A.C.]

### **Test Methods and Procedures**

**E.7.** The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.  
[Rules 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.]

**E.8.** The fuel sulfur content, percent by weight, for liquid fuels shall be evaluated using either ASTM D2622-94, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-95, or the latest edition(s).  
[Rules 62-213.440 and 62-297.440, F.A.C.]

**E.9. Operating Rate During Testing.** Testing of emissions shall be conducted with the generator(s) operating at 90 to 100 percent of the maximum fuel firing rate for each generator. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity (i.e., at less than 90 percent of the maximum operation rate allowed by the permit); in this case, subsequent emissions unit operations may be limited to 110 percent of the test load until a new test is conducted, provided however, operations do not exceed 100 percent of the maximum operation rate allowed by the permit. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Failure to submit the actual operating rate may invalidate the test.  
[Rule 62-297.310(2), F.A.C.; and, AC 09-202080]

**E.10. Visible Emissions Testing - Annual.** By this permit, annual emissions compliance testing for visible emissions is not required for these emissions units while burning liquid fuels for less than 400 hours per year.  
[Rules 62-297.310(7)(a)4. & 8., F.A.C.]

**E.11.** After each relocation, each generator shall be tested within 30 days of startup for opacity and the fuel shall be analyzed for the sulfur content. See specific conditions E.3., E.5., and E.6.  
[Rules 62-4.070(3) and 62-297.310(7)(b), F.A.C.; and, AO 09-205952.]

### **Record Keeping and Reporting Requirements**

**E.12.** To demonstrate compliance with specific condition E.4., records shall indicate the daily hours of operation for each of the generators, the daily hours of operation expressed as "engine- hours" and the cumulative total hours of operation expressed as "engine-hours" for each month. The records shall be maintained for a minimum of 5 years and made available to the Southwest District Office upon request.  
[Rules 62-213.440 and 62-297.310(8), F.A.C.; and, AO 09-205952.]

**E.13.** To demonstrate compliance with specific condition E.3., records of the sulfur content, in percent by weight, of all the fuel burned shall be kept based on either vendor provided as-delivered or as-received fuel sample analysis. The records shall be maintained for a minimum of 5 years and made available to the Southwest District Office upon request.  
[Rule 62-297.310(8), F.A.C.; and, AC 09-202080.]

**Source Obligation**

**E.14.** Specific conditions in construction permit AC 09-202080, limiting the “engine hours”, were accepted by the applicant to escape Prevention of Significant Deterioration review. If Progress Energy Florida requests a relaxation of any of the federally enforceable emission limits in this permit, the relaxation of limits may be subject to the preconstruction review requirements of Rule 62-212.400(5), F.A.C., as though construction had not yet begun. [Rule 62-212.400(2)(g), F.A.C.; and, AC 09-202080.]

**E.15.** Progress Energy Florida shall notify the Department’s Southwest District Office, in writing, at least 15 days prior to the date on which any diesel generator is to be relocated. The notification shall specify the following;

- a. which generator, by serial number, is being relocated,
- b. which location the generator is being relocated from and which location it is being relocated to, and
- c. the approximate startup date at the new location.

If a diesel generator is to be relocated within Pinellas County, then Progress Energy Florida shall provide the same notification to the Air Quality Division of the Pinellas County Department of Environmental Management.

[Rule 62-4.070(3), F.A.C.; and, AC 09-202080]

**Common Conditions**

**E.16.** This emissions unit is also subject to conditions I.1 through I.15, except for I.3 and I.8, contained in Subsection I. Common Conditions.

**Subsection F. This section addresses the following emissions unit.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
013	Cooling towers for FFSG Units 1, 2 and nuclear Unit 3, used to reduce plant discharge water temperature.

Emissions unit 013 is cooling towers for FFSG Units 1, 2 and nuclear Unit 3, used to reduce plant discharge water temperature. (This emission unit may be referred to as "helper cooling towers.") This emissions unit consists of four towers with nine cells per tower, with high efficiency drift eliminators, operating at a maximum seawater flow rate of 735,000 gallons per minute for all cells combined, with a design airflow rate of  $1.46 \times 10^6$  acfm from each cell. Seawater is sprayed through the towers where fan induced air flow causes evaporative cooling. Water vapor, saltwater droplets (drift) and salt particles are emitted. Drift emissions are controlled by high efficiency drift eliminators.

{Permitting note(s): This emissions unit is regulated under Prevention of Significant Deterioration (PSD) (PSD permit AC 09-162037/PSD-FL-139 issued 8/29/90) and Best Available Control Technology (BACT). Determination dated 8/29/90, which set a drift emission rate of 0.004%.}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Essential Potential to Emit (PTE) Parameters**

**F.1. Hours of Operation.** The operating hours for each cooling tower pump shall not exceed 4320 hours per year (12-month rolling total).  
[Rule 62-210.200(PTE), F.A.C.; and, AC 09-162037 (PSD-FL-139)]

**Emission Limitations and Standards**

**F.2. Cooling Tower Emission Limit.** Emissions of particulate matter from each cooling tower cell shall not exceed 11.9 pounds per hour.  
{Note: The emission limit is based on a BACT Determination setting the maximum drift emissions at 0.004%. Equivalent maximum emissions are 428 lb/hr and 925 tons per year total for all cells.  $PM_{10}$  emissions are estimated to be approximately 50% of the particulate matter emission rate.}  
[Rule 62-213.440, F.A.C.; and, AC 09-162037 (PSD-FL-139)]

**F.3. Drift Eliminators.** Drift eliminators shall be installed and maintained so that minimum bypass occurs. Regular maintenance shall be scheduled to ensure proper operation of the drift eliminators.  
[Rule 62-213.440, F.A.C.; and, AC 09-162037 (PSD-FL-139)]

{Note: This emissions unit is not subject to a visible emissions limitation. Emissions from this emissions unit include water droplets so visible emissions testing is not possible.}

**Test Methods and Procedures**

**F.4. Emission Test Method.** The drift elimination system on the helper cooling towers shall be maintained so as to minimize pluggage and to insure timely repair of broken sections of the drift eliminators. During the warm months when the helper cooling towers are used, the following work practice shall be implemented, in lieu of EPA Method 5, to demonstrate compliance with the originally designed removal efficiency (no more than 0.004% drift rate):

- (a) Daily "walkdown" inspection of each operational cell visually checking for problems with the drift eliminators such as pluggage, algae build-up, and mechanical components (fans and pumps).
- (b) Daily visual inspection of the cells which are in operation to ascertain the presence of higher than expected visible emissions when atmospheric conditions allow, and follow-up inspections and correction of problems when the daily visual inspection of the cells indicates a problem.
- (c) Weekly visual inspection of the inlet water screens and prompt correction when broken sections or pluggage is discovered.

[Rule 62-213.440, F.A.C.; and, AC 09-162037 (PSD-FL-139); and, ASP No. 00-E-01 dated June 7, 2000]

#### **Monitoring of Operations**

**F.5.** Any problems detected during the work practice inspections identified in Specific Condition **F.4.** shall be documented in a log identifying the cell (or water screen), the inspector, the time (when discovered and the hours operated before the problem was corrected), and a description of the problem and the corrective actions taken. This log shall be maintained onsite and shall be made available to DEP upon request. The log shall be maintained so as to provide an indication as to whether routine inspections have been conducted as required even when there are no problems to record.

[Rules 62-213.440 and 62-297.310(7), F.A.C.; AC 09-162037 (PSD-FL-139); and, ASP No. 00-E-01 dated June 7, 2000]

#### **Record Keeping and Reporting Requirements**

**F.6. Pump Run Time Meters Required.** Equip each cooling tower seawater pump with a run-hour meter and maintain records of run time for each pump based on run-hour meters for each calendar month.

[Rule 62-213.440, F.A.C.; and, AC 09-162037 (PSD-FL-139)]

#### **Common Conditions**

**F.7.** This emissions unit is also subject to conditions **I.1** through **I.15**, except for **I.3**, **I.7** and **I.8**, contained in Subsection **I. Common Conditions**.



**Subsection G. This section addresses the following emissions unit.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
015	Cooling towers for FFSG Units 4 and 5 used to reduce plant discharge water temperature.

Emissions unit 015 is cooling towers for FFSG Units 4 and 5 used to reduce plant discharge water temperature. (These towers are hyperbolic cooling towers.) Seawater is sprayed through the towers where induced air flow causes evaporative cooling. Water vapor, saltwater droplets (drift) and salt particles are emitted. Drift emissions controlled by high efficiency drift eliminators. Seawater flow rate is 331,000 gallons per minute.

{Permitting note(s): This emissions unit is regulated under Prevention of Significant Deterioration (PSD) (PSD permit PSD-FL-007 issued by EPA as modified by EPA on 11/30/88.)}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Essential Potential to Emit (PTE) Parameters**

**G.1. Permitted Capacity.** The maximum seawater flow rate shall not exceed 331,000 gallons per minute per cooling tower.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

{Permitting note: The seawater flow rate limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load) and to aid in determining future rule applicability. Regular record keeping is not required for seawater flow rates. Instead the owner or operator is expected to determine the seawater flow rate whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such seawater flow rate determination may be based on measurements of flow by various methods including but not limited to flow metering or the use of pump curves supplied by the manufacturer to calculate an average hourly seawater flow rate during the test.}

**Emission Limitations and Standards**

**G.2. Cooling Tower Emission Limit.** Emissions of particulate matter shall not exceed 175 lb/hr from each cooling tower.

{Note: The emission limit is based on a BACT Determination requiring control of drift emissions with drift eliminators. The modified PSD permit removed a limitation on drift rate, substituting an emissions limit in pounds per hour. PM emissions are assumed to be all PM<sub>10</sub>.}

[Rule 62-213.440, F.A.C.; and, Modified PSD permit, PSD-FL-007, issued by EPA 11/30/88]

{Note: This emissions unit is not subject to a visible emissions limitation. Emissions from this emissions unit include water droplets so visible emissions testing is not possible.}

### **Test Methods and Procedures**

**G.3. Emission Test Method.** Testing shall be in accordance with following requirements:

- a. Particulate matter emissions shall be measured by the sensitive paper method.
- b. Testing shall be conducted either at the drift eliminator level within the tower or at the tower exit plane. (The sampling locations at the drift eliminator level and apparatus are shown in diagrams attached as Appendix P.)
- c. No less than three test runs shall be conducted for each test and all valid data from each of these test runs shall be averaged to demonstrate compliance. No individual test run result shall determine compliance or noncompliance. The emission rate reported as a percent of the circulating water, as well as lb/hr., and total dissolved solids in the cooling tower basin and intake water, shall be reported for each test run.

[Rule 62-213.440, F.A.C.; and, Modified PSD permit, PSD-FL-007, issued by EPA 11/30/88]

### **Monitoring of Operations**

**G.4. Test Every Five Years.** The FFSG Unit 4 cooling tower shall be tested every five years from 1988 (the next required year from the effective date of this permit is 2003). The FFSG Unit 5 cooling tower shall be tested every five years from 1992 (the next required year from the effective date of this permit is 2002).

[Rule 62-213.440, F.A.C.; and, Modified PSD permit, PSD-FL-007, issued by EPA 11/30/88, request of applicant]

**G.5. Inspection.** The drift eliminators of both towers shall be inspected from the concrete walkways not less than every three months by Progress Energy Florida staff or representatives to assure that the drift eliminators are clean and in good working order. Not less than annually, a complete inspection of the towers shall be conducted by a qualified inspector with recognized expertise in the field.

Certification that the drift eliminators are properly installed and in good working order shall be provided in the record keeping and reporting requirements noted below.

[Rule 62-213.440, F.A.C.; and, Modified PSD permit, PSD-FL-007, issued by EPA 11/30/88]

### **Record Keeping and Reporting Requirements**

**G.6. Reporting.** Reports on tower testing and inspection shall be handled as follows:

- a. Maintained within onsite files within 30 days after all visual inspections of the drift eliminators.
- b. Agency Submittal within 45 days after the compliance testing of either tower.

[Rule 62-213.440, F.A.C.; and, Modified PSD permit, PSD-FL-007, issued by EPA 11/30/88]

**G.7. Excess Emissions.** Should either tower emission rate exceed 175 lb/hr, the permittee shall:

- a. Notify EPA and the Department within 10 days of becoming aware of the exceedence.
- b. Provide an assessment of necessary corrective actions and a proposed schedule of implementation within an additional 20 days.
- c. Expeditiously complete corrective actions.
- d. Retest the tower within three months after the correction is completed.
- e. Submit the testing report within 45 days after completion of said tests.

[Rule 62-213.440, F.A.C.; and, Modified PSD permit, PSD-FL-007, issued by EPA 11/30/88]

### **Common Conditions**

**G.8.** This emissions unit is also subject to conditions I.1 through I.15, except for I.3, I.7 and I.8, contained in Subsection I. Common Conditions.

**Subsection H. This section addresses the following emissions unit.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
016	Material handling activities for coal-fired steam units.

Emissions Unit 016 is material handling activities for coal-fired steam units. This emissions unit consists of a crane-operated clam-shell bucket mounted on a traveling gantry, enclosed conveyor belts, coal crushers and storage bunkers used for the storage and transport of coal, for FFSG Units 1, 2, 4 and 5. This unit also encompasses fly ash and bottom ash handling equipment associated with Units 4 and 5 which are ~~and~~ not addressed by other emissions units. Emissions are particulate matter and PM<sub>10</sub> from these activities.

{Permitting note(s): This emissions unit is regulated partially under Power Plant Siting Certification PA 77-09 (Units 4 and 5 only). The material handling activities are also regulated by PSD permit AC 09-162037 / PSD-FL-139; and, are subject to NSPS 40 CFR 60 Subpart Y. This emissions unit is also regulated under permit number 0170004-014-AC (issued concurrently with this revised permit number 0170004-015-AV), which authorized the replacement of the barge unloading equipment to decrease the time required to unload coal barges, and the increase in conveying and crushing speeds of the equipment feeding coal to units 1 and 2.}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Emission Limitations and Standards**

**H.1. Pursuant to 40 CFR 60.252 Standards for Particulate Matter.**

(c) The owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

[40 CFR 60.252 (coal facilities associated with Units 1, 2, 4 and 5)]

**H.2. Visible Emissions.** The owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater, six minute average. To the extent possible, the equipment that comprises the coal processing equipment at this facility (crushers, conveyors, drop points, and storage bunkers) shall be covered or enclosed at all times the equipment is in operation. Except for the barge load-out and the stacker reclaimer sections of the conveying system that are required by design to be open, and which are not specifically subject to regulation under 40 CFR 60, Subpart Y, any other open section of the coal processing equipment shall be required to have an annual visible emission test conducted upon it, as outlined in Condition H.4.

[PPSC PA 77-09 (coal facilities associated with Units 1, 2, 4 and 5); and, 0170004-014-AC]

**H.3. PM Control -- BMPs.** The owner or operator shall control particulate emissions (PM and PM<sub>10</sub>) through the practices described in the Best Management Plan authored by KBN, November 1990, and distributed to FPC staff November 21, 1990, by Mr. W. Jeffrey Pardue.

[AC 09-162037, PSD-FL-139 (for construction of helper cooling towers) specific condition 3]

**Test Methods and Procedures**

**H.4. Visible Emissions.** (This condition applies to coal facilities associated with emissions units 001, 002, 004 and 003 -- FFSG Units 1, 2, 4 and 5.) When required by the Department, or annually as specified in Condition 3, EPA Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity (see Appendix A - 40 CFR 60, Subpart A Standard Conditions, attached).

[40 CFR 60.254(2); and, 0170004-014-AC]

{Permitting Note: Except as specified in Specific Condition H.2., annual testing is not being required because the regulated emissions points are either enclosed or confined within a building.}

{Permitting note: For those emissions points containing a baghouse (ash silos), the permittee shall perform and record the results of weekly qualitative observations of visible emissions checks (e.g., Method 22) with follow-up Method 9 tests within 24 hours of any abnormal visible emissions.}

**Common Conditions**

**H.5.** This emissions unit is also subject to conditions **I.1, I.4, I.5, and I.14** contained in **Subsection I. Common Conditions**. This emissions unit is also subject to conditions **I.6.(a)9 & (b), I.12(a)2 and I.15.(a) & (b)**; the other provisions of conditions **I.6, I.12 and I.15** are not applicable to this emissions unit.

**H.6.** These emissions units are also subject to conditions **J.1, J.2, J.3(b), (c) and (d) and J.4** contained in **Subsection J. NSPS Common Conditions**.

**H.7.** This emissions unit is also subject to the applicable terms and conditions contained in the attached Appendix A, 40 CFR 60, Subpart A Standard Conditions, and the attached Appendix Y, 40 CFR 60, Subpart Y Standard Conditions.

[0170004-014-AC]

**Subsection I. Common Conditions.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
001	Fossil Fuel Steam Generator (FFSG), Unit 1
002	FFSG, Unit 2
004	FFSG, Unit 4
003	FFSG, Unit 5
006	Fly ash transfer (Source 1) from FFSG Unit 1
008	Fly ash storage silo (Source 3) for FFSG Units 1 and 2
009	Fly ash transfer (Source 4) from FFSG Unit 2
010	Fly ash transfer (Source 5) from FFSG Unit 2
014	Bottom ash storage silo for FFSG Units 1 and 2, with associated vacuum blower exhausts and bin vent filter (total of three emission points)
7775047, 001	Three relocatable diesel fired generators, rated at 0.82 MW, 8.58 MMBtu/hr
013	Cooling towers for FFSG Units 1, 2, and 3, used to reduce plant discharge water temperature
015	Cooling towers for FFSG Units 4 and 5 used to reduce plant discharge water temperature
016	Material handling activities for coal-fired steam units

**Except as otherwise specified under Subsections A. through H., the following conditions apply to the emissions units listed above:**

**Essential Potential to Emit (PTE) Parameters**

**I.1. Hours of Operation.** The emissions units may operate continuously, i.e., 8,760 hours/year.  
[Rule 62-210.200(PTE), F.A.C.]

**Emission Limitations and Standards**

{Permitting Notes: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**Excess Emissions**

{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS, NESHAP, or Acid Rain program provision.}

**I.2.** Excess emissions resulting from startup, shutdown or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.  
[Rule 62-210.700(1), F.A.C.]

**I.3.** Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.  
[Rule 62-210.700(2), F.A.C.]

**I.4. Excess emissions** which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.]

### **Monitoring of Operations**

#### **I.5. Determination of Process Variables.**

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

**I.6. Frequency of Compliance Tests.** The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

#### **(a) General Compliance Testing.**

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

- a. Did not operate; or
- b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 -- September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

- a. Visible emissions, if there is an applicable standard;
- b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; or 100 tons per year or more of any other regulated air pollutant; and
- c. Any NESHAP pollutant.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) **Special Compliance Tests.** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and

quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.  
[Rule 62-297.310(7), F.A.C.; SIP approved]

**I.7. When PM Tests Not Required**. Annual and permit renewal compliance testing for particulate matter emissions is not required for these emissions units while burning:

- a. only gaseous fuel(s); or
- b. gaseous fuel(s) in combination with any amount of liquid fuel(s) for less than 400 hours per year; or
- c. only liquid fuel(s) for less than 400 hours per year.

[Rules 62-297.310(7)(a)3. & 5., F.A.C.; and, ASP Number 97-B-01.]

#### **Test Methods and Procedures**

{Permitting Notes: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

**I.8. (This conditions applies to emissions units 001, 002, 003, 004, 006, 008, 009, 010, & 014.) Visible Emissions**. The test method for visible emissions shall be EPA Method 9, adopted and incorporated by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.  
[Rules 62-204.800 and 62-297.401, F.A.C.]

**I.9. Required Number of Test Runs**. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.  
[Rule 62-297.310(1), F.A.C.]

**I.10. Calculation of Emission Rate**. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.  
[Rule 62-297.310(3), F.A.C.]

**I.11. Operating Rate During Testing**. Testing of emissions shall be conducted with each emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15

consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.]

**I.12. Applicable Test Procedures.**

**(a) Required Sampling Time.**

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.

2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.

Exceptions to these requirements are as follows:

c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.]

**I.13. Required Stack Sampling Facilities.** When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

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

**Record Keeping and Reporting Requirements**

**I.14. Malfunctions - Notification.** In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Southwest District Air Section in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Southwest District Air Section.

[Rule 62-210.700(6), F.A.C.]

**I.15. Test Reports.**

(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Southwest District Air Section on the results of each such test.

(b) The required test report shall be filed with the Southwest District Air Section as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Southwest District Air Section to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.



3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

**Subsection J. NSPS Common Conditions.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
004	Fossil Fuel Steam Generator, Unit 4, rated at 760 MW, 6665 MMBtu/hr, capable of burning bituminous coal, with number 2 fuel oil as a startup fuel, with emissions exhausted through a 600 ft. stack.
003	Fossil Fuel Steam Generator, Unit 5, rated at 760 MW, 6665 MMBtu/hr, capable of burning bituminous coal, with number 2 fuel oil as a startup fuel, with emissions exhausted through a 600 ft. stack.
016	Material handling activities for coal-fired steam units subject to NSPS (i.e., activities at Fossil Fuel Fired Steam Generators Units 4 and 5.

{Permitting Notes: The emissions units above are subject to the following conditions from 40 CFR 60 Subpart A, General Provisions. The affected facilities to which this subpart applies are fossil fuel steam generators Unit 4 and Unit 5. To the extent allowed by law, the "Administrator" shall mean the "Department."}

**The following conditions apply to the NSPS emissions units listed above:**

**J.1. Pursuant to 40 CFR 60.7, Notification And Record Keeping.**

(a) Any owner or operator subject to the provisions of 40 CFR 60 shall furnish the Administrator written notification as follows:

(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

(b) The owner or operator subject to the provisions of 40 CFR 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) The owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see 40 CFR 60.7(d)) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(d) The summary report form shall contain the information and be in the format shown in Figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

*[See Attached Figure 1-Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance]*

(e)(1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For one full year (e.g., four quarterly or twelve monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under 40 CFR 60 continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all record keeping and monitoring requirements specified in this subpart and the applicable standard; and

(iii) The Administrator does not object to reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required record keeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

(f) The owner or operator subject to the provisions of 40 CFR 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

[40 CFR 60.7 and Rule 62-213.440(1)(b)2.b., F.A.C.]

**J.2. Pursuant to 40 CFR 60.8 Performance Tests.**

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart.

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs. [40 CFR 60.8]

**J.3. Pursuant to 40 CFR 60.11, Compliance With Standards And Maintenance Requirements.**

(a) Compliance with standards in 40 CFR 60, other than opacity standards, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in 40 CFR 60.11 shall be determined by conducting observations in accordance with Reference Method 9 in appendix A of 40 CFR 60.11, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5).

(c) The opacity standards set forth in 40 CFR 60.11 shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e)(5) The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under 40 CFR 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine opacity compliance.

[40 CFR 60.11]

**J.4. Pursuant to 40 CFR 60.12, Circumvention.**

No owner or operator subject to the provisions of 40 CFR 60.12 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[40 CFR 60.12]

**J.5. Pursuant to 40 CFR 60.13 Monitoring Requirements.**

(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to 40 CFR 60, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.

(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under 40 CFR 60.11(e)(5), he/she shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under 40 CFR 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of 40 CFR 60. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under 40 CFR 60.8 and as described in 40 CFR 60.11(e)(5), shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in 40 CFR 60.13(c) at least 10 days before the performance test required under 40 CFR 60.8 is conducted.

(2) Except as provided in 40 CFR 60.13(c)(1), the owner or operator of an affected facility shall furnish the Administrator within 60 days of completion two or, upon request, more copies of a written report of the results of the performance evaluation.

(d)(1) Owners and operators of all continuous emission monitoring systems installed in accordance with the provisions of 40 CFR 60.13 shall check the zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(f) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of 40 CFR 60 shall be used.

(g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless the installation of fewer systems is approved by the Administrator. When more than one continuous monitoring system is used to measure the emissions from one affected facility (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system.

(h) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorder during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

[40 CFR 60.13]

**Subsection K. Used Oil Common Condition.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
004	Fossil Fuel Steam Generator, Unit 4
003	Fossil Fuel Steam Generator, Unit 5

{Permitting Notes: The emissions units above are subject to the following condition which allows the burning of on-specification used oil pursuant to the requirements of this permit and this subsection.}

**The following condition applies to the emissions units listed above:**

**K.1. Used Oil.** Burning of on-specification used oil is allowed in emissions units 001, 002, 004 and 003 in accordance with all other conditions of this permit and the following conditions:

- a. **On-specification Used Oil Allowed as Fuel:** This permit allows the burning of used oil fuel meeting EPA "on-specification" used oil specifications, with a PCB concentration of less than 50 ppm. Used oil that does not meet the specifications for on-specification used oil shall not be burned at this facility.

On-specification used oil shall meet the following specifications: [40 CFR 279, Subpart B.]

Arsenic shall not exceed 5.0 ppm;  
Cadmium shall not exceed 2.0 ppm;  
Chromium shall not exceed 10.0 ppm;  
Lead shall not exceed 100.0 ppm;  
Total halogens shall not exceed 1000 ppm;  
Flash point shall not be less than 100 degrees F.

- b. **Quantity Limited:** The maximum quantity of on-specification used oil that may be burned in all four emissions units combined is 10 million gallons in any consecutive 12-month period.
- c. **Used Oil Containing PCBs Not Allowed:** Used oil containing a PCB concentration of 50 or more ppm shall not be burned at this facility. Used oil shall not be blended to meet this requirement.
- d. **PCB Concentration of 2 to less than 50 ppm:** On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall be burned only at normal source operating temperatures. On-specification used oil with a PCB concentration of 2 to less than 50 ppm shall not be burned during periods of startup or shutdown.

Before accepting from each marketer the first shipment of on-specification used oil with a PCB concentration of 2 to 49 ppm, the owner or operator shall provide each marketer with a one-time written and signed notice certifying that the owner or operator will burn the used oil in a qualified combustion device and must identify the class of combustion device. The notice must state that EPA or a RCRA-delegated state agency has been given a description of the used oil management activities at the facility and that an industrial boiler or furnace will be used to burn the used oil with a PCB concentration of 2 to 49 ppm. The description of the used oil management activities shall be submitted to the EPA or may be submitted to the Administrator, Hazardous Waste Regulation Section, Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, FL 32399-2400. A copy of the notice provided to each marketer shall be maintained at the facility. [40 CFR 279.61 and 761.20(e)]

- e. **Certification Required:** The owner or operator shall receive from the marketer, for each load of used oil received, a certification that the used oil meets the specifications for on-specification used oil and contains a PCB concentration of less than 50 ppm. This certification shall also describe the basis for the certification, such as analytical results.

Used oil to be burned for energy recovery is presumed to contain quantifiable levels (2 ppm) of PCB unless the marketer obtains analyses (testing) or other information that the used oil fuel does not contain quantifiable levels of PCBs. Note that a claim that used oil does not contain quantifiable levels of PCBs (that is, that the used oil contains less than 2 ppm of PCBs) must be documented by analysis or other information. The first person making the claim that the used oil does not contain PCBs is responsible for furnishing the documentation. The documentation can be tests, personal or special knowledge of the source and composition of the used oil, or a certification from the person generating the used oil claiming that the used oil contains no detectable PCBs.

- f. **Testing Required:** The owner or operator shall sample and analyze each batch of used oil to be burned for the following parameters:

Arsenic, cadmium, chromium, lead, total halogens, flash point, PCBs\*,  
and specific gravity.

Testing (sampling, extraction and analysis) shall be performed using approved methods specified in EPA Publication SW-846 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods), latest edition.

\* Analysis for PCBs is not required if a claim is made that the used oil does not contain quantifiable levels of PCBs.

- g. **Record Keeping Required:** The owner or operator shall obtain, make, and keep the following records related to the use of used oil in a form suitable for inspection at the facility by the Department: [40 CFR 279.61 and 761.20(e)]
- (1) The gallons of on-specification used oil accepted and burned each month in each unit. (This record shall be completed no later than the fifteenth day of the succeeding month.)
  - (2) The total gallons of on-specification used oil burned in the preceding consecutive 12-month period in each unit. (This record shall be completed no later than the fifteenth day of the succeeding month.)
  - (3) Results of the analyses required above, including documentation if a claim is made that the used oil does not contain quantifiable levels of PCBs.
  - (4) The source and quantity of each batch of used oil received each month, including the name, address and EPA identification number (if applicable) of all marketers that delivered used oil to the facility, and the quantity delivered.
  - (5) Records of the operating rate of each unit while burning used oil and the dates and time periods each unit burns used oil.
- h. **Reporting Required:** The owner or operator shall submit to the Department's Southwest District office, with the Annual Operation Report form, an attachment showing the total amount of on-specification used oil burned during the previous calendar year. The quantity of used oil shall be individually reported and shall not be combined with other fuels.

[Rules 62-4.070(3) and 62-213.440, F.A.C., 40 CFR 279 and 40 CFR 761, and 0170004-002-AO, unless otherwise noted]



**Subsection L.** This section addresses the following emissions unit.

E.U. ID No.	Brief Description
020	Cooling towers for FFSG Units 1 and 2 used to reduce plant discharge water temperature.

Emissions unit 020 is cooling towers for FFSG Units 1 and 2, used to reduce plant discharge water temperature. (This emission unit may be referred to as "portable cooling towers.") This emissions unit consists of 71 or 72 cells (dependent upon manufacturer), is 12' wide and 11' high, includes drift eliminators, operates at a maximum seawater flow rate of 180,000 gallons per minute for all cells combined, and a design airflow rate of 25,000 acfm from each cell. Seawater is sprayed through the towers where fan induced air flow causes evaporative cooling. Water vapor, saltwater droplets (drift) and salt particles are emitted. Drift emissions are controlled by drift eliminators.

{Permitting note(s): This emissions unit is regulated under Prevention of Significant Deterioration (PSD) (permit 0170004-010-AC) and includes a Best Available Control Technology (BACT) Determination, which allows for a drift emission rate of 0.0015% with limited usage.}

The following specific conditions apply to the emissions unit(s) listed above:

**Essential Potential to Emit (PTE) Parameters**

**L.1. Hours of Operation.** The operating hours for the portable cooling towers shall not exceed an equivalent of 2920 hours per year of operation (12-month rolling total). This condition shall be complied with by limiting the circulating water flow usage through the portable cooling towers to 31.5E9 gallons per calendar year. [Rule 62-210.200(PTE), F.A.C.; and 0170004-010-AC)]

**Emission Limitations and Standards**

**L.2. Cooling Tower Design:** The portable cooling towers shall be designed, operated and maintained to achieve a drift rate of no more than 0.0015% of the circulating water flow. This equates to an estimated emission rate of particulate matter (PM) from the cooling tower at 35.1 pounds per hour. Within 60 days of commencing operation, the permittee shall certify that the cooling tower was constructed and installed so as to achieve the specified drift rate of no more than 0.0015 percent of the circulating water flow rate.

{Note: The emission limit is based on a BACT Determination setting the maximum drift emissions at 0.0015%. PM<sub>10</sub> emissions are estimated to be approximately 6% of the particulate matter emission rate.}  
[Rule 62-213.440, F.A.C., 0170004-010-AC) and Rule 62-212.400 (BACT)]

**L.3. Drift Eliminators.** Drift eliminators shall be installed and maintained as per the manufacturer's specifications. Regular maintenance shall be scheduled to ensure proper operation of the drift eliminators.  
[Rule 62-213.440, F.A.C.; and 0170004-010-AC)]

{Note: This emissions unit is not subject to a visible emissions limitation. Emissions from this emissions unit include water droplets, so visible emission testing is not possible.}

**Test Methods and Procedures**

**L.4. Emission Test Method.** The drift elimination system on the helper cooling towers shall be maintained so as to minimize pluggage and to insure timely repair of broken sections of the drift eliminators. During those calendar days when the portable cooling towers are used, the following work practice shall be implemented, in lieu of EPA Method 5, to demonstrate compliance with the originally designed removal efficiency (no more than 0.0015% drift rate):

- (a) Daily "walkdown" inspection of each operational cell visually checking for problems with the drift eliminators such as pluggage, algae build-up, and mechanical components (fans and pumps).
- (b) Daily visual inspection of the cells which are in operation to ascertain the presence of higher than expected visible emissions when atmospheric conditions allow, and follow-up inspections and correction of problems when the daily visual inspection of the cells indicates a problem.
- (c) Weekly visual inspections of the inlet water screens and prompt correction when broken sections or pluggage is discovered.

[Rule 62-213.440, F.A.C., 0170004-010-AC; and ASP No. 00-E-01 dated June 7, 2000]

#### **Monitoring of Operations**

**L.5. Inspection Log:** Any problems detected during the work practice inspections identified in Specific Condition L.4. shall be documented in a log identifying the cell (or water screen), the inspector, the time (when discovered and the hours operated before the problem was corrected), and a description of the problem and the corrective actions taken. This log shall be maintained onsite and shall be made available to DEP upon request. The log shall be maintained so as to provide an indication as to whether routine inspections have been conducted as required even when there are no problems to record.

[Rules 62-213.440 and 62-297.310(7), F.A.C., 0170004-010-AC and ASP No. 00-E-01 dated June 7, 2000]

#### **Record Keeping and Reporting Requirements**

**L.6. Circulating Water Flow-meters Required.** Circulating water flow will be measured by monitoring the hours of each circulating water pump. For each hour of operation, each north pump will flow 15 kgpm (900 kgph) and each south pump will flow 4 kgpm (240 khph). The fans in bank C1 through C15 will be monitored for operation. If any of the fans are operating in those cells, the circulating water flow will be 39 kgpm (2,340 kgph). Partial hours of operation shall be prorated. Records of circulating water flow shall be maintained for each calendar month..

[Rule 62-213.440, F.A.C.; and 0170004-10-AC]

#### **Common Conditions**

**L.7.** This emissions unit is also subject to conditions **L.2, L.4, L.5, L.6, L.14 and L.15** contained in **Subsection I. Common Conditions.**

**Section IV. This section is the Acid Rain Part.**

**Operated by:** Progress Energy Florida/Crystal River Plant  
**ORIS code:** 628

**This subsection addresses Acid Rain, Phase II.**

The emissions units listed below are regulated under Acid Rain, Phase II.

<b>E.U. ID No.</b>	<b>Brief Description</b>
001	Fossil Fuel Steam Generator, Unit 1
002	Fossil Fuel Steam Generator, Unit 2
004	Fossil Fuel Steam Generator, Unit 4
003	Fossil Fuel Steam Generator, Unit 5

**A.1.** The Phase II permit applications, the Phase II NO<sub>x</sub> compliance plans and the Phase II NO<sub>x</sub> averaging plans submitted for this facility, as approved by the Department, are a part of this permit (included as Attachments). The owners and operators of these Phase II acid rain units must comply with the standard requirements and special provisions set forth in the applications listed below:

- DEP Form No. 62-210.900(1)(a), F.A.C., Signed 6/29/04.
- DEP Form No. 62-210.900(1)(a)4., F.A.C., Signed 6/29/04.
- DEP Form No. 62-210.900(1)(a)5., F.A.C., Signed 06/29/04.

[Chapter 62-213 and Rule 62-214.320, F.A.C.]

**A.2.** Sulfur dioxide (SO<sub>2</sub>) allowance allocations for each Acid Rain unit are as follows:

<b>E.U. ID No.</b>	<b>EPA ID</b>	<b>Year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
001	1	SO <sub>2</sub> allowances, under Table 2 or 3 of 40 CFR Part 73	12425*	12425*	12425*	12425*	12425*
002	2	SO <sub>2</sub> allowances, under Table 2 or 3 of 40 CFR Part 73	14291*	14291*	14291*	14291*	14291*
004	4	SO <sub>2</sub> allowances, under Table 2 or 3 of 40 CFR Part 73	23651*	23651*	23651*	23651*	23651*
003	5	SO <sub>2</sub> allowances, under Table 2 or 3 of 40 CFR Part 73	25248*	25248*	25248*	25248*	25248*

\* The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 or 3 of 40 CFR 73.

E.U. ID No.	EPA ID	NO <sub>x</sub> limit	Pursuant to 40 CFR 76.11, the Florida Department of Environmental Protection approves five (5) NO <sub>x</sub> emissions averaging plans for this unit. Each plan is effective for one calendar year for the 2005, 2006, 2007, 2008 and 2009. Under each plan, the unit's NO <sub>x</sub> emissions shall not exceed the annual average alternative contemporaneous emission limitation of:
001	1		0.45 lb/MMBtu with an annual heat input of 36,312,329 MMBtu.
002	2		0.45 lb/MMBtu with an annual heat input of 41,934,711 MMBtu.
004	4		0.52 lb/MMBtu with an annual heat input of 70,658,210 MMBtu.
003	5		0.52 lb/MMBtu with an annual heat input of 70,208,037 MMBtu.
Also, see Additional Requirements 1, 2 and 3, below.			

{Permitting note: See Specific Condition B.7. for unit specific state-only annual NO<sub>x</sub> emission limits related to E.U. 003 and 004}

#### Additional Requirements

- Under the plan (NO<sub>x</sub> Phase II averaging plan), the actual Btu-weighted annual average NO<sub>x</sub> emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NO<sub>x</sub> emission rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations under 40 CFR 76.5, 76.6, or 76.7, except that for any early election units, the applicable emission limitations shall be under 40 CFR 76.7. If the designated representative demonstrates that the requirement of the prior sentence (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emission limitation and annual heat input limit.
- In accordance with 40 CFR 72.40(b)(2), approval of the averaging plan shall be final only after the North Carolina Department of Environment and Natural Resources Division of Air Quality and the South Carolina Department of Health and Environmental Control Bureau of Air Quality have also approved this averaging plan.
- In addition to the described NO<sub>x</sub> compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO<sub>x</sub> compliance plan and requirements covering excess emissions.

**A.3. Emission Allowances.** Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.

- No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
- No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
- Allowances shall be accounted for under the Federal Acid Rain Program.

[Rule 62-213.440(1)(c)1., 2. & 3., F.A.C.]

**A.4. Fast-Track Revisions of Acid Rain Parts.** Those Acid Rain sources making a change described at Rule 62-214.370(4), F.A.C., may request such change as provided in Rule 62-213.413, F.A.C.  
[Rules 62-213.413 and 62-214.370(4), F.A.C.]

**A.5.** Where an applicable requirement of the Act is more stringent than applicable regulations promulgated under Title IV of the Act, both provisions shall be incorporated into the permit and shall be enforceable by the Administrator.

[40 CFR 70.6(a)(1)(ii); and, Rule 62-210.200, F.A.C., Definitions – Applicable Requirements.]

Reporting Requirements

A.6. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3), F.A.C., shall be submitted within 60 (sixty) days after the end of the calendar year. {See condition 51., APPENDIX TV-6 TITLE V CONDITIONS}  
[Rule 62-214.420(11), F.A.C.]

A.7. Demonstration of Compliance with the Phase II NO<sub>x</sub> Averaging Plan. The Designated Representative shall provide a copy of the demonstration of compliance, prepared in accordance with 40 CFR 76.11(d), to the Department within 60 (sixty) days after the end of the calendar year.  
[Rule 62-213.440, F.A.C.]

## **Appendix A - 40 CFR 60, Subpart A Standard Conditions**

### **40 CFR 60.1 Applicability.**

- (a) Except as provided in 40 CFR 60 subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.
- (b) Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.
- (c) In addition to complying with the provisions of this part, the owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (CAA) as amended November 15, 1990 (42 U.S.C. 7661).  
[40 CFR 60.1(a), (b) and (c)]

### **40 CFR 60.5 Determination of construction or modification.**

- (a) When requested to do so by an owner or operator, the Administrator will make a determination of whether action taken or intended to be taken by such owner or operator constitutes construction (including reconstruction) or modification or the commencement thereof within the meaning of this part.
- (b) The Administrator will respond to any request for a determination under paragraph (a) of this section within 30 days of receipt of such request.

### **§ 60.6 Review of plans.**

- (a) When requested to do so by an owner or operator, the Administrator will review plans for construction or modification for the purpose of providing technical advice to the owner or operator.
- (b)(1) A separate request shall be submitted for each construction or modification project.
- (2) Each request shall identify the location of such project, and be accompanied by technical information describing the proposed nature, size, design, and method of operation of each affected facility involved in such project, including information on any equipment to be used for measurement or control of emissions.
- (c) Neither a request for plans review nor advice furnished by the Administrator in response to such request shall (1) relieve an owner or operator of legal responsibility for compliance with any provision of this part or of any applicable State or local requirement, or (2) prevent the Administrator from implementing or enforcing any provision of this part or taking any other action authorized by the Act.

### **40 CFR 60.7 Notification and record keeping.**

- (a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, as follows:

1. A notification of the date construction (or reconstruction as defined under § 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

2. Reserved.

3. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

4. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in § 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

5. A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 40 CFR 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

6. A notification of the anticipated date for conducting the opacity observations required by 40 CFR 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.

7. A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 40 CFR 60.8 in lieu of Method 9 observation data as allowed by 40 CFR 60.11(e)(5) of 40 CFR 60. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(d) The summary report form shall contain the information and be in the format shown in Figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

*[See Attached Figure 1-Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance]*

(e) (1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance re-port (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (c)(2) of this section.



(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:

(1) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(2) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(g) If notification substantially similar to that in 40 CFR 60.7(a) is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of 40 CFR 60.7(a).

(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

[40 CFR 60.7(a), (b), (c), (d), (e), (f), (g), (h)]

#### **40 CFR 60.8 Performance tests.**

(a) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

[40 CFR 60.8(a)]

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves

shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in 40 CFR 60.8 shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

[40 CFR 60.8(b)(1), (2), (3), (4) & (5)]

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

[40 CFR 60.8(c)].

(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the administrator (or delegated State or local agency) as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator (or delegated State or local agency) by mutual agreement.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

- (1) Sampling ports adequate for test methods applicable to such facility. This includes
  - (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and
  - (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- (2) Safe sampling platform(s).
- (3) Safe access to sampling platform(s).
- (4) Utilities for sampling and testing equipment.

[40 CFR 60.8(e)].

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

[40 CFR 60.8(f)].

## **§ 60.9 Availability of information.**

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator

For the purposes of §§ 60.5 and 60.6 is governed by §§ 2.201 through 2.213 of this chapter and not by § 2.301 of this chapter.)

#### **40 CFR 60.10 State authority.**

The provisions of 40 CFR 60 shall not be construed in any manner to preclude any State or political subdivision thereof from:

(a) Adopting and enforcing any emission standard or limitation applicable to an affected facility, provided that such emission standard or limitation is not less stringent than the standard applicable to such facility.

(b) Requiring the owner or operator of an affected facility to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such facility.

[40 CFR 60.10(a) and (b)].

#### **40 CFR 60.11 Compliance with standards and maintenance requirements.**

(a) Compliance with standards in this part, other than opacity standards, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5). For purposes of determining initial compliance, the minimum total time of observations shall be 23 hours (30 6-minute averages) for the performance test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard).

(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e) (1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in 40 CFR 60.8 unless one of the following conditions apply. If no performance test under 40 CFR 60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial performance test required under 40 CFR 60.8, the source owner or operator shall reschedule the opacity observations as soon after the initial performance test as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. In these cases, the 30-day prior notification to the Administrator required in 40 CFR 60.7(a)(6) shall be waived. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under 40 CFR 60.8. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from being made concurrently with the initial performance test in accordance with procedures contained in Method 9 of appendix B of this part. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with

opacity standards. The owner or operator of an affected facility shall make available, upon request by the Administrator, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. Except as provided in 40 CFR 60.11(e)(5), the results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation) Performance Specification 1 in appendix B of 40 CFR 60, has been properly maintained and (at the time of the alleged violation) that the resulting data have not been altered in any way.

(2) Except as provided in 40 CFR 60.11(e)(3), the owner or operator of an affected facility to which an opacity standard in this part applies shall conduct opacity observations in accordance with 40 CFR 60.11(b), shall record the opacity of emissions, and shall report to the Administrator the opacity results along with the results of the initial performance test required under 40 CFR 60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.

(3) The owner or operator of an affected facility to which an opacity standard in this part applies may request the Administrator to determine and to record the opacity of emissions from the affected facility during the initial performance test and at such times as may be required. The owner or operator of the affected facility shall report the opacity results. Any request to the Administrator to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in 40 CFR 60.7(a)(6). If, for some reason, the Administrator cannot determine and record the opacity of emissions from the affected facility during the performance test, then the provisions of 40 CFR 60.7(e)(1) shall apply.

(4) The owner or operator of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial performance test required by 40 CFR 60.8 and shall furnish the Administrator a written report of the monitoring results along with Method 9 and 40 CFR 60.8 performance test results.

(5) The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under 40 CFR 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard.

(6) Upon receipt from an owner or operator of the written reports of the results of the performance tests required by 40 CFR 60.8, the opacity observation results and observer certification required by 40 CFR 60.11(e)(1), and the COMS results, if applicable, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If COMS data results are used to comply with an opacity standard, only those results are required to be submitted along with the performance test results required by 40 CFR 60.8. If the Administrator finds that an affected facility is in compliance with all

applicable standards for which performance tests are conducted in accordance with 40 CFR 60.8 of this part but during the time such performance tests are being conducted fails to meet any applicable opacity standard, the shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.

(7) The Administrator will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions established by the Administrator; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.

(8) The Administrator will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity standard in the Federal Register.

(f) Special provisions set forth under an applicable subpart of 40 CFR 60 shall supersede any conflicting provisions of 40 CFR 60.11.

[40 CFR 60.11(a), (b), (c), (d), (e) and (f)]

#### **40 CFR 60.12 Circumvention.**

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[40 CFR 60.12]

#### **40 CFR 60.13 Monitoring requirements.**

(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to 40 CFR 60, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.

(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under 40 CFR 60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under 40 CFR 60.11(e)(5), he/she shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under 40 CFR 60.8 or within 30 days thereafter in accordance with the applicable performance specification in appendix B of 40 CFR 60. The

owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under 40 CFR 60.8 and as described in 40 CFR 60.11(e)(5), shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in 40 CFR 60.13(c) at least 10 days before the performance test required under 40 CFR 60.8 is conducted.

(2) Except as provided in 40 CFR 60.13(c)(1), the owner or operator of an affected facility shall furnish the Administrator within 60 days of completion two or, upon request, more copies of a written report of the results of the performance evaluation.

(d) (1) Owners and operators of a CEMS installed in accordance with the provisions of this part, must check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For a COMS, the optical surfaces, exposed to the effluent gases, must be cleaned before performing the zero and upscale drift adjustments, except for systems using automatic zero adjustments. The optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(f) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of 40 CFR 60 shall be used.

(g) (1) When more than one continuous monitoring system is used to measure the emissions from only one affected facility (e.g. multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless installation of fewer systems is approved by the Administrator.

(2) When the effluents from two or more affected facilities subject to the same opacity standard are combined before being released to the atmosphere, the owner or operator may either install a continuous opacity monitoring system at a location monitoring the combined effluent or install an opacity combiner system comprised of opacity and flow monitoring systems on each stream, and shall report as per Sec. 60.7(c) on the combined effluent. When the affected facilities are not subject to the same opacity standard applicable, except for documented periods of shutdown of the affected facility, subject to the most stringent opacity standard shall apply

(3) When the effluents from two or more affected facilities subject to the same emissions standard, other than opacity, are combined before released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the continuous monitoring standard, separate continuous monitoring systems shall be installed on each effluent and the owner or operator shall report as required for each affected facility.

(h) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. For owners or operators complying with the requirements in Sec. 60.7(f)(1) or (2), data averages must include any data recorded during periods of monitor breakdown or malfunction. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng or pollutant per J of heat input). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

[Rule 62-296.800, F.A.C.; 40 CFR 60.13(h)].

(i) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following:

(1) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases.

(2) Alternative monitoring requirements when the affected facility is infrequently operated.

(3) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.

(4) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.

(5) Alternative methods of converting pollutant concentration measurements to units of the standards.

(6) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.

(7) Alternatives to the A.S.T.M. test methods or sampling procedures specified by any subpart.

(8) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, appendix B, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying

with the requirements in Performance Specification 1. The Administrator may require that such demonstration be performed for each affected facility.

(9) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities is released to the atmosphere through more than one point.

[Rule 62-296.800, F.A.C.; 40 CFR 60.13(i)].

(j) An alternative to the relative accuracy (RA) test specified in Performance Specification 2 of appendix B may be requested as follows:

(1) An alternative to the reference method tests for determining RA is available for sources with emission rates demonstrated to be less than 50 percent of the applicable standard. A source owner or operator may petition the Administrator to waive the RA test in section 8.4 of Performance Specification 2 and substitute the procedures in section 16.0 if the results of a performance test conducted according to the requirements in 40 CFR 60.8 of this subpart or other tests performed

following the criteria in 40 CFR 60.8 demonstrate that the emission rate of the pollutant of interest in the units of the applicable standard is less than 50 percent of the applicable standard. For sources subject to standards expressed as control efficiency levels, a source owner or operator may petition the Administrator to waive the RA test and substitute the procedures in section 16.0 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the continuous emission monitoring system is used to determine compliance continuously with the applicable standard. The petition to waive the RA test shall include a detailed description of the procedures to be applied. Included shall be location and procedure for conducting the alternative, the concentration or response levels of the alternative RA materials, and the other equipment checks included in the alternative procedure. The Administrator will review the petition for completeness and applicability. The determination to grant a waiver will depend on the intended use of the CEMS data (e.g., data collection purposes other than NSPS) and may require specifications more stringent than in Performance Specification 2 (e.g., the applicable emission limit is more stringent than NSPS).

(2) The waiver of a CEMS RA test will be reviewed and may be rescinded at such time, following successful completion of the alternative RA procedure that the CEMS data indicate the source emissions approaching the level. The criterion for reviewing the waiver is the collection of CEMS data showing that emissions have exceeded 70 percent of the applicable standard for seven, consecutive, averaging periods as specified by the applicable regulation(s). For sources subject to standards expressed as control efficiency levels, the criterion for reviewing the waiver is the collection of CEMS data showing that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for seven, consecutive, averaging periods as specified by the applicable regulation(s) [e.g., 40 CFR 60.45(g)(2) and 40 CFR 60.45(g)(3), 40 CFR 60.73(e), and 40 CFR 60.84(e)]. It is the responsibility of the source operator to maintain records and determine the level of emissions relative to the criterion on the waiver of RA testing. If this criterion is exceeded, the owner or operator must notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increasing emissions. The Administrator will review the notification and may rescind the waiver and require the owner or operator to conduct a RA test of the CEMS as specified in section 8.4 of Performance Specification 2.

[Rule 62-296.800, F.A.C.; 40 CFR 60.13(j)].

#### **40 CFR 60.14 Modification.**

(a) Except as provided under 40 CFR 60.14(e) and 40 CFR 60.14(f), any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act.

Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.



[Rule 62-296.800, F.A.C.; 40 CFR 60.14(a)].

(b) Emission rate shall be expressed as kg/hr (lbs./hour) of any pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine emission rate:

(1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors", EPA Publication No. AP-42, or other emission factors determined by the Administrator to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrates that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.

(2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in 40 CFR 60.14(b)(1) does not demonstrate to the Administrator's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator utilizing emission factors as referenced in 40 CFR 60.14(b)(1). When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in 40 CFR 60 appendix C of 40 CFR 60 shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(b)].

(c) The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this part any other facility within that source.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(c)].

(d) [Reserved]

(e) The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of 40 CFR 60.14(c) and 40 CFR 60.15.

(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.

(3) An increase in the hours of operation.

(4) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by 40 CFR 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.

(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.

(6) The relocation or change in ownership of an existing facility.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(e)].

(f) Special provisions set forth under an applicable subpart of this part shall supersede any conflicting provisions of this section.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(f)].

(g) Within 180 days of the completion of any physical or operational change subject to the control measures specified in 40 CFR 60.14(a), compliance with all applicable standards must be achieved.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(g)].

(h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.

(i) Repowering projects that are awarded funding from the Department of Energy as permanent clean coal technology demonstration projects (or similar projects funded by EPA) are exempt from the requirements of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the five years prior to the change.

(j) (1) Repowering projects that qualify for an extension under section 409(b) of the Clean Air Act are exempt from the requirements of this section, provided that such change does not increase the actual hourly emissions of any pollutant regulated under this section above the actual hourly emissions achievable at that unit during the 5 years prior to the change.

(2) This exemption shall not apply to any new unit that:

(i) Is designated as a replacement for an existing unit;

(ii) Qualifies under section 409(b) of the Clean Air Act for an extension of an emission limitation compliance date under section 405 of the Clean Air Act; and

(iii) Is located at a different site than the existing unit.

(k) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project is exempt from the requirements of this section. A *temporary clean coal control technology demonstration project*, for the purposes of this section is a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(l) The reactivation of a very clean coal-fired electric utility steam generating unit is exempt from the requirements of this section.

#### **40 CFR 60.15 Reconstruction.**

(a) An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(a)].

(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and

(2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(b)].

(c) "Fixed capital cost" means the capital needed to provide all the depreciable components.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(c)].

(d) If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Administrator of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:

(1) Name and address of the owner or operator.

(2) The location of the existing facility.

(3) A brief description of the existing facility and the components which are to be replaced.

(4) A description of the existing air pollution control equipment and the proposed air pollution control equipment.

(5) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.

(6) The estimated life of the existing facility after the replacements.

(7) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(d)].

(e) The Administrator will determine, within 30 days of the receipt of the notice required by 40 CFR 60.15(d) and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(e)].

(f) The Administrator's determination under 40 CFR 60.15(e) shall be based on:

(1) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;

(2) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;

(3) The extent to which the components being replaced cause or contribute to the emissions from the facility; and

(4) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(f)].

(g) Individual subparts of this part may include specific provisions which refine and delimit the concept of reconstruction set forth in this section.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(g)].

#### **§ 60.18 General control device requirements.**

(a) *Introduction.* This section contains requirements for control devices used to comply with applicable subparts of parts 60 and 61. The requirements are placed here for administrative convenience and only apply to facilities covered by subparts referring to this section.

(b) *Flares.* Paragraphs (c) through (f) apply to flares.

(c) (1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

(3) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (c)(3)(ii) of this section and the maximum tip velocity specifications in paragraph (c)(4) of this section, or adhering to the requirements in paragraph (c)(3)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity,  $V_{max}$ , as determined by the following equation:

$$V_{max} = (XH_2 - K_1) * K_2$$

Where:

$V_{max}$  = Maximum permitted velocity, m/sec.

$K_1$  = Constant, 6.0 volume-percent hydrogen.

$K_2$  = Constant, 3.9(m/sec)/volume-percent hydrogen.

$XH_2$  = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 60.17).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (f)(4) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.

(4) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii) of this section.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity,  $V_{max}$ , as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

(5) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ , as determined by the method specified in paragraph (f)(6).

(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.

(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(f) (1) Method 22 of appendix A to this part shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

<http://www.access.gpo.gov/ecfr/graphics/pdfs/ec01jn92.008.pdf>

Eq. 1

where:

HT=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \text{Constant}, 1.740 \times 10^{-7} \left( \frac{1}{\text{ppm}} \right) \left( \frac{\text{g mole}}{\text{scm}} \right) \left( \frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for  $\left( \frac{\text{g mole}}{\text{scm}} \right)$  is 20°C;

<http://www.access.gpo.gov/ecfr/graphics/pdfs/ec01jn92.009.pdf>

Eq. 2

Ci=Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in § 60.17); and

Hi=Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.

(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(5) The maximum permitted velocity, Vmax, for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.  $\text{Log}_{10}(V_{\text{max}}) = (HT + 28.8)/31.7$

Vmax=Maximum permitted velocity, M/sec

28.8=Constant

31.7=Constant

HT=The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity, Vmax, for air-assisted flares shall be determined by the following equation.  $V_{\text{max}} = 8.706 + 0.7084 (HT)$

Vmax=Maximum permitted velocity, m/sec

8.706=Constant

0.7084=Constant

HT=The net heating value as determined in paragraph (f)(3).

## § 60.19 General notification and reporting requirements.

(a) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word "calendar" is absent, unless otherwise specified in an applicable requirement.

(b) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be post-marked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be delivered or postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the post-mark provided by the U.S. Postal Service, or alternative means of delivery, including the use of electronic media, agreed to by the permitting authority, is acceptable.

(c) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(d) If an owner or operator of an affected facility in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such facility under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. The allowance in the previous sentence applies in each State beginning 1 year after the affected facility is required to be in compliance with the applicable subpart in this part. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(e) If an owner or operator supervises one or more stationary sources affected by standards set under this part and standards set under part 61, part 63, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State with an approved permit program) a common schedule on which periodic reports required by each applicable standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the applicable subpart in this part, or 1 year after the stationary source is required to be in compliance with the applicable 40 CFR part 61 or part 63 of this chapter standard, whichever is latest. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(f) (1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (f)(2) and (f)(3) of this section, the owner or operator of an affected facility remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (f)(2) and (f)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or

postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

a.con

/raw

02/14/00

## **Appendix Y - 40 CFR 60, Subpart Y Standard Conditions**

### **Subpart Y- Standards of Performance for Coal Preparation Plants**

#### **§ 60.250 Applicability and designation of affected facility.**

(a) The provisions of this subpart are applicable to any of the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after October 24, 1974, is subject to the requirements of this subpart.

#### **§ 60.251 Definitions.**

As used in this subpart, all terms not defined herein have the meaning given them in the Act and in subpart A of this part.

(a) *Coal preparation plant* means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(b) *Bituminous coal* means solid fossil fuel classified as bituminous coal by ASTM Designation D388-77, 90, 91, 95, or 98a (incorporated by reference -- see § 60.17).

(c) *Coal* means all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388-77, 90, 91, 95, or 98a (incorporated by reference -- see § 60.17).

(d) *Cyclonic flow* means a spiraling movement of exhaust gases within a duct or stack.

(e) *Thermal dryer* means any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(f) *Pneumatic coal-cleaning equipment* means any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

(g) *Coal processing and conveying equipment* means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

(h) *Coal storage system* means any facility used to store coal except for open storage piles.

(i) *Transfer and loading system* means any facility used to transfer and load coal for shipment.

#### **§ 60.252 Standards for particulate matter.**

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any thermal dryer gases which:



- (1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf).
- (2) Exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any pneumatic coal cleaning equipment, gases which:

- (1) Contain particulate matter in excess of 0.040 g/dscm (0.017 gr/dscf).
- (2) Exhibit 10 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

#### **§ 60.253 Monitoring of operations.**

(a) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(1) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1.7^{\circ}\text{C}$  ( $\pm 3^{\circ}\text{F}$ ).

(2) For affected facilities that use venturi scrubber emission control equipment:

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1$  inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 5$  percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The Administrator may be consulted for approval of alternative locations.

(b) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under § 60.13(b).

#### **§ 60.254 Test methods and procedures.**

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.252 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin.

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

## APPENDIX TV-6. TITLE V CONDITIONS (version dated 06/23/06)

[Note: This attachment includes "canned conditions" developed from the "Title V Core List."]

{Permitting note: APPENDIX TV-6, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate.}

### Chapter 62-4, F.A.C.

1 **Not federally enforceable.** General Prohibition. Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained, constructed, expanded, or modified without the appropriate and valid permits issued by the Department, unless the source is exempted by Department rule. The Department may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder. A permitted installation may only be operated, maintained, constructed, expanded or modified in a manner that is consistent with the terms of the permit.

[Rule 62-4.030, Florida Administrative Code (F.A.C.); and, Section 403.087, Florida Statute (F.S.)]

2. **Not federally enforceable.** Procedures to Obtain Permits and Other Authorizations; Applications.

(1) Any person desiring to obtain a permit from the Department shall apply on forms prescribed by the Department and shall submit such additional information as the Department by law may require.

(2) All applications and supporting documents shall be filed in quadruplicate with the Department.

(3) To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution, shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S. All applications for a Department permit shall be certified by a professional engineer registered in the State of Florida except, when the application is for renewal of an air pollution operation permit at a non-Title V source as defined in Rule 62-210.200, F.A.C., or where professional engineering is not required by Chapter 471, F.S. Where required by Chapter 471 or 492, F.S., applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.

(4) Processing fees for air construction permits shall be in accordance with Rule 62-4.050(4), F.A.C.

(5)(a) To be considered by the Department, each application must be accompanied by the proper processing fee. The fee shall be paid by check, payable to the Department of Environmental Protection. The fee is non-refundable except as provided in Section 120.60, F.S., and in this section.

(b) When an application is received without the required fee, the Department shall acknowledge receipt of the application and shall immediately notify the applicant by certified mail that the required fee was not received and advise the applicant of the correct fee. The Department shall take no further action until the correct fee is received. If a fee was received by the Department which is less than the amount required, the Department shall return the fee along with the written notification.

(c) Upon receipt of the proper application fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin.

(d) If the applicant does not submit the required fee within ten days of receipt of written notification, the Department shall either return the unprocessed application or arrange with the applicant for the pick up of the application.

(e) If an applicant submits an application fee in excess of the required fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin upon receipt, and the Department shall refund to the applicant the amount received in excess of the required fee.

(6) Any substantial modification to a complete application shall require an additional processing fee determined pursuant to the schedule set forth in Rule 62-4.050, F.A.C., and shall restart the time requirements of Sections 120.60 and 403.0876, F.S. For purposes of this subsection, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review.

(7) Modifications to existing permits proposed by the permittee which require substantial changes in the existing permit or require substantial evaluation by the Department of potential impacts of the proposed modifications shall require the same fee as a new application for the same time duration except for modification under Chapter 62-45, F.A.C.

[Rule 62-4.050, F.A.C.]

APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

3. Standards for Issuing or Denying Permits. Except as provided at Rule 62-213.460, F.A.C., the issuance of a permit does not relieve any person from complying with the requirements of Chapter 403, F.S., or Department rules.  
[Rule 62-4.070(7), F.A.C.]

4. Modification of Permit Conditions

(1) For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time. For the purpose of this section, good cause shall include, but not be limited to, any of the following: (also, see Condition No. 38.)

- (a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship.
- (b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403, F.S.
- (c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards.
- (e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance.

(2) A permittee may request a modification of a permit by applying to the Department

(3) A permittee may request that a permit be extended as a modification of the permit. Such a request must be submitted to the Department in writing before the expiration of the permit. Upon timely submittal of a request for extension, unless the permit automatically expires by statute or rule, the permit will remain in effect until final agency action is taken on the request. For construction permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that, upon completion, the extended permit will comply with the standards and conditions required by applicable regulation. For all other permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that the extended permit will comply with the standards and conditions applicable to the original permit. A permit for which the permit application fee was prorated in accordance with Rule 62-4.050(4)(v), F.A.C., shall not be extended. In no event shall a permit be extended or remain in effect longer than the time limits established by statute or rule.

[Rule 62-4.080, F.A.C.]

5. Renewals. Prior to 180 days before the expiration of a permit issued pursuant to Chapter 62-213, F.A.C., the permittee shall apply for a renewal of a permit using forms incorporated by reference in the specific rule chapter for that kind of permit. A renewal application shall be timely and sufficient. If the application is submitted prior to 180 days before expiration of the permit, it will be considered timely and sufficient. If the renewal application is submitted at a later date, it will not be considered timely and sufficient unless it is submitted and made complete prior to the expiration of the operation permit. When the application for renewal is timely and sufficient, the existing permit shall remain in effect until the renewal application has been finally acted upon by the Department or, if there is court review of the Department's final agency action, until a later date is required by Section 120.60, F.S., provided that, for renewal of a permit issued pursuant to Chapter 62-213, F.A.C., the applicant complies with the requirements of Rules 62-213.420(1)(b)3. and 4., F.A.C.

[Rule 62-4.090, F.A.C.]

6. Suspension and Revocation.

(1) Permits shall be effective until suspended, revoked, surrendered, or expired and shall be subject to the provisions of Chapter 403, F.S., and rules of the Department.

(2) Failure to comply with pollution control laws and rules shall be grounds for suspension or revocation.

(3) A permit issued pursuant to Chapter 62-4, F.A.C., shall not become a vested property right in the permittee. The Department may revoke any permit issued by it if it finds that the permit holder or his agent:

- (a) Submitted false or inaccurate information in his application or operational reports.
- (b) Has violated law, Department orders, rules or permit conditions.
- (c) Has failed to submit operational reports or other information required by Department rules
- (d) Has refused lawful inspection under Section 403.091, F.S.

(4) No revocation shall become effective except after notice is served by personal services, certified mail, or newspaper notice pursuant to Section 120.60(7), F.S., upon the person or persons named therein and a hearing held if requested within the time specified in the notice. The notice shall specify the provision of the law, or rule alleged to be violated, or the permit condition or Department order alleged to be violated, and the facts alleged to constitute a violation thereof

[Rule 62-4.100, F.A.C.]

7. **Not federally enforceable. Financial Responsibility** The Department may require an applicant to submit proof of financial responsibility and may require the applicant to post an appropriate bond to guarantee compliance with the law and Department rules. [Rule 62-4.110, F.A.C.]

8. **Transfer of Permits.**

(1) Within 30 days after the sale or legal transfer of a permitted facility, an "Application for Transfer of Permit" (DEP Form 62-1.201(1)) must be submitted to the Department. This form must be completed with the notarized signatures of both the permittee and the proposed new permittee. For air permits, an "Application for Transfer of Air Permit" (DEP Form 62-210.900(7)) shall be submitted.

(2) The Department shall approve the transfer of a permit unless it determines that the proposed new permittee cannot provide reasonable assurances that conditions of the permit will be met. The determination shall be limited solely to the ability of the new permittee to comply with the conditions of the existing permit, and it shall not concern the adequacy of these permit conditions. If the Department proposes to deny the transfer, it shall provide both the permittee and the proposed new permittee a written objection to such transfer together with notice of a right to request a Chapter 120, F.S., proceeding on such determination.

(3) Within 30 days of receiving a properly completed Application for Transfer of Permit form, the Department shall issue a final determination. The Department may toll the time for making a determination on the transfer by notifying both the permittee and the proposed new permittee that additional information is required to adequately review the transfer request. Such notification shall be served within 30 days of receipt of an Application for Transfer of Permit form, completed pursuant to Rule 62-4.120(1), F.A.C. If the Department fails to take action to approve or deny the transfer within 30 days of receipt of the completed Application for Transfer of Permit form, or within 30 days of receipt of the last item of timely requested additional information, the transfer shall be deemed approved.

(4) The permittee is encouraged to apply for a permit transfer prior to the sale or legal transfer of a permitted facility. However, the transfer shall not be effective prior to the sale or legal transfer.

(5) Until this transfer is approved by the Department, the permittee and any other person constructing, operating, or maintaining the permitted facility shall be liable for compliance with the terms of the permit. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations occurring prior to the sale or legal transfer of the facility.

[Rule 62-4.120, F.A.C.]

9. **Plant Operation-Problems.** If the permittee is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately notify the Department. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. (also, see Condition No. 10.)

[Rule 62-4.130, F.A.C.]

10. For purposes of notification to the Department pursuant to Condition No. 9., Condition No. 12.(8), and Rule 62-4.130, F.A.C., Plant Operation-Problems, "immediately" shall mean the same day, if during a workday (i.e., 8:00 a.m. - 5:00 p.m.), or the first business day after the incident, excluding weekends and holidays; and, for purposes of 40 CFR 70.6(a)(3)(iii)(B), "prompt" shall have the same meaning as "immediately". [also, see Conditions Nos. 9. and 12.(8).]

[40 CFR 70.6(a)(3)(iii)(B)]

11. **Not federally enforceable. Review.** Failure to request a hearing within 14 days of receipt of notice of proposed or final agency action on a permit application or as otherwise required in Chapter 62-103, F.A.C., shall be deemed a waiver of the right to an administrative hearing.

[Rule 62-4.150, F.A.C.]

12. **Permit Conditions** All permits issued by the Department shall include the following general conditions:

(1) The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

- (2) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- (3) As provided in Subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
- (4) This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- (5) This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department.
- (6) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- (7) The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
- (a) Have access to and copy any records that must be kept under conditions of the permit;
  - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
  - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.
- (8) If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information: **(also, see Condition No. 10.)**
- (a) A description of and cause of noncompliance; and
  - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
- (9) In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- (10) The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- (11) This permit is transferable only upon Department approval in accordance with Rule 62-4.120, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- (12) This permit or a copy thereof shall be kept at the work site of the permitted activity.
- (14) The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five (5) years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - (c) Records of monitoring information shall include:
    - 1. The date, exact place, and time of sampling or measurements;
    - 2. The person responsible for performing the sampling or measurements;
    - 3. The dates analyses were performed;
    - 4. The person responsible for performing the analyses;

5. The analytical techniques or methods used;
6. The results of such analyses.

(15) When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

[Rules 62-4.160 and 62-213.440(1)(b), F.A.C.]

13. Construction Permits.

(1) No person shall construct any installation or facility which will reasonably be expected to be a source of air or water pollution without first applying for and receiving a construction permit from the Department unless exempted by statute or Department rule. In addition to the requirements of Chapter 62-4, F.A.C., applicants for a Department Construction Permit shall submit the following as applicable:

- (a) A completed application on forms furnished by the Department.
- (b) An engineering report covering:
  1. Plant description and operations,
  2. Types and quantities of all waste material to be generated whether liquid, gaseous or solid,
  3. Proposed waste control facilities,
  4. The treatment objectives,
  5. The design criteria on which the control facilities are based, and
  6. Other information deemed relevant.

Design criteria submitted pursuant to Rule 62-4.210(1)(b)5., F.A.C., shall be based on the results of laboratory and pilot-plant scale studies whenever such studies are warranted. The design efficiencies of the proposed waste treatment facilities and the quantities and types of pollutants in the treated effluents or emissions shall be indicated. Work of this nature shall be subject to the requirements of Chapter 471, F.S. Where confidential records are involved, certain information may be kept confidential pursuant to Section 403.111, F.S.

(c) The owners' written guarantee to meet the design criteria as accepted by the Department and to abide by Chapter 403, F.S., and the rules of the Department as to the quantities and types of materials to be discharged from the installation. The owner may be required to post an appropriate bond or other equivalent evidence of financial responsibility to guarantee compliance with such conditions in instances where the owner's financial resources are inadequate or proposed control facilities are experimental in nature.

(2) The construction permit may contain conditions and an expiration date as determined by the Secretary or the Secretary's designee.

(3) When the Department issues a permit to construct, the permittee shall be allowed a period of time, specified in the permit, to construct, and to operate and test to determine compliance with Chapter 403, F.S., and the rules of the Department and, where applicable, to apply for and receive an operation permit. The Department may require tests and evaluations of the treatment facilities by the permittee at his/her expense.

[Rule 62-4.210, F.A.C.]

14. **Not federally enforceable.** Operation Permit for New Sources. To properly apply for an operation permit for new sources the applicant shall submit the appropriate fee and certification that construction was completed, noting any deviations from the conditions in the construction permit and test results where appropriate.

[Rule 62-4.220, F.A.C.]

Chapters 28-106 and 62-110, F.A.C.

15. Public Notice, Public Participation, and Proposed Agency Action The permittee shall comply with all of the requirements for public notice, public participation, and proposed agency action pursuant to Rules 62-110.106 and 62-210.350, F.A.C.

[Rules 62-110.106, 62-210.350 and 62-213.430(1)(b), F.A.C.]

16. Administrative Hearing. The permittee shall comply with all of the requirements for a petition for administrative hearing or waiver of right to administrative proceeding pursuant to Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.

[Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.]

Chapter 62-204, F.A.C.

17. Asbestos. This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C.

Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source.

[40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

Chapter 62-210, F.A.C.

18. Permits Required. Unless exempted from permitting pursuant to Rule 62-210.300(3)(a) or (b), F.A.C., or Rule 62-4.040, F.A.C., or unless specifically authorized by provision of Rule 62-210.300(4), F.A.C., or Rule 62-213.300, F.A.C., the owner or operator of any facility or emissions unit which emits or can reasonably be expected to emit any air pollutant shall obtain an appropriate permit from the Department prior to beginning construction, reconstruction pursuant to 40 CFR 60.15 or 63.2, modification, or the addition of pollution control equipment; or to authorize initial or continued operation of the emissions unit; or to establish a PAL or Air Emissions Bubble. All emissions limitations, controls, and other requirements imposed by such permits shall be at least as stringent as any applicable limitations and requirements contained in or enforceable under the State Implementation Plan (SIP) or that are otherwise federally enforceable. Except as provided at Rule 62-213.460, F.A.C., issuance of a permit does not relieve the owner or operator of a facility or an emissions unit from complying with any applicable requirements, any emission limiting standards or other requirements of the air pollution rules of the Department or any other such requirements under federal, state, or local law.

(1) Air Construction Permits.

(a) Unless exempt from permitting pursuant to Rule 62-210.300(3)(a) or (b), F.A.C., or Rule 62-4.040, F.A.C., an air construction permit shall be obtained by the owner or operator of any proposed new, reconstructed, or modified facility or emissions unit, or any new pollution control equipment prior to the beginning of construction, reconstruction pursuant to 40 CFR 60.15 or 63.2, or modification of the facility or emissions unit or addition of the pollution control equipment; or to establish a PAL; in accordance with all applicable provisions of Chapter 62-210, F.A.C., Chapter 62-212, F.A.C., and Chapter 62-4, F.A.C. Except as provided under Rule 62-213.415, F.A.C., the owner or operator of any facility seeking to create or change an air emissions bubble shall obtain an air construction permit in accordance with all the applicable provisions of Chapter 62-210, F.A.C., Chapters 62-212 and 62-4, F.A.C. The construction permit shall be issued for a period of time sufficient to allow construction, reconstruction or modification of the facility or emissions unit or addition of the air pollution control equipment; and operation while the owner or operator of the new, reconstructed or modified facility or emissions unit or the new pollution control equipment is conducting tests or otherwise demonstrating initial compliance with the conditions of the construction permit.

(b) Notwithstanding the expiration of an air construction permit, all limitations and requirements of such permit that are applicable to the design and operation of the permitted facility or emissions unit shall remain in effect until the facility or emissions unit is permanently shut down, except for any such limitation or requirement that is obsolete by its nature (such as a requirement for initial compliance testing) or any such limitation or requirement that is changed in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C. Either the applicant or the Department can propose that certain conditions be considered obsolete. Any conditions or language in an air construction permit that are included for informational purposes only, if they are transferred to the air operation permit, shall be transferred for informational purposes only and shall not become enforceable conditions unless voluntarily agreed to by the permittee or otherwise required under Department rules.

1. Except for those limitations or requirements that are obsolete, all limitations and requirements of an air construction permit shall be included and identified in any air operation permit for the facility or emissions unit. The limitations and requirements included in the air operation permit can be changed, and thereby superseded, through the issuance of an air construction permit, federally enforceable state air operation permit, federally enforceable air general permit, or Title V air operation permit; provided, however, that:

- a. Any change that would constitute an administrative correction may be made pursuant to Rule 62-210.360, F.A.C.;
- b. Any change that would constitute a modification, as defined at Rule 62-210.200, F.A.C., shall be accomplished only through the issuance of an air construction permit; and
- c. Any change in a permit limitation or requirement that originates from a permit issued pursuant to 40 CFR 52.21, Rule 62-204.800(1)(d)2., F.A.C., Rule 62-212.400, F.A.C., Rule 62-212.500, F.A.C., or any former codification of Rule 62-212.400 or Rule 62-212.500, F.A.C., shall be accomplished only through the issuance of a new or revised air construction permit under Rule 62-204.800(1)(d)2., Rule 62-212.400 or Rule 62-212.500, F.A.C., as appropriate.

2. The force and effect of any change in a permit limitation or requirement made in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C., shall be the same as if such change were made to the original air construction permit.

3. Nothing in Rule 62-210.300(1)(b), F.A.C., shall be construed as to allow operation of a facility or emissions unit without a valid air operation permit.

(2) Air Operation Permits. Upon expiration of the air operation permit for any existing facility or emissions unit, subsequent to construction or modification, or subsequent to the creation of or change to a bubble, and demonstration of compliance with the conditions of the construction permit for any new or modified facility or emissions unit, any air emissions bubble, or as otherwise provided in Chapter 62-210, F.A.C., or Chapter 62-213, F.A.C., the owner or operator of such facility or emissions unit shall obtain a renewal air operation permit, an initial air operation permit or air general permit, or an administrative correction or revision of an existing air operation permit, whichever is appropriate, in accordance with all applicable provisions of Chapter 62-210, F.A.C., Chapter 62-213, F.A.C., and Chapter 62-4, F.A.C.

(a) Minimum Requirements for All Air Operation Permits. At a minimum, a permit issued pursuant to this subsection shall:

1. Specify the manner, nature, volume and frequency of the emissions permitted, and the applicable emission limiting standards or performance standards, if any;
2. Require proper operation and maintenance of any pollution control equipment by qualified personnel, where applicable in accordance with the provisions of any operation and maintenance plan required by the air pollution rules of the Department.
3. Contain an effective date stated in the permit which shall not be earlier than the date final action is taken on the application and be issued for a period, beginning on the effective date, as provided below:
  - a. The operation permit for an emissions unit which is in compliance with all applicable rules and in operational condition, and which the owner or operator intends to continue operating, shall be issued or renewed for a five-year period, except that, for Title V sources subject to Rule 62-213.420(1)(a)1., F.A.C., operation permits shall be extended until 60 days after the due date for submittal of the facility's Title V permit application as specified in Rule 62-213.420(1)(a)1., F.A.C.
  - b. Except as provided in Rule 62-210.300(2)(a)3.d., F.A.C., the operation permit for an emissions unit which has been shut down for six months or more prior to the expiration date of the current operation permit, shall be renewed for a period not to exceed five years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided:
    - (i) the owner or operator of the emissions unit demonstrates to the Department that the emissions unit may need to be reactivated and used, or that it is the owner's or operator's intent to apply to the Department for a permit to construct a new emissions unit at the facility before the end of the extension period; and
    - (ii) the owner or operator of the emissions unit agrees to and is legally prohibited from providing the allowable emission permitted by the renewed permit as an emissions offset to any other person under Rule 62-212.500, F.A.C.; and
    - (iii) the emissions unit was operating in compliance with all applicable rules as of the time the source was shut down.
  - c. Except as provided in Rule 62-210.300(2)(a)3.d., F.A.C., the operation permit for an emissions unit which has been shut down for five years or more prior to the expiration date of the current operation permit shall be renewed for a maximum period not to exceed ten years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided the conditions given in Rule 62-210.300(2)(a)3.b., F.A.C., are met and the owner or operator demonstrates to the Department that failure to renew the permit would constitute a hardship, which may include economic hardship.
  - d. The operation permit for an electric utility generating unit on cold standby or long-term reserve shutdown shall be renewed for a five-year period, and additional five-year periods, even if the unit is not maintained in operational condition, provided the conditions given in Rules 62-210.300(2)(a)3.b.(i) through (iii), F.A.C., are met.
4. In the case of an emissions unit permitted pursuant to Rules 62-210.300(2)(a)3.b., c., and d., F.A.C., include reasonable notification and compliance testing requirements for reactivation of such emissions unit and provide that the owner or operator demonstrate to the Department prior to reactivation that such reactivation would not constitute reconstruction pursuant to Rule 62-204.800(8), F.A.C.

[Rules 62-210.300(1) & (2), F.A.C.]

19. **Not federally enforceable.** Notification of Startup. The owners or operator of any emissions unit or facility which has a valid air operation permit which has been shut down more than one year, shall notify the Department in writing of the intent to start up such emissions unit or facility, a minimum of 60 days prior to the intended startup date.

- (a) The notification shall include information as to the startup date, anticipated emission rates or pollutants released, changes to processes or control devices which will result in changes to emission rates, and any other conditions which may differ from the valid outstanding operation permit.



(b) If, due to an emergency, a startup date is not known 60 days prior thereto, the owner shall notify the Department as soon as possible after the date of such startup is ascertained

[Rule 62-210.300(5), F.A.C.]

20. Emissions Unit Reclassification.

(a) Any emissions unit whose operation permit has been revoked as provided for in Chapter 62-4, F.A.C., shall be deemed permanently shut down for purposes of Rule 62-212.500, F.A.C. Any emissions unit whose permit to operate has expired without timely renewal or transfer may be deemed permanently shut down, provided, however, that no such emissions unit shall be deemed permanently shut down if, within 20 days after receipt of written notice from the Department, the emissions unit owner or operator demonstrates that the permit expiration resulted from inadvertent failure to comply with the requirements of Rule 62-4.090, F.A.C., and that the owner or operator intends to continue the emissions unit in operation, and either submits an application for an air operation permit or complies with permit transfer requirements, if applicable.

(b) If the owner or operator of an emissions unit which is so permanently shut down, applies to the Department for a permit to reactivate or operate such emissions unit, the emissions unit will be reviewed and permitted as a new emissions unit.

[Rule 62-210.300(6), F.A.C.]

21. Transfer of Air Permits.

(a) An air permit is transferable only after submission of an Application for Transfer of Air Permit (DEP Form 62-210.900(7)) and Department approval in accordance with Rule 62-4.120, F.A.C. For Title V permit transfers only, a complete application for transfer of air permit shall include the requirements of 40 CFR 70.7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204.800, F.A.C. Within 30 days after approval of the transfer of permit, the Department shall update the permit by an administrative permit correction pursuant to Rule 62-210.360, F.A.C.

(b) For an air general permit, the provision of Rules 62-210.300(7)(a) and 62-4.120, F.A.C., do not apply. Thirty (30) days before using an air general permit, the new owner must submit an air general permit notification to the Department in accordance with Rule 62-210.300(4), F.A.C., or Rule 62-213.300(2)(b), F.A.C.

[Rule 62-210.300(7), F.A.C.]

22. Public Notice and Comment.

(1) Public Notice of Proposed Agency Action.

(a) A notice of proposed agency action on permit application, where the proposed agency action is to issue the permit, shall be published by any applicant for:

1. An air construction permit;
2. An air operation permit, permit renewal or permit revision subject to Rule 62-210.300(2)(b), F.A.C., (i.e., a FESOP), except as provided in Rule 62-210.300(2)(b)1.b., F.A.C., or
3. An air operation permit, permit renewal, or permit revision subject to Chapter 62-213, F.A.C., except Title V air general permits or those permit revisions meeting the requirements of Rule 62-213.412(1), F.A.C.

(b) The notice required by Rule 62-210.350(1)(a), F.A.C., shall be published in accordance with all otherwise applicable provisions of Rule 62-110.106, F.A.C. A public notice under Rule 62-210.350(1)(a)1., F.A.C., for an air construction permit may be combined with any required public notice under Rule 62-210.350(1)(a)2. or 3., F.A.C., for air operation permits. If such notices are combined, the public notice must comply with the requirements for both notices.

(c) Except as otherwise provided at Rules 62-210.350(2), (5), and (6), F.A.C., each notice of intent to issue an air construction permit shall provide a 14-day period for submittal of public comments.

(2) Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment - Area Preconstruction Review

(a) Before taking final agency action on a construction permit application for any proposed new or modified facility or emissions unit subject to the preconstruction review requirements of Rule 62-212.400 or 62-212.500, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:

1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S., and the Department's analysis of the effect of the proposed construction or modification on ambient air quality, including the Department's preliminary determination of whether the permit should be approved or disapproved;
2. A 30-day period for submittal of public comments, and

3. A notice, by advertisement in a newspaper of general circulation in the county affected, specifying the nature and location of the proposed facility or emissions unit, whether BACT or LAER has been determined, the degree of PSD increment consumption expected, if applicable, and the location of the information specified in paragraph 1. above; and notifying the public of the opportunity for submitting comments and requesting a public hearing.
- (b) The notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action.
- (c) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall also be sent by the Department to the Regional Office of the U. S. Environmental Protection Agency and to all other state and local officials or agencies having cognizance over the location of such new or modified facility or emissions unit, including local air pollution control agencies, chief executives of city or county government, regional land use planning agencies, and any other state, Federal Land Manager, or Indian Governing Body whose lands may be affected by emissions from the new or modified facility or emissions unit.
- (d) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be displayed in the appropriate district, branch and local program offices.
- (e) An opportunity for public hearing shall be provided in accordance with Chapter 120, F.S., and Rule 62-110.106, F.A.C.
- (f) Any public comments received shall be made available for public inspection in the location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., is available and shall be considered by the Department in making a final determination to approve or deny the permit.
- (g) The final determination shall be made available for public inspection at the same location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., was made available.
- (h) For a proposed new or modified emissions unit which would be located within 100 kilometers of any Federal Class I area or whose emissions may affect any Federal Class I area, and which would be subject to the preconstruction review requirements of Rule 62-212.400 or 62-212.500, F.A.C.:
1. The Department shall mail or transmit to the Administrator a copy of the initial application for an air construction permit and notice of every action related to the consideration of the permit application.
  2. The Department shall mail or transmit to the Federal Land Manager of each affected Class I area a copy of any written notice of intent to apply for an air construction permit; the initial application for an air construction permit, including all required analyses and demonstrations; any subsequently submitted information related to the application; the preliminary determination and notice of proposed agency action on the permit application; and any petition for an administrative hearing regarding the application or the Department's proposed action. Each such document shall be mailed or transmitted to the Federal Land Manager within fourteen (14) days after its receipt by the Department.
- (3) Additional Public Notice Requirements for Facilities Subject to Operation Permits for Title V Sources.
- (a) Before taking final agency action to issue a new, renewed, or revised air operation permit subject to Chapter 62-213, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:
1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S.; and
  2. A 30-day period for submittal of public comments.
- (b) The notice provided for in Rule 62-210.350(3)(a), F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action. If written comments received during the 30-day comment period on a draft permit result in the Department's issuance of a revised draft permit in accordance with Rule 62-213.430(1), F.A.C., the Department shall require the applicant to publish another public notice in accordance with Rule 62-210.350(1)(a), F.A.C.
- (c) The notice shall identify:
1. The facility;
  2. The name and address of the office at which processing of the permit occurs;
  3. The activity or activities involved in the permit action;
  4. The emissions change involved in any permit revision;
  5. The name, address, and telephone number of a Department representative from whom interested persons may obtain additional information, including copies of the permit draft, the application, and all relevant supporting materials, including any permit application, compliance plan, permit, monitoring report, and compliance statement required pursuant to Chapter 62-213, F.A.C. (except for information entitled to confidential treatment pursuant to Section 403.111, F.S.), and all other materials available to the Department that are relevant to the permit decision;

APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

6. A brief description of the comment procedures required by Rule 62-210.350(3), F.A.C.;
7. The time and place of any hearing that may be held, including a statement of procedure to request a hearing (unless a hearing has already been scheduled); and
8. The procedures by which persons may petition the Administrator to object to the issuance of the proposed permit after expiration of the Administrator's 45-day review period.

[Rules 62-210.350(1) thru (3), F.A.C.]

23. Administrative Permit Corrections

(1) A facility owner shall notify the Department by letter of minor corrections to information contained in a permit. Such notifications shall include:

- (a) Typographical errors noted in the permit;
- (b) Name, address or phone number change from that in the permit;
- (c) A change requiring more frequent monitoring or reporting by the permittee;
- (d) A change in ownership or operational control of a facility, subject to the following provisions:
  1. The Department determines that no other change in the permit is necessary;
  2. The permittee and proposed new permittee have submitted an Application for Transfer of Air Permit, and the Department has approved the transfer pursuant to Rule 62-210.300(7), F.A.C., and
  3. The new permittee has notified the Department of the effective date of sale or legal transfer.
- (e) Changes listed at 40 CFR 72.83(a)(1), (2), (6), (9) and (10), adopted and incorporated by reference at Rule 62-204.800, F.A.C., and changes made pursuant to Rules 62-214.340(1) and (2), F.A.C., to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o,
- (f) Changes listed at 40 CFR 72.83(a)(11) and (12), adopted and incorporated by reference at Rule 62-204.800, F.A.C., to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o, provided the notification is accompanied by a copy of any EPA determination concerning the similarity of the change to those listed at Rule 62-210.360(1)(e), F.A.C., and
- (g) Any other similar minor administrative change at the source

(2) Upon receipt of any such notification, the Department shall within 60 days correct the permit and provide a corrected copy to the owner

(3) After first notifying the owner, the Department shall correct any permit in which it discovers errors of the types listed at Rules 62-210.360(1)(a) and (b), F.A.C., and provide a corrected copy to the owner.

(4) For Title V source permits, other than general permits, a copy of the corrected permit shall be provided to EPA and any approved local air program in the county where the facility or any part of the facility is located

[Rule 62-210.360, F.A.C.]

24. Emissions Computation and Reporting

(1) Applicability. This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit.

(2) Computation of Emissions. For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.

(a) Basic Approach. The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit, provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit

1. If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.
2. If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
3. If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(b) Continuous Emissions Monitoring System (CEMS).

1. An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:
  - a. The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C., or

- b. The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.
    2. Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:
      - a. A calibrated flowmeter that records data on a continuous basis, if available; or
      - b. The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit
    3. The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.
  - (c) Mass Balance Calculations.
    1. An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:
      - a. Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and
      - b. Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.
    2. Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.
    3. In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.
  - (d) Emission Factors.
    1. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements:
      - a. If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
      - b. Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.
      - c. The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.
    2. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.
  - (e) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.
  - (f) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.
  - (g) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.
  - (h) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.
- (3) Annual Operating Report for Air Pollutant Emitting Facility.
- (a) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year.
  - (c) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by March 1 of the following year.
  - (d) Beginning with 2007 annual emissions, emissions shall be computed in accordance with the provisions of Rule 62-210.370(2), F.A.C., for purposes of the annual operating report.
- [Rules 62-210.370(1), (2) and (3)(a), (c) & (d), F.A.C.]

## APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

25. Circumvention. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

26. Forms and Instructions. The forms used by the Department in the stationary source control program are adopted and incorporated by reference in this section. The forms are listed by rule number, which is also the form number, with the subject, title and effective date. Copies of forms may be obtained by writing to the Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or by accessing the Division's website at [www.dep.state.fl.us/air](http://www.dep.state.fl.us/air). The requirement of Rule 62-4.050(2), F.A.C., to file application forms in quadruplicate is waived if an air permit application is submitted using the Department's electronic application form.

(1) Application for Air Permit - Long Form, Form and Instructions (Effective 02-02-2006).

(a) Acid Rain Part, Form and Instructions (Effective 06-16-2003).

1. Repowering Extension Plan, Form and Instructions (Effective 07/01/1995).

2. New Unit Exemption, Form and Instructions (Effective 04/16/2001).

3. Retired Unit Exemption, Form and Instructions (Effective 04/16/2001).

4. Phase II NOx Compliance Plan, Form and Instructions (Effective 01/06/1998).

5. Phase II NOx Averaging Plan, Form (Effective 01/06/1998).

(b) Reserved.

(5) Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions (Effective 02/11/1999).

(7) Application for Transfer of Air Permit - Title V Source, (Effective 04/16/2001).

[Rule 62-210.900, F.A.C.]

### Chapter 62-213, F.A.C.

27. Responsible Official.

(1) Each Title V source must identify a responsible official on each application for Title V permit, permit revision, and permit renewal. For sources with only one responsible official, this is how the Title V source designates the responsible official.

(2) Each Title V source may designate more than one responsible official, provided a primary responsible official is designated as responsible for the certifications of all other designated responsible officials. Any action taken by the primary responsible official shall take precedence over any action taken by any other designated responsible official.

(3) Any facility initially designating more than one responsible official or changing the list of responsible officials must submit a Responsible Official Notification Form (DEP Form No. 62-213.900(8)) designating all responsible officials for a Title V source, stating which responsible official is the primary responsible official, and providing an effective date for any changes to the list of responsible officials. Each individual listed on the Responsible Official Notification Form must meet the definition of responsible official given at Rule 62-210.200, F.A.C.

(4) A Title V source with only one responsible official shall submit DEP Form No. 62-213.900(8) for a change in responsible official.

(5) No person shall take any action as a responsible official at a Title V source unless designated a responsible official as required by this rule, except that the existing responsible official of any Title V source which has a change in responsible official during the term of the permit and before the effective date of this rule may continue to act as a responsible official until the first submittal of DEP Form No. 62-213.900(8) or the next application for Title V permit, permit revision or permit renewal, whichever comes first.

[Rules 62-213.202(1) thru (5), F.A.C.]

28. Annual Emissions Fee. Each Title V source permitted to operate in Florida must pay between January 15 and March 1 of each year, upon written notice from the Department, an annual emissions fee in an amount determined as set forth in Rule 62-213.205(1), F.A.C.

(1)(g) If the Department has not received the fee by February 15 of the year following the calendar year for which the fee is calculated, the Department will send the primary responsible official of the Title V source a written warning of the consequences for failing to pay the fee by March 1. If the fee is not postmarked by March 1 of the year due, the Department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee unpaid plus interest on such amount computed in accordance with Section 220.807, F.S. If the Department determines that a submitted fee was inaccurately calculated, the Department shall either refund to the permittee any amount overpaid or notify the permittee of any amount underpaid. The Department shall not impose a penalty or interest on any amount underpaid, provided that the permittee has timely remitted payment of at least 90 percent of the amount determined to be due and remits full payment within 60 days after receipt of notice of the amount underpaid. The Department shall waive the collection of underpayment and shall not refund overpayment of the fee, if the amount is less than 1 percent of the fee due, up to \$50.00. The Department shall make every effort to provide a timely assessment of the adequacy of the submitted fee. Failure to

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

pay timely any required annual emissions fee, penalty, or interest constitutes grounds for permit revocation pursuant to Rule 62-4.100, F.A.C.

(1)(i) Any documentation of actual hours of operation, actual material or heat input, actual production amount, or actual emissions used to calculate the annual emissions fee shall be retained by the owner for a minimum of five (5) years and shall be made available to the Department upon request.

(1)(j) A completed DEP Form 62-213.900(1), "Major Air Pollution Source Annual Emissions Fee Form", must be submitted by a responsible official with the annual emissions fee.

[Rules 62-213.205, (1)(g), (1)(i) & (1)(j), F.A.C.]

29. Reserved.

30. Reserved.

31. Air Operation Permit Fees. No permit application processing fee, renewal fee, modification fee or amendment fee is required for an operation permit for a Title V source.

[Rule 62-213.205(4), F.A.C.]

32. Permits and Permit Revisions Required. All Title V sources are subject to the permit requirements of Chapter 62-213, F.A.C., except those Title V sources permissible pursuant to Rule 62-213.300, F.A.C., Title V Air General Permits.

(1) No Title V source may operate except in compliance with Chapter 62-213, F.A.C.

(2) Except as provided in Rule 62-213.410, F.A.C., no source with a permit issued under the provisions of Chapter 62-213, F.A.C., shall make any changes in its operation without first applying for and receiving a permit revision if the change meets any of the following:

- (a) Constitutes a modification;
- (b) Violates any applicable requirement;
- (c) Exceeds the allowable emissions of any air pollutant from any unit within the source;
- (d) Contravenes any permit term or condition for monitoring, testing, recordkeeping, reporting or of a compliance certification requirement;
- (e) Requires a case-by-case determination of an emission limitation or other standard or a source specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapter 62-212 or 62-296, F.A.C.;
- (f) Violates a permit term or condition which the source has assumed for which there is no corresponding underlying applicable requirement to which the source would otherwise be subject;
- (g) Results in the trading of emissions among units within a source except as specifically authorized pursuant to Rule 62-213.415, F.A.C.;
- (h) Results in the change of location of any relocatable facility identified as a Title V source pursuant to paragraph (a)-(e), (g) or (h) of the definition of "major source of air pollution" at Rule 62-210.200, F.A.C.;
- (i) Constitutes a change at an Acid Rain Source under the provisions of 40 CFR 72.81(a)(1), (2), or (3), (b)(1) or (b)(3), hereby incorporated by reference;
- (j) Constitutes a change in a repowering plan, nitrogen oxides averaging plan, or nitrogen oxides compliance deadline extension at an Acid Rain Source;

[Rules 62-213.400(1) & (2), F.A.C.]

33. Changes Without Permit Revision. Title V sources having a valid permit issued pursuant to Chapter 62-213, F.A.C., may make the following changes without permit revision, provided that sources shall maintain source logs or records to verify periods of operation:

(1) Permitted sources may change among those alternative methods of operation;

(2) A permitted source may implement operating changes, as defined in Rule 62-210.200, F.A.C., after the source submits any forms required by any applicable requirement and provides the Department and EPA with at least 7 days written notice prior to implementation. The source and the Department shall attach each notice to the relevant permit;

(a) The written notice shall include the date on which the change will occur, and a description of the change within the permitted source, the pollutants emitted and any change in emissions, and any term or condition becoming applicable or no longer applicable as a result of the change;

(b) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes;

(3) Permitted sources may implement changes involving modes of operation only in accordance with Rule 62-213.415, F.A.C.

[Rule 62-213.410, F.A.C.]

34. Immediate Implementation Pending Revision Process.

(1) Those permitted Title V sources making any change that constitutes a modification pursuant to the definition of modification at Rule 62-210.200, F.A.C., but which would not constitute a modification pursuant to 42 USC 7412(a) or to 40 CFR 52.01, 60.2, or 61.15, adopted and incorporated by reference at Rule 62-204.800, F.A.C., may implement such change prior to final issuance of a permit revision, provided the change:

- (a) Does not violate any applicable requirement;
- (b) Does not contravene any permit term or condition for monitoring, testing, recordkeeping or reporting, or any compliance certification requirement;
- (c) Does not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapter 62-212 or 62-296, F.A.C.;
- (d) Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and which the source has assumed to avoid an applicable requirement to which the source would otherwise be subject including any federally enforceable emissions cap or federally enforceable alternative emissions limit.

(2) A Title V source may immediately implement such changes after they have been incorporated into the terms and conditions of a new or revised construction permit issued pursuant to Chapter 62-212, F.A.C., and after the source provides to EPA, the Department, each affected state and any approved local air program having geographic jurisdiction over the source, a copy of the source's application for operation permit revision. The Title V source may conform its application for construction permit to include all information required by Rule 62-213.420, F.A.C., in lieu of submitting separate application forms.

(3) The Department shall process the application for operation permit revision in accordance with the provisions of Chapter 62-213, F.A.C., except that the Department shall issue a draft permit revision or a determination to deny the revision within 60 days of receipt of a complete application for operation permit revision or, if the Title V source has submitted a construction permit application conforming to the requirements of Rule 62-213.420, F.A.C., the Department shall issue a draft permit or a determination to deny the revision at the same time the Department issues its determination on issuance or denial of the construction permit application. The Department shall not take final action on the operation permit revision application until all the requirements of Rules 62-213.430(1)(a), (c), (d), and (e), F.A.C., have been complied with.

(4) Pending final action on the operation permit revision application, the source shall implement the changes in accordance with the terms and conditions of the source's new or revised construction permit. If any terms and conditions of the new or revised construction permit have not been complied with prior to the issuance of the draft operation permit revision, the operation permit shall include a compliance plan in accordance with the provisions of Rule 62-213.440(2), F.A.C.

(5) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes until after the Department takes final action to issue the operation permit revision.

(6) If the Department denies the source's application for operation permit revision, the source shall cease implementation of the proposed changes.

[Rule 62-213.412, F.A.C.]

35. Permit Applications.

(1) Duty to Apply. For each Title V source, the owner or operator shall submit a timely and complete permit application in compliance with the requirements of Rules 62-213.420, F.A.C., and Rules 62-4.050(1) through (3), F.A.C.

(a) Timely Application.

3. For purposes of permit renewal, a timely application is one that is submitted in accordance with Rule 62-4.090, F.A.C.

(b) Complete Application

1. Any applicant for a Title V permit, permit revision or permit renewal must submit an application on DEP Form No. 62-210.900(1), which must include all the information specified by Rule 62-213.420(3), F.A.C., except that an application for permit revision must contain only that information related to the proposed change(s) from the currently effective Title V permit and any other requirements that become applicable at the time of application. The applicant shall include information concerning fugitive emissions and stack emissions in the application. Each application for permit, permit revision or permit renewal shall be certified by a responsible official in accordance with Rule 62-213.420(4), F.A.C.

2. For those applicants submitting initial permit applications pursuant to Rule 62-213.420(1)(a), F.A.C., a complete application shall be an application that substantially addresses all the information required by the application form number 62-210.900(1), and such applications shall be deemed complete within sixty days of receipt of a signed and certified application unless the Department notifies the applicant of incompleteness within that time. For all other applicants, the applications shall be deemed complete sixty days after receipt, unless the Department, within sixty days after receipt of a signed application for permit, permit revision or permit renewal, requests additional documentation or information needed

to process the application. An applicant making timely and complete application for permit, or timely application for permit renewal as described by Rule 62-4.090(1), F.A.C., shall continue to operate the source under the authority and provisions of any existing valid permit or Florida Electrical Power Plant Siting Certification, and in accordance with applicable requirements of the Acid Rain Program, until the conclusion of proceedings associated with its permit application or until the new permit becomes effective, whichever is later, provided the applicant complies with all the provisions of Rules 62-213.420(1)(b)3. and 4., F.A.C. Failure of the Department to request additional information within sixty days of receipt of a properly signed application shall not impair the Department's ability to request additional information pursuant to Rules 62-213.420(1)(b)3. and 4., F.A.C.

3. For those permit applications submitted pursuant to the provisions of Rule 62-213.420(1)(a)1., F.A.C., the Department shall notify the applicant if the Department becomes aware at any time during processing of the application that the application contains incorrect or incomplete information. The applicant shall submit the corrected or supplementary information to the Department within ninety days unless the applicant has requested and been granted additional time to submit the information. Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days or such additional time as requested and granted shall render the application incomplete.

4. For all applications other than those addressed at Rule 62-213.420(1)(b)3., F.A.C., should the Department become aware, during processing of any application that the application contains incorrect information, or should the Department become aware, as a result of comment from an affected State, an approved local air program, EPA, or the public that additional information is needed to evaluate the application, the Department shall notify the applicant within 30 days. When an applicant becomes aware that an application contains incorrect or incomplete information, the applicant shall submit the corrected or supplementary information to the Department. If the Department notifies an applicant that corrected or supplementary information is necessary to process the permit, and requests a response, the applicant shall provide the information to the Department within ninety days of the Department request unless the applicant has requested and been granted additional time to submit the information or, the applicant shall, within ninety days, submit a written request that the Department process the application without the information. Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days, or such additional time as requested and granted, or to demand in writing within ninety days that the application be processed without the information shall render the application incomplete. Nothing in this section shall limit any other remedies available to the Department.

[Rules 62-213.420(1)(a)3. and 62-213.420(1)(b)1., 2., 3. & 4., F.A.C.]

36. Confidential Information. Whenever an applicant submits information under a claim of confidentiality pursuant to Section 403.111, F.S., the applicant shall also submit a copy of all such information and claim directly to EPA. (also, see Condition No. 50.) [Rule 62-213.420(2), F.A.C.]

37. Standard Application Form and Required Information. Applications shall be submitted under Chapter 62-213, F.A.C., on forms provided by the Department and adopted by reference in Rule 62-210.900(1), F.A.C. The information as described in Rule 62-210.900(1), F.A.C., shall be included for the Title V source and each emissions unit. An application must include information sufficient to determine all applicable requirements for the Title V source and each emissions unit and to evaluate a fee amount pursuant to Rule 62-213.205, F.A.C. [Rule 62-213.420(3), F.A.C.]

38. a. Permit Renewal and Expiration. Permits being renewed are subject to the same requirements that apply to permit issuance at the time of application for renewal. Permit renewal applications shall contain that information identified in Rules 62-210.900(1) and 62-213.420(3), F.A.C. Unless a Title V source submits a timely application for permit renewal in accordance with the requirements of Rule 62-4.090(1), F.A.C., the existing permit shall expire and the source's right to operate shall terminate. No Title V permit will be issued for a new term except through the renewal process.

b. Permit Revision Procedures. Permit revisions shall meet all requirements of Chapter 62-213, F.A.C., including those for content of applications, public participation, review by approved local programs and affected states, and review by EPA, as they apply to permit issuance and permit renewal, except that permit revisions for those activities implemented pursuant to Rule 62-213.412, F.A.C., need not meet the requirements of Rule 62-213.430(1)(b), F.A.C. The Department shall require permit revision in accordance with the provisions of Rule 62-4.080, F.A.C., and 40 CFR 70.7(f), whenever any source becomes subject to any condition listed at 40



## APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

CFR 70.7(f)(1), hereby adopted and incorporated by reference. The below requirements from 40 CFR 70.7(f) are adopted and incorporated by reference in Rule 62-213.430(4), F.A.C..

o 40 CFR 70.7(f): Reopening for Cause. (also, see Condition No. 4.)

(1) This section contains provisions from 40 CFR 70.7(f) that specify the conditions under which a Title V permit shall be reopened prior to the expiration of the permit. A Title V permit shall be reopened and revised under any of the following circumstances:

- (i) Additional applicable requirements under the Act become applicable to a major Part 70 source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii).
  - (ii) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approved by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
  - (iii) The permitting authority or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
  - (iv) The Administrator or the permitting authority determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (2) Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.
- (3) Reopenings under 40 CFR 70.7(f)(1) shall not be initiated before a notice of such intent is provided to the Part 70 source by the permitting authority at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

[Rules 62-213.430(3) & (4), F.A.C.; and, 40 CFR 70.7(f)]

39. Insignificant Emissions Units or Pollutant-Emitting Activities.

(a) All requests for determination of insignificant emissions units or activities made pursuant to Rule 62-213.420(3)(n), F.A.C., shall be processed in conjunction with the permit, permit renewal or permit revision application submitted pursuant to Chapter 62-213, F.A.C. Insignificant emissions units or activities shall be approved by the Department consistent with the provisions of Rule 62-4.040(1)(b), F.A.C. Emissions units or activities which are added to a Title V source after issuance of a permit under Chapter 62-213, F.A.C., shall be incorporated into the permit at its next renewal, provided such emissions units or activities have been exempted from the requirement to obtain an air construction permit and also qualify as insignificant pursuant to Rule 62-213.430(6), F.A.C.

(b) An emissions unit or activity shall be considered insignificant if all of the following criteria are met:

1. Such unit or activity would be subject to no unit-specific applicable requirement;
2. Such unit or activity, in combination with other units or activities proposed as insignificant, would not cause the facility to exceed any major source threshold(s) as defined in Rule 62-213.420(3)(c)1., F.A.C., unless it is acknowledged in the permit application that such units or activities would cause the facility to exceed such threshold(s).
3. Such unit or activity would not emit or have the potential to emit:
  - a. 500 pounds per year or more of lead and lead compounds expressed as lead;
  - b. 1,000 pounds per year or more of any hazardous air pollutant;
  - c. 2,500 pounds per year or more of total hazardous air pollutants; or
  - d. 5.0 tons per year or more of any other regulated pollutant.

[Rule 62-213.430(6), F.A.C.]

40. Permit Duration. Permits for sources subject to the Federal Acid Rain Program shall be issued for terms of five years, provided that the initial Acid Rain Part may be issued for a term less than five years where necessary to coordinate the term of such part with the term of a Title V permit to be issued to the source. Operation permits for Title V sources may not be extended as provided in Rule 62-4.080(3), F.A.C., if such extension will result in a permit term greater than five years.

[Rule 62-213.440(1)(a), F.A.C.]

41. Monitoring Information. All records of monitoring information shall specify the date, place, and time of sampling or measurement and the operating conditions at the time of sampling or measurement, the date(s) analyses were performed, the company or entity that performed the analyses, the analytical techniques or methods used, and the results of such analyses.

[Rule 62-213.440(1)(b)2.a., F.A.C.]

42. Retention of Records. Retention of records of all monitoring data and support information shall be for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

[Rule 62-213.440(1)(b)2.b., F.A.C.]

43. Monitoring Reports. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports.

[Rule 62-213.440(1)(b)3.a., F.A.C.]

44. Deviation from Permit Requirements Reports. The permittee shall report in accordance with the requirements of Rules 62-210.700(6) and 62-4.130, F.A.C., deviations from permit requirements, including those attributable to upset conditions as defined in the permit. Reports shall include the probable cause of such deviations, and any corrective actions or preventive measures taken.

[Rule 62-213.440(1)(b)3.b., F.A.C.]

45. Reports. All reports shall be accompanied by a certification by a responsible official, pursuant to Rule 62-213.420(4), F.A.C.

[Rule 62-213.440(1)(b)3.c., F.A.C.]

46. If any portion of the final permit is invalidated, the remainder of the permit shall remain in effect.

[Rule 62-213.440(1)(d)1., F.A.C.]

47. It shall not be a defense for a permittee in an enforcement action that maintaining compliance with any permit condition would necessitate halting or reduction of the source activity.

[Rule 62-213.440(1)(d)3., F.A.C.]

48. Any Title V source shall comply with all the terms and conditions of the existing permit until the Department has taken final action on any permit renewal or any requested permit revision, except as provided at Rule 62-213.412(2), F.A.C.

[Rule 62-213.440(1)(d)4., F.A.C.]

49. A situation arising from sudden and unforeseeable events beyond the control of the source which causes an exceedance of a technology-based emissions limitation because of unavoidable increases in emissions attributable to the situation and which requires immediate corrective action to restore normal operation, shall be an affirmative defense to an enforcement action in accordance with the provisions and requirements of 40 CFR 70.6(g)(2) and (3), hereby adopted and incorporated by reference.

[Rule 62-213.440(1)(d)5., F.A.C.]

50. Confidentiality Claims. Any permittee may claim confidentiality of any data or other information by complying with Rule 62-213.420(2), F.A.C. (also, see Condition No. 36.)

[Rule 62-213.440(1)(d)6., F.A.C.]

51. Statement of Compliance. (a)2. The permittee shall submit a Statement of Compliance with all terms and conditions of the permit that includes all the provisions of 40 CFR 70.6(c)(5)(iii), incorporated by reference at Rule 62-204.800, F.A.C., using DEP Form No. 62-213.900(7). Such statement shall be accompanied by a certification in accordance with Rule 62-213.420(4), F.A.C., for Title V requirements and with Rule 62-214.350, F.A.C., for Acid Rain requirements. Such statements shall be submitted (postmarked) to the Department and EPA:

a. Annually, within 60 days after the end of each calendar year during which the Title V permit was effective, or more frequently if specified by Rule 62-213.440(2), F.A.C., or by any other applicable requirement; and

b. Within 60 days after submittal of a written agreement for transfer of responsibility as required pursuant to 40 CFR 70.7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204.800, F.A.C., or within 60 days after permanent shutdown of a facility permitted under Chapter 62-213, F.A.C.; provided that, in either such case, the reporting period shall be the portion of the calendar year the permit was effective up to the date of transfer of responsibility or permanent facility shutdown, as applicable.

3. In lieu of individually identifying all applicable requirements and specifying times of compliance with, non-compliance with, and deviation from each, the responsible official may use DEP Form No. 62-213.900(7) as such statement of compliance so long as the responsible official identifies all reportable deviations from and all instances of non-compliance with any applicable requirements and includes all information required by the federal regulation relating to each reportable deviation and instance of non-compliance.

## APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)

(b) The responsible official may treat compliance with all other applicable requirements as a surrogate for compliance with Rule 62-296.320(2), Objectionable Odor Prohibited.

[Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]

52. Permit Shield. Except as provided in Chapter 62-213, F.A.C., compliance with the terms and conditions of a permit issued pursuant to Chapter 62-213, F.A.C., shall, as of the effective date of the permit, be deemed compliance with any applicable requirements in effect, provided that the source included such applicable requirements in the permit application. Nothing in Rule 62-213.460, F.A.C., or in any permit shall alter or affect the ability of EPA or the Department to deal with an emergency, the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance, or the requirements of the Federal Acid Rain Program.

[Rule 62-213.460, F.A.C.]

53. Forms and Instructions. The forms used by the Department in the Title V source operation program are adopted and incorporated by reference in Rule 62-213.900, F.A.C. The form is listed by rule number, which is also the form number, and with the subject, title, and effective date. Copies of forms may be obtained by writing to the Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or by contacting the appropriate permitting authority.

(1) Major Air Pollution Source Annual Emissions Fee Form. (Effective 01/03/2001)

(7) Statement of Compliance Form. (Effective 06/02/2002)

(8) Responsible Official Notification Form. (Effective 06/02/2002)

[Rule 62-213.900, F.A.C.; Forms (1), (7) and (8)]

### Chapter 62-256, F.A.C.

54. **Not federally enforceable.** Open Burning. This permit does not authorize any open burning nor does it constitute any waiver of the requirements of Chapter 62-256, F.A.C. Source shall comply with Chapter 62-256, F.A.C., for any open burning at the source.

[Chapter 62-256, F.A.C.]

### Chapter 62-281, F.A.C.

55. Refrigerant Requirements. Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed at 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or Class II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts B and F, and with Rule 62-281.100, F.A.C. Those requirements include the following restrictions:

(1) Any facility having any refrigeration equipment normally containing 50 (fifty) pounds of refrigerant, or more, must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added pursuant to 40 CFR 82.166;

(2) No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided at 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved pursuant to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;

(3) No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or Class II substance at 40 CFR 82, Subpart A, Appendices A and B, except in compliance with Rule 62-281.100, F.A.C., and 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166;

(4) No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or Class II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined at 40 CFR 82.152) for service, maintenance or repair unless the person has been properly trained and certified pursuant to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance pursuant to 40 CFR 82.158 and unless the person observes the practices set forth at 40 CFR 82.156 and 40 CFR 82.166;

(5) No person may dispose of appliances (except small appliances, as defined at 40 CFR 82.152) without using equipment certified for that type of appliance pursuant to 40 CFR 82.158 and without observing the practices set forth at 40 CFR 82.156 and 40 CFR 82.166;

(6) No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined at 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82, Subpart F.

[40 CFR 82; and, Chapter 62-281, F.A.C. (**Chapter 62-281, F.A.C., is not federally enforceable**)]

**APPENDIX TV-6, TITLE V CONDITIONS (version dated 06/23/06) (continued)**

---

Chapter 62-296, F.A.C.

56. Industrial, Commercial, and Municipal Open Burning Prohibited. Open burning in connection with industrial, commercial, or municipal operations is prohibited, except when:

- (a) Open burning is determined by the Department to be the only feasible method of operation and is authorized by an air permit issued pursuant to Chapter 62-210 or 62-213, F.A.C.; or
- (b) An emergency exists which requires immediate action to protect human health and safety; or
- (c) A county or municipality would use a portable air curtain incinerator to burn yard trash generated by a hurricane, tornado, fire or other disaster and the air curtain incinerator would otherwise be operated in accordance with the permitting exemption criteria of Rule 62-210.300(3), F.A.C.

[Rule 62-296.320(3), F.A.C.]

57. Unconfined Emissions of Particulate Matter.

(4)(c)1. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.

3. Reasonable precautions include the following:

- a. Paving and maintenance of roads, parking areas and yards.
- b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
- c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
- d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
- e. Landscaping or planting of vegetation.
- f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
- g. Confining abrasive blasting where possible.
- h. Enclosure or covering of conveyor systems.

4. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

[Rules 62-296.320(4)(c)1., 3., & 4. F.A.C.]

[electronic file name: tv-6.doc]

**EMISSION ATTACHMENT CR-EU1-I7**  
**Compliance Assurance Monitoring**

**COMPLIANCE ASSURANCE MONITORING PLAN  
(CAM PLAN)**

**FOR**

**Crystal River Plant**

**Progress Energy Florida  
Citrus County, Florida**

**June, 2004**

## **I. EMISSION UNITS REQUIRING CAM PLANS**

### ***A. CAM Rule Applicability Definition***

Progress Energy Florida (Progress) was issued a Title V Air Operation Permit (Permit No. 0170004-004-AV) that was effective January 1, 2000 for their Crystal River Plant. The current permit, unless renewed through submittal of an application to the Florida Department of Environmental Protection (FDEP), expires on December 31, 2004. To be considered timely and sufficient, as defined in Rule 62-4.090 of the Florida Administrative Code, a renewal application must be submitted no later than 180 days prior to the expiration date of the permit.

As part of these Title V renewal applications, EPA, through regulations adopted in Title 40, Part 64 of the Code of Federal Regulations (40 CFR 64), is requiring submittal of Compliance Assurance Monitoring (CAM) Plans. This regulation has been incorporated by reference by FDEP in Rule 62-204.800 and implemented in Rule 62-213.440.

CAM plans are required for all Title V permitted emission units using control devices to meet federally enforceable emission limits or standards with pre-control emissions greater than "major" source thresholds. The term "major" is defined as in the Title V Regulations (40 CFR 70), but applied on a source-by-source basis. However, there are some specific exemptions to the applicability of the CAM Rule.

Specifically exempted from the CAM Rule are emissions units subject to requirements under Stratospheric Ozone Regulations (40 CFR 82), the Acid Rain Program (40 CFR 72), or that are part of an emission cap included in the Title V Permit. Also exempt are emission units subject to New Source Performance Standards (40 CFR 60) and National Emission Standards for Hazardous Air Pollutants (40 CFR 63) promulgated after 11/15/1990, as these sources have equivalent monitoring requirements included as part of the standard.

### ***B. Emissions Units Requiring CAM Plans***

A review of emission units at Crystal River was conducted to determine the applicability of the CAM Rule. This evaluation was conducted for each emission unit and pollutant. First, the

existence of a "control device" as defined by the CAM Rule was determined on a source-by-source basis for each pollutant. Those emission units without control devices were eliminated from further consideration. The remaining emission units were then evaluated on a pollutant-by-pollutant basis to determine if a control device was used to meet a federally enforceable emission limit or standard. Each pollutant without a federally enforceable emission limit or standard, emitted from a given emission unit, was eliminated from further consideration. Uncontrolled annual emissions were then calculated for each remaining source-pollutant combination. If uncontrolled emissions for a pollutant emitted from a given emission unit source were below major source thresholds as defined by the CAM Rule, that pollutant was not further considered. This evaluation process resulted in a determination that Units 1, 2, 4 and 5 (DEP Permit Nos. 001, 002, 004 and 003, respectively) are subject to the CAM requirements. Specific exemptions to the applicability of the CAM Rule were also considered in this evaluation.

#### **Crystal River Unit 1 (E.U. ID No. 001)**

Fossil Fuel Steam Generator Unit 1 is a tangentially fired pulverized coal dry bottom unit. The unit is rated at 440.5 MW and 3,750 MMBtu/hr while burning bituminous coal or a bituminous coal and bituminous coal briquette mixture. Distillate fuel oil may be burned as a startup fuel. This unit may also burn oily flyash. Emissions are controlled from each unit with a high efficiency electrostatic precipitator, manufactured by Buell Manufacturing Company, Inc. Emissions are exhausted through a 499 ft. stack.

This emission unit is regulated under Acid Rain, Phase I and II and Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with More than 250 million Btu per Hour Heat Input, and Power Plant Siting Certification PA 77-09 conditions. Fossil fuel fired steam generator Unit 1 began commercial operation in 1966.

#### **Crystal River Unit 2 (E.U. ID No. 002)**

Fossil Fuel Steam Generator, Unit 2 is a tangentially fired pulverized coal dry bottom unit. The unit is rated at 523.8 MW and 4,795 MMBtu/hr while burning bituminous coal or a bituminous



coal and bituminous coal briquette mixture. Distillate fuel oil may be burned as a startup fuel. . This unit may also burn oily flyash. Emissions are controlled from each unit with a high efficiency electrostatic precipitator, manufactured by Buell Manufacturing Company, Inc. Emissions are exhausted through a 502 ft. stack

This emission unit is regulated under Acid Rain, Phase I and II and Rule 62-296.405, F.A.C., Fossil Fuel Steam Generators with More than 250 million Btu per Hour Heat Input, and Power Plant Siting Certification PA 77-09 conditions. Fossil fuel fired steam generator Unit 2 began commercial operation in 1969.

#### **Crystal River Unit 4 (E.U. ID No. 004)**

Fossil Fuel Steam Generator, Unit 4 is a pulverized coal dry bottom wall-fired unit. The unit is rated at 760 MW and 6,665 MMBtu/hr while burning bituminous coal, a bituminous coal and bituminous coal briquette mixture, and used oil, with distillate fuel oil as a startup fuel, and natural gas as a startup and low-load flame stabilization fuel. Emissions are controlled with a high efficiency electrostatic precipitator, manufactured by Combustion Engineering. Emissions are exhausted through a 600 ft. stack

This emission unit is regulated under Acid Rain, Phase I and II and Rule 62-210.300, F.A.C., 40 CFR 60 Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971; and, Power Plant Siting Certification PA 77-09 conditions. Fossil fuel fired steam generator Unit 4 began commercial operation in 1982.

#### **Crystal River Unit 5 (E.U. ID No. 003)**

Fossil Fuel Steam Generator, Unit 5 is a pulverized coal dry bottom wall-fired unit. The unit is rated at 760 MW and 6,665 MMBtu/hr while burning bituminous coal, a bituminous coal and bituminous coal briquette mixture, and used oil, with distillate fuel oil as a startup fuel, and natural gas as a startup and low-load flame stabilization fuel. Emissions are controlled with a

high efficiency electrostatic precipitator, manufactured by Combustion Engineering. Emissions are exhausted through a 600 ft. stack

This emission unit is regulated under Acid Rain, Phase I and II and Rule 62-210.300, F.A.C., 40 CFR 60 Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971; and, Power Plant Siting Certification PA 77-09 conditions. Fossil fuel fired steam generator Unit 5 began commercial operation in 1984.

## **II. CAM PLAN FOR PARTICULATE EMISSIONS**

### ***A. Emissions Units Background***

Compliance testing is required annually for particulates and for visible emissions (VE) for these four units. In addition, a continuous opacity monitoring system (COMS) is required to be used to record the opacity of the stack flue gas. The COMS must be properly calibrated, operated, and maintained in accordance with Rule 62-297.520, F.A.C. In addition, the current TV permit contains language (Condition A.19) that correlates opacity with periodic monitoring requirements as follows:

#### *COMS for Periodic Monitoring:*

*a. Periodic monitoring for opacity shall be COMS, which are maintained and operated in conformance with 40 CFR Part 75.*

*b. Periodic monitoring for particulate matter shall be COMS. For any calendar quarter in which more than five percent of the COMS readings show 20% or greater opacity for Units 2, 4, and 5 and 30% or greater opacity for Unit 1 (excluding startup, shutdown, and malfunction periods), a steady-state particulate matter stack test shall be performed within the following calendar quarter. Due to the allowed opacity level of 60% for sootblowing and load changing periods for Units 1 and 2, periods of sootblowing and load changing shall also be excluded for those units. The stack test shall comply with all of the testing and reporting requirements contained in the preceding specific conditions and, where practicable, shall be performed while operating at conditions representative of those showing greater than 20% opacity (30% for Unit 1). Units are not required to be brought on-line solely for the purpose of performing this special test. If the unit does not operate in the following quarter, the special test may be postponed until the unit is brought back on-line. In such cases, the special test shall be performed within 30 days.*

## ***B. Emissions Units Correlations***

To develop the indicator ranges, opacity readings were compared with stack test results of particulate matter (PM) emissions for each unit over the last 5 years. PM emissions (lb/MMBtu) were plotted versus the average of the opacity readings for each of the three 1-hour runs that comprise each annual stack test. Linear curves were then applied to the data to develop a relationship between opacity and PM (lb/MMBtu) emissions (see Figures 1 through 4). As shown, there is almost no correlation between opacity and PM (lb/MMBtu). Attempts to derive opacity trigger levels from the correlations developed resulted in values in excess of the current opacity standards. This is partly due to the fact that most of the PM emissions data are very low and extrapolating to PM values close to the allowable 0.1 lb/MMBtu limit results in a correspondingly high opacity value. Based on the correlation and nature of the data, more test data for these units will likely not result in a better correlation. In addition, PM emissions for Unit 1 were compared with total ESP power (kW) to determine if a correlation could be made. As shown in Figure 5, no correlation exists, in fact the trend indicates increased PM emissions with increased power. Historic ESP power values are not normally maintained by the site, so data available to evaluate correlations at the other units is very limited.

Since a good correlation based on test data does not exist, an approach to CAM based on operating experience and current procedures is proposed. Operational experience has indicated that an increase of VE beyond 40 percent for Unit 1 and beyond 20 percent for Units 2, 4 and 5 could indicate impaired performance of the particulate control device.

**C. Monitoring Approach- Tables 1A through 1D (Units 1, 2, 4 and 5, respectively)**

<b>Table 1A</b>	<b>Indicator Unit No. 1</b>
Indicator	Opacity via a COMS.
Measurement Approach	40 CFR 60, Appendix B, Performance Specification 1
Indicator Range	<p>An excursion is defined as a VE (3-hour block averaging time) greater than 36%.</p> <p>Excluding periods of startup, shutdown, malfunction and soot blowing pursuant to Rule 62-210.700.</p> <p>An excursion will trigger an evaluation of operation of the power boiler and ESP. Corrective action will be taken as necessary. Any excursion will trigger recordkeeping and reporting requirements.</p>
Data Representativeness	VE measurements are made in the stack.
Verification of Operational Status	NA
QA/QC Practices and Criteria	<p>The COMS is automatically calibrated every 24 hours. Calibration information is recorded through a data acquisition system (DAS). A neutral density filter test is performed quarterly as well as preventative maintenance items; replace filters, clean optics, etc., as prescribed by the manufacturer.</p>
Monitoring Frequency	Opacity is monitored continuously.
Data Collection Procedures	Six-minute averages are recorded through the DAS. Daily reports with all six-minute averages are generated.
Averaging Period	The averaging period for opacity observations is a six-minute block average.

<b>Table 1B</b>	<b>Indicator Unit No. 2</b>
Indicator	Opacity via a COMS.
Measurement Approach	40 CFR 60, Appendix B, Performance Specification 1
Indicator Range	<p>An excursion is defined as a VE (3-hour block averaging time) greater than 18%.</p> <p>Excluding periods of startup, shutdown, malfunction and soot blowing pursuant to Rule 62-210.700.</p> <p>An excursion will trigger an evaluation of operation of the power boiler and ESP. Corrective action will be taken as necessary. Any excursion will trigger recordkeeping and reporting requirements.</p>
Data Representativeness	VE measurements are made in the stack.
Verification of Operational Status	NA
QA/QC Practices and Criteria	The COMS is automatically calibrated every 24 hours. Calibration information is recorded through a data acquisition system (DAS). A neutral density filter test is performed quarterly as well as preventative maintenance items; replace filters, clean optics, etc., as prescribed by the manufacturer.
Monitoring Frequency	Opacity is monitored continuously.
Data Collection Procedures	Six-minute averages are recorded through the DAS. Daily reports with all six-minute averages are generated.
Averaging Period	The averaging period for opacity observations is a six-minute block average.

<b>Table 1C</b>	<b>Indicator Unit No. 4</b>
Indicator	Opacity via a COMS.
Measurement Approach	40 CFR 60, Appendix B, Performance Specification 1
Indicator Range	<p>An excursion is defined as a VE (3-hour block averaging time) greater than 18%.</p> <p>Excluding periods of startup, shutdown, malfunction and soot blowing pursuant to Rule 62-210.700.</p> <p>An excursion will trigger an evaluation of operation of the power boiler and ESP. Corrective action will be taken as necessary. Any excursion will trigger recordkeeping and reporting requirements.</p>
Data Representativeness	VE measurements are made in the stack.
Verification of Operational Status	NA
QA/QC Practices and Criteria	The COMS is automatically calibrated every 24 hours. Calibration information is recorded through a data acquisition system (DAS). A neutral density filter test is performed quarterly as well as preventative maintenance items; replace filters, clean optics, etc., as prescribed by the manufacturer.
Monitoring Frequency	Opacity is monitored continuously.
Data Collection Procedures	Six-minute averages are recorded through the DAS. Daily reports with all six-minute averages are generated.
Averaging Period	The averaging period for opacity observations is a six-minute block average.

<b>Table 1D</b>	<b>Indicator Unit No. 5</b>
Indicator	Opacity via a COMS.
Measurement Approach	40 CFR 60, Appendix B, Performance Specification 1
Indicator Range	<p>An excursion is defined as a VE (3-hour block averaging time) greater than 18%.</p> <p>Excluding periods of startup, shutdown, malfunction and soot blowing pursuant to Rule 62-210.700.</p> <p>An excursion will trigger an evaluation of operation of the power boiler and ESP. Corrective action will be taken as necessary. Any excursion will trigger recordkeeping and reporting requirements.</p>
Data Representativeness	VE measurements are made in the stack.
Verification of Operational Status	NA
QA/QC Practices and Criteria	The COMS is automatically calibrated every 24 hours. Calibration information is recorded through a data acquisition system (DAS). A neutral density filter test is performed quarterly as well as preventative maintenance items; replace filters, clean optics, etc., as prescribed by the manufacturer.
Monitoring Frequency	Opacity is monitored continuously.
Data Collection Procedures	Six-minute averages are recorded through the DAS. Daily reports with all six-minute averages are generated.
Averaging Period	The averaging period for opacity observations is a six-minute block average.

**D. Corrective Action Procedures Summary – Table 2 (Units 1, 2, 4 and 5)**

	<i>Description</i>
I. Initiation of Corrective Action Procedures	Corrective action shall be initiated with the discovery of a three-hour block average of opacity greater than the levels that define an excursion (as defined in Tables 1A through 1D). The plant staff that made the discovery shall immediately notify the responsible official. This action describes a corrective action trigger.
II. Time of Completion of Corrective Action Procedures	As soon as practically possible.
III. Corrective Action	<p>The Shift Supervisor or responsible official will implement the following as a corrective action.</p> <ul style="list-style-type: none"> <li>• Perform operational diagnostics to identify cause of the excursion;</li> <li>• If operational diagnostics indicate a malfunction of the ESP, the reason for failure will be identified;</li> <li>• ESP operation will be restored to ensure opacity below excursion levels; and</li> <li>• In the event of the need for load reductions or unit shutdown to bring opacity to below excursion levels, the task will be undertaken utilizing best operational practices to minimize emissions.</li> </ul> <p>Regardless of the failure mechanism, ESP operation will be restored such that the cause of excursion is identified and appropriate actions taken to ensure opacity below excursion levels.</p>



## ***E. Justification***

### **1. Background**

The pollutant specific emission units are Crystal River Units 1, 2, 4 and 5 which are primarily fired on coal. Particulate emissions are controlled by high efficiency ESPs.

### **2. Rationale for Selection of Performance Indicators**

Opacity was selected as the performance indicator because it is indicative of good operation and maintenance of the ESP. When the ESPs are operating properly, there will be very little opacity or visible emissions (VE) from the ESP exhaust. Operational experience has indicated that an increase of VE beyond 40 percent opacity for Unit 1 and 20 percent opacity for Units 2, 4 and 5 could indicate impaired performance of the particulate control device; therefore, VE is used as the performance indicator. These indicator levels were referenced earlier as already contained in Condition A.19 of the current TV permit. Condition A.19 was for purposes of periodic monitoring and related to the number of times the indicator level was exceeded (5 percent) in a quarter. As the CAM Plan trigger levels are based on a different averaging time and frequency of occurrence, the respective opacity values recommended below are slightly different.

### **3. Rationale for Selection of Indicator Ranges**

The selected indicator ranges are as follows (all are in 3-hour block averages):

- 36 % for Unit 1
- 18 % for Unit 2
- 18 % for Unit 4
- 18 % for Unit 5

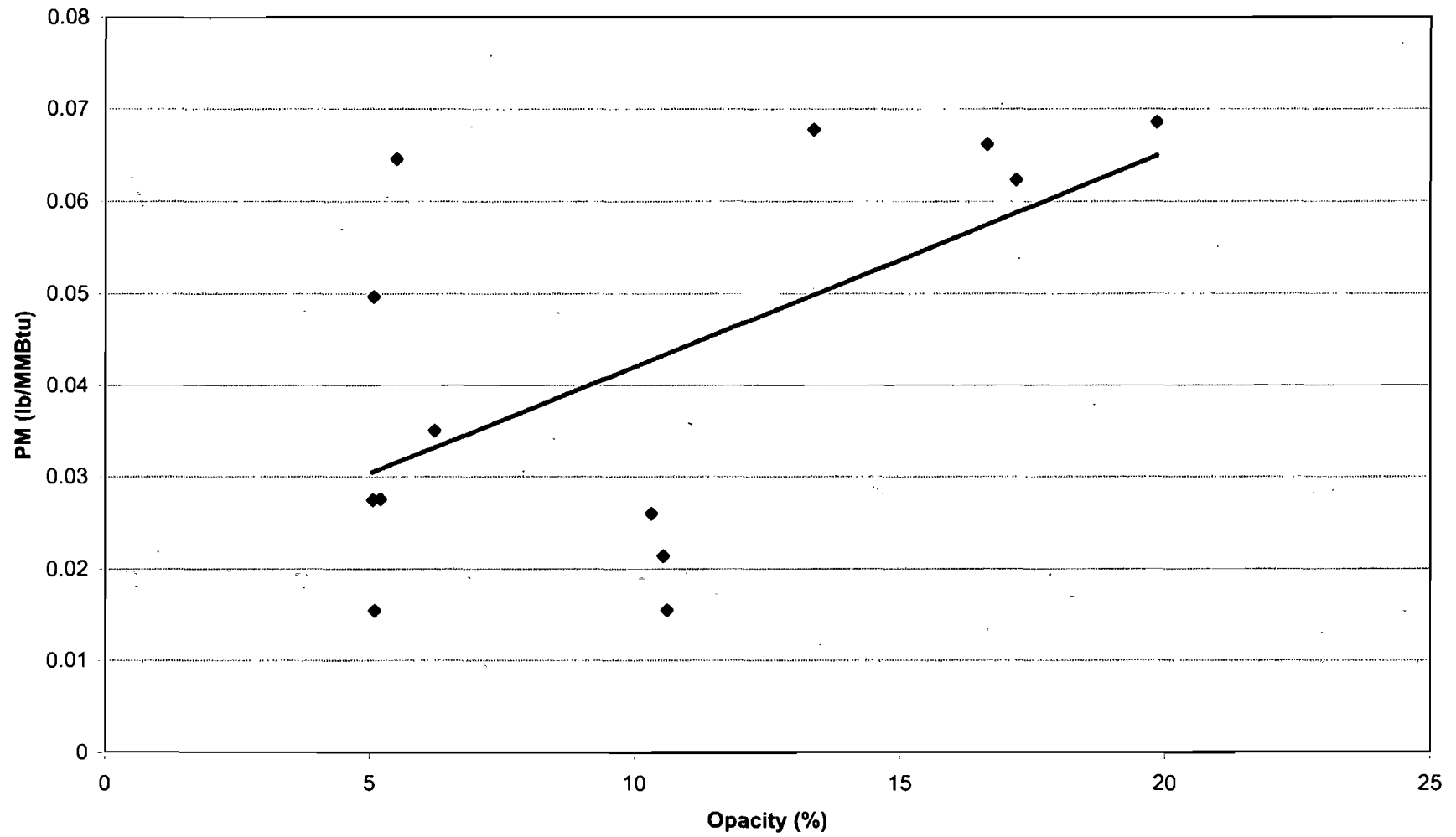
These indicator ranges were selected because they provide a margin on those opacity values that could be reflective of impaired ESP performance and an associated increase in particulate emissions from the ESP outlet. Initially, to develop the indicator ranges, opacity readings were compared with stack test results of PM emissions over the last 5 years for each Unit. PM emissions (lb/MMBtu) were plotted versus the average of the opacity readings for each of the

three 1-hour runs comprising each annual stack test. Linear curves were then applied to the data to develop a relationship between opacity and PM (lb/MMBtu) emissions (see Figures 1 through 4). As shown, there is almost no correlation between opacity and PM (lb/MMBtu). Based on the correlation and nature of the data, more test data for these units will likely not result in a better correlation. In addition, PM emissions for Unit 1 were compared with total ESP power (kW) to determine if a correlation could be made. As shown in Figure 5, no correlation exists, in fact the trend indicates increased PM emissions with increased power. Historic ESP power values are not normally maintained by the site, so data available to evaluate correlations at the other units is very limited.

Since a good correlation based on test data does not exist, an approach to CAM based on operating experience and current procedures is proposed. Operational experience has indicated that an increase of VE beyond 40 percent opacity for Unit 1 and 20 percent for Units 2, 4 and 5 could indicate impaired performance of the particulate control device. The trigger levels selected provide for an operating margin over these values. Current experience suggests that, if these trigger levels are not exceeded, reasonable assurance will be provided that the corresponding PM emissions standards will be met. When an excursion occurs, corrective action will be initiated as described in Table 2, beginning with an evaluation of the occurrence, to determine the action required (if any) to correct the situation. All excursions will be documented and reported.

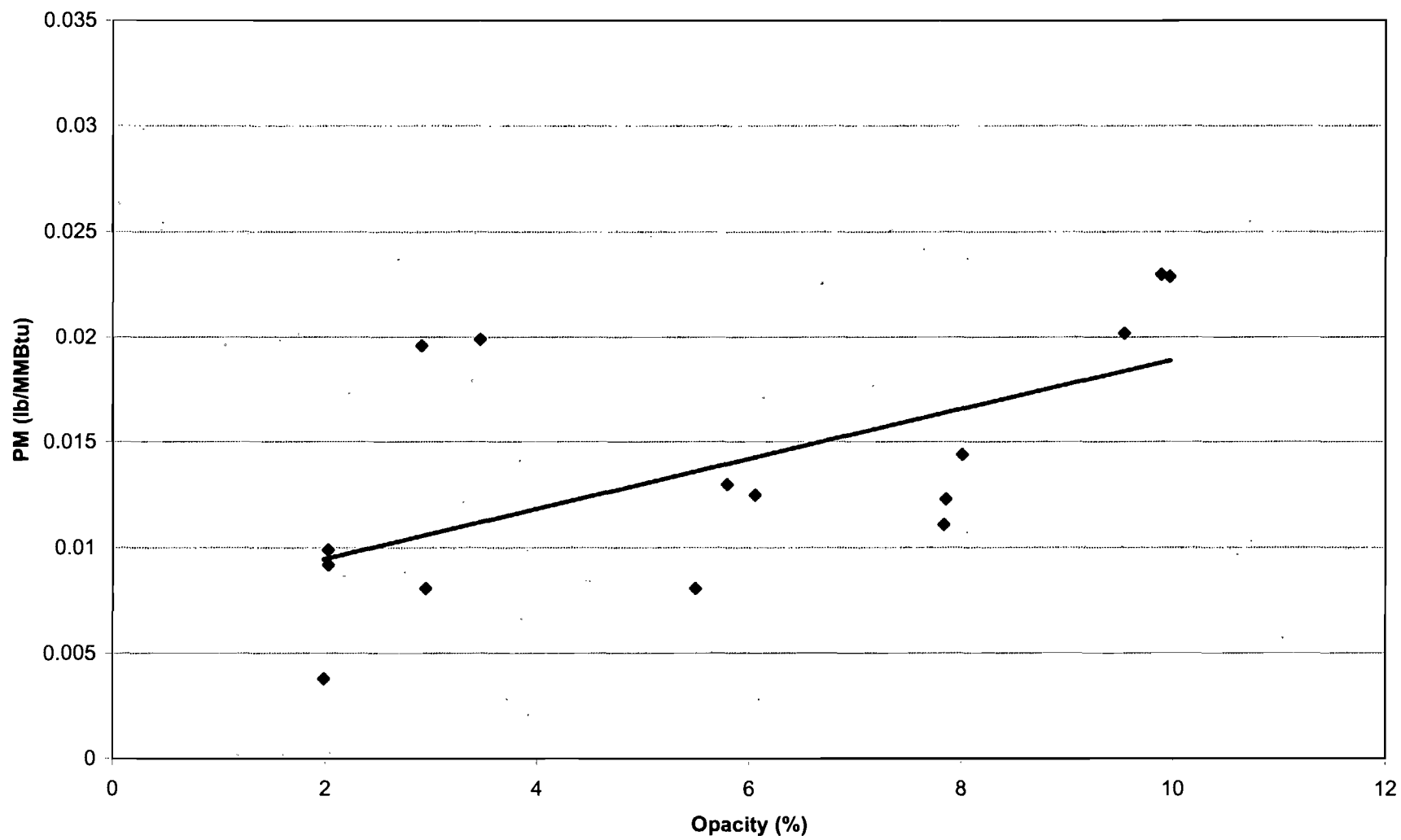
**Figure 1.**  
**Unit 1 - PM Emissions vs. COMS Opacity**

$$y = 0.0023x + 0.0187$$
$$R^2 = 0.3311$$



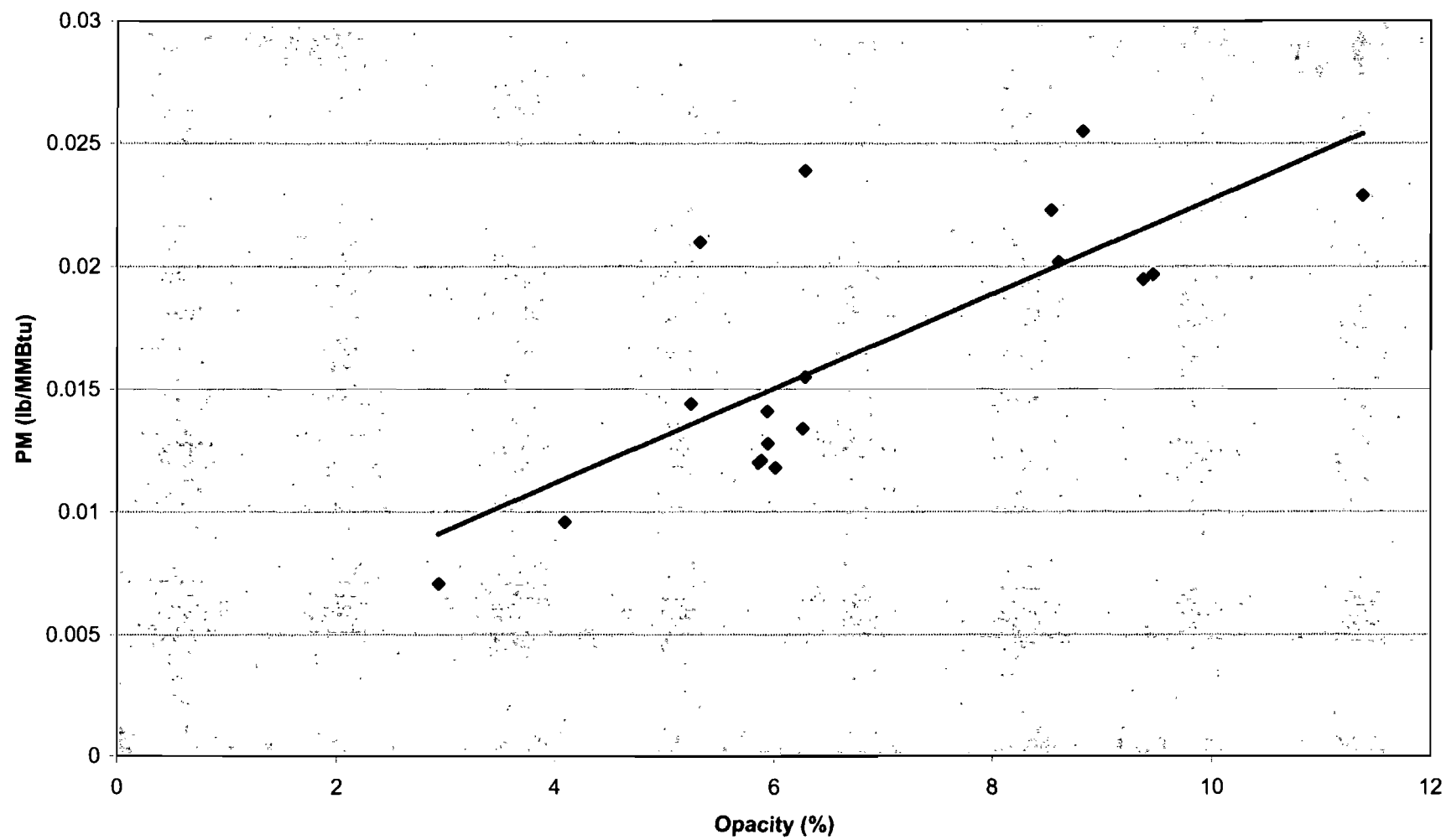
**Figure 2.**  
**Unit 2 - PM Emissions vs. COMS Opacity**

$$y = 0.0012x + 0.0071$$
$$R^2 = 0.3571$$



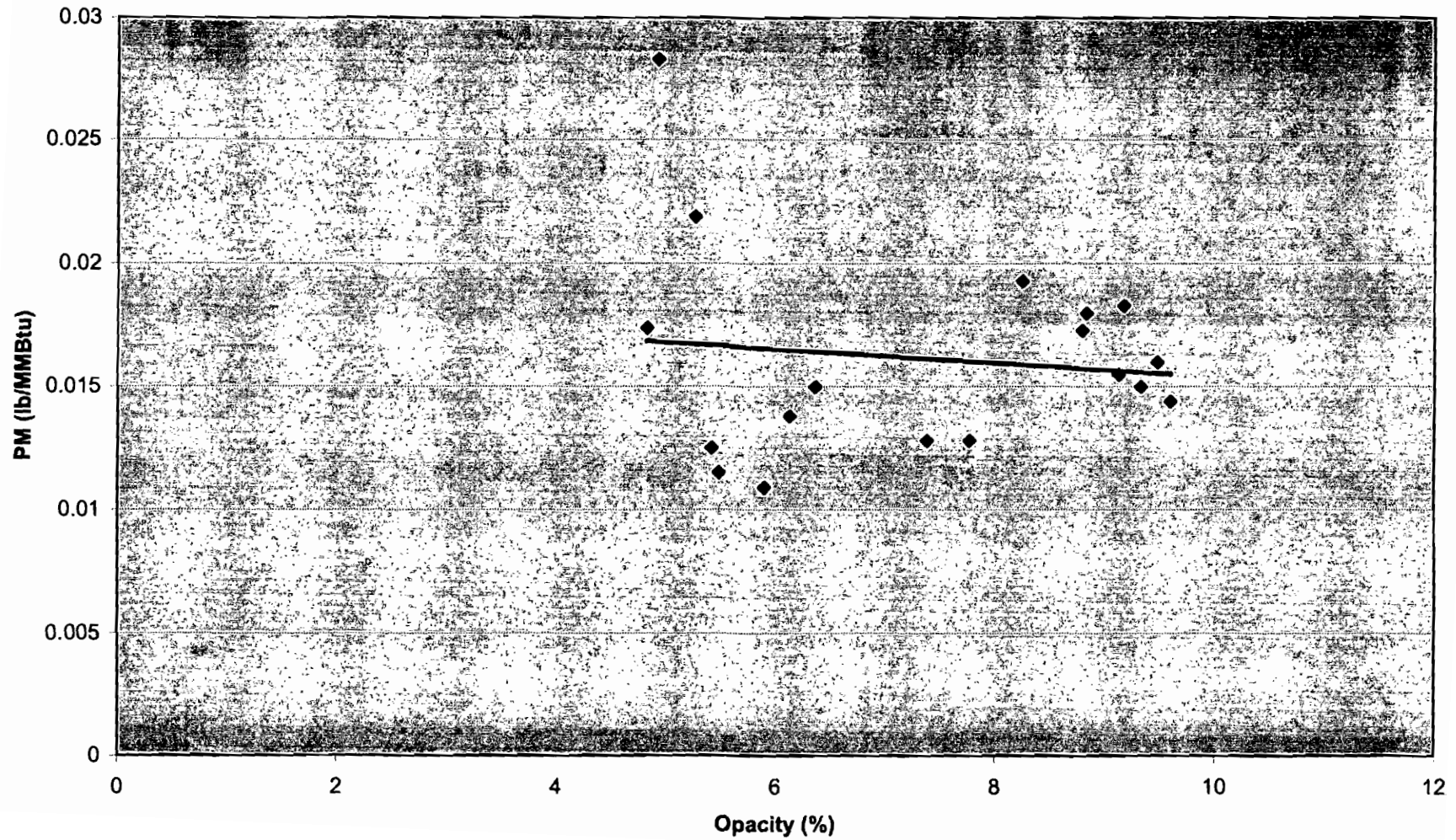
**Figure 3.**  
**Unit 4 - PM Emissions vs. COMS Opacity**

$$y = 0.0019x + 0.0035$$
$$R^2 = 0.5752$$



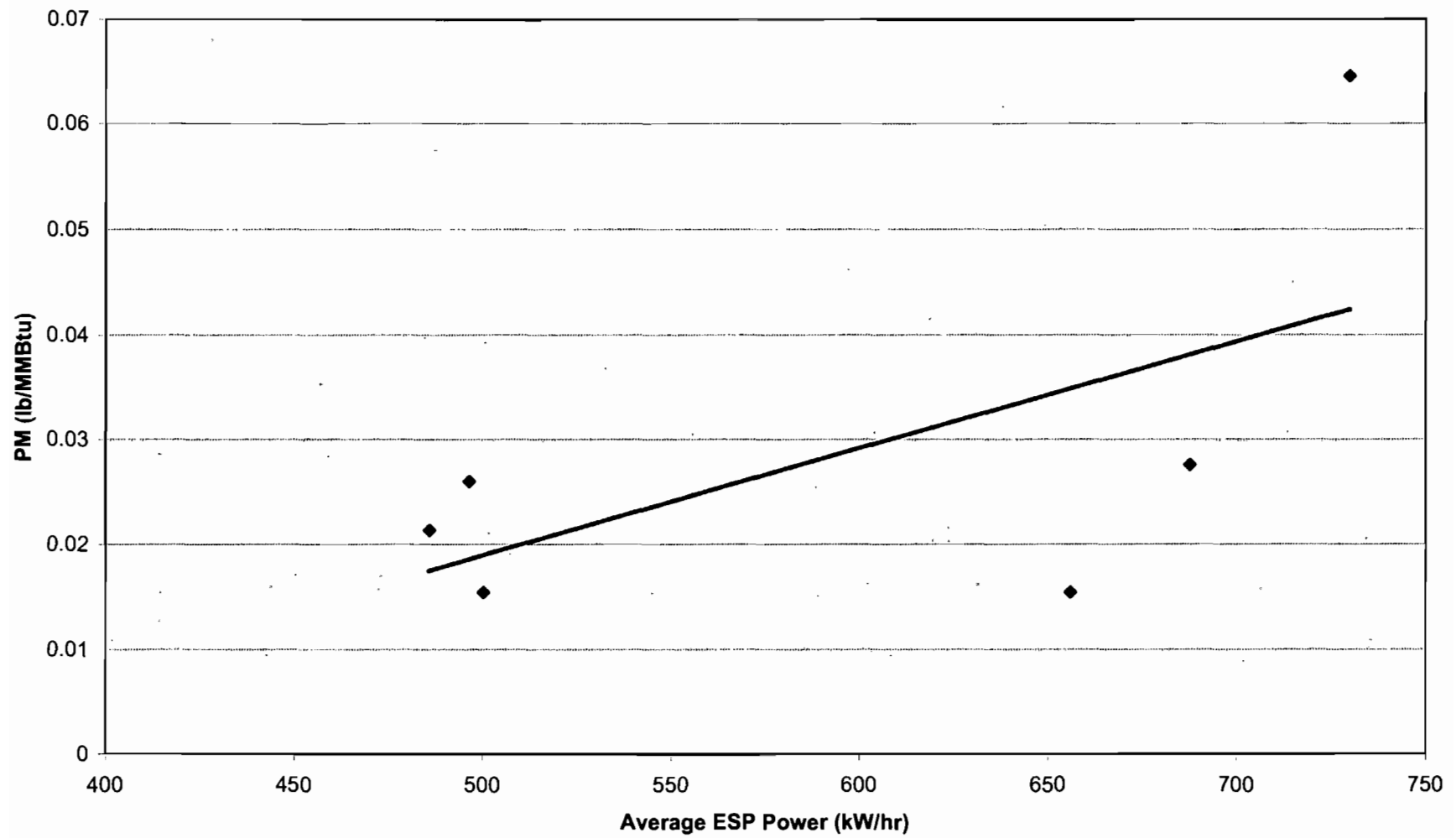
**Figure 4.**  
**Unit 5 - PM Emissions vs. COMS Opacity**

$$y = -0.0003x + 0.0182$$
$$R^2 = 0.0145$$



**Figure 5.**  
**Unit 1 - PM Emissions vs. Total ESP Power**

$$y = 0.0001x - 0.0321$$
$$R^2 = 0.3755$$



**EMISSION ATTACHMENT CR-EU1-I8**  
**Alternative Methods of Operation**



**ATTACHMENT CR-EU1-I8**

**ALTERNATIVE METHODS OF OPERATION UNIT NO. 1 AND NO. 2**

Unit Nos. 1 and 2 are coal-fired units which use fuel oil as an ignitor fuel during startup. PEF has requested that on-specification used oil, including oil from non-PEF sources, be permitted to be burned in both Unit 1 and Unit 2, and limited to 10 percent annual heat input. PEF had also previously requested that the restrictions be eliminated for Unit 2, which limited burning used oil when the unit is operating at 75 percent or more of full load and during startup and shutdown.

PEF has requested that petroleum coke be permitted to be burned in both Unit 1 and Unit 2.

**EMISSION UNIT 002**  
**No.2 Unit, FFFSG**

**EMISSION ATTACHMENT CR-EU2-I5**  
**Compliance Demonstration Reports/Records**

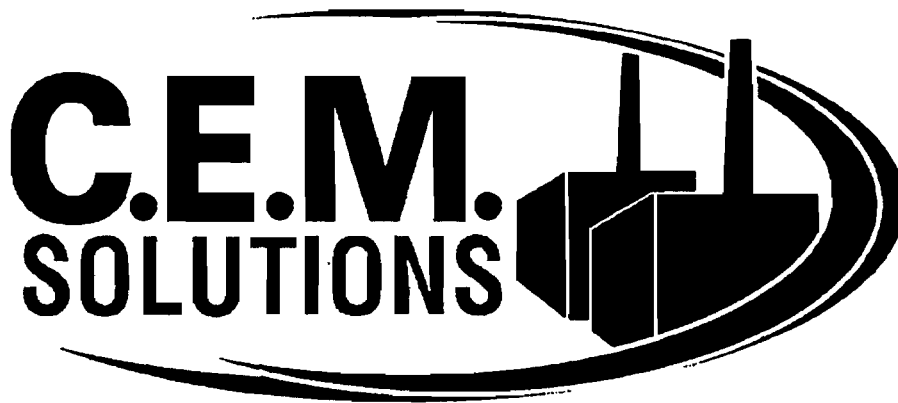
# ***Relative Accuracy Test Audit***

*Completed for:*

***Progress Energy Florida, Inc.  
Crystal River Energy Complex  
Unit 2 (EU-002)***

**Test Report Number: 20-3216-02**

**Test Completed: May 16 and 19, 2008**



# **Relative Accuracy Test Audit Report**

**Progress Energy Florida, Inc.  
Crystal River Power Plant, Unit 2  
Crystal River, Florida**

**C.E.M. Solutions Project No. 3216**

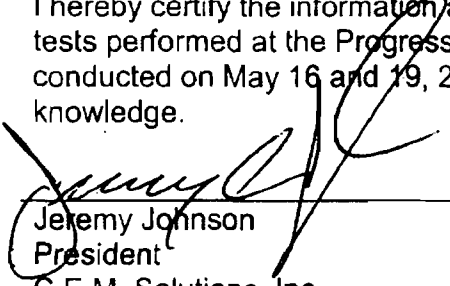
Testing Completed: May 16 and 19, 2008

C.E.M. Solutions, Inc Report Number: 20-3216-02

C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, Florida 34442  
Phone: 352-489-4337

## Statement of Validity

I hereby certify the information and data provided in this emissions test report for tests performed at the Progress Energy Florida Crystal River Power Plant, conducted on May 16 and 19, 2008 are complete and accurate to the best of my knowledge.



---

Jeremy Johnson  
President

C.E.M. Solutions, Inc.

## Project Background

Name of Source Owner: Progress Energy Florida

Address of Owner: 299 First Avenue North  
St. Petersburg, FL 33701

Source Identification: Oris Code 628  
Facility ID: 0170004  
Emissions Unit: Unit 2 (EU-002)

Location of Source: Citrus County, Florida

Type of Operation: SIC Code: 4911

Tests Performed: Method 1 – Traverse Points  
Method 2F – Stack Gas Volumetric Flow and Velocity Using  
Three Dimensional Probes  
Method 3A – Determination of Oxygen and Carbon Dioxide  
Method 4 – Stack Gas Moisture Content  
Method 6C – Determination of Sulfur Dioxide  
Method 7E – Determination of Nitrogen Oxides  
Method 19 – Determination of Nitrogen Oxide Emissions Rates

Test Supervisor: Mr. Charles Horton

Date(s) Tests Conducted: May 16, 2008: Low load flow RATA  
May 19, 2008: High load flow RATA and  
Gaseous RATA

Site Test Coordinator: Ms. Erika Tuchbaum-Biro  
Mr. Charles Dufeny

State Regulatory Observers: No Attendees

## **C.E.M. Solutions, Inc Test Personnel**

Project Field Manager:

Mr. Charles Horton

Test Technicians:

Mr. Robert Douglas

Mr. Chris Harrell

Mr. Thomas Harris



## Table of Contents

1.0	Introduction.....	1
2.0	Facility Description .....	3
2.1	Process Equipment.....	3
	Process Equipment.....	3
2.2	Regulatory Requirements .....	3
	Regulatory Requirements .....	3
3.0	Test Program/Operating Conditions.....	5
4.0	Test Methods .....	6
4.1	NO <sub>x</sub> , SO <sub>2</sub> , CO <sub>2</sub> Relative Accuracy Test Audit (RATA).....	6
4.2	Volumetric Flow Relative Accuracy Test Audit (RATA) .....	7
4.2.1	Method 2F: Determination of Velocity and Volumetric Flow With 3-D Probes .....	7
4.2.2	Method 3: Determination of Dry Gas Molecular Weight .....	7
4.2.3	Method 4: Determination of Moisture Content in Stack Gases.....	8
4.3	Sampling Location/Traverse Points/Test Run Duration .....	8
4.3.1	Gaseous Traverse Points and Run Durations .....	8
4.3.2	Volumetric Flow Traverse Points and Run Durations .....	9
4.3.3	Moisture Traverse Points and Run Durations.....	9
4.3.4	Molecular Weight Traverse Points and Run Durations .....	9
4.4	Quality Assurance/Quality Control Procedures .....	10
5.0	Relative Accuracy Test Audit Results.....	11
5.1	SO <sub>2</sub> RATA Results .....	11
5.2	NO <sub>x</sub> RATA Results.....	11
5.3	CO <sub>2</sub> RATA Results.....	11
5.4	Volumetric Flow RATA Results.....	11

## List of Tables

Table 1:	RATA Results.....	2
Table 2:	CEMS RATA Performance.....	4
Table 3:	Summary of EPA Reference Methods and Instrumentation.....	6
Table 4:	Reference Method Calibration Span and Calibration Gases.....	7
Table 5:	Unit 2 SO <sub>2</sub> Relative Accuracy Test Audit Summary.....	12
Table 6:	Unit 2 NO <sub>x</sub> Relative Accuracy Test Audit Summary .....	13
Table 7:	Unit 2 CO <sub>2</sub> Relative Accuracy Test Audit Summary .....	14
Table 8:	Unit 2 High Load Flow Relative Accuracy Test Audit Summary .....	15
Table 9:	Unit 2 Low Load Flow Relative Accuracy Test Audit Summary.....	16

## **Appendices**

Appendix A: Mathematical Equations

Appendix B: Reference Method Calibration Gas Certificates of Analysis

Appendix C: Sample Location Diagram and Traverse Points

Appendix D: Reference Method Quality Assurance/Quality Control Checks

    Appendix D-1: Volumetric Flow and Gaseous RATA

    Appendix D-2: Volumetric Flow Equipment

Appendix E: Reference Method Run Data

Appendix F: CEMS Run Data

## 1.0 Introduction

Progress Energy Florida, Inc. retained C.E.M. Solutions, Inc. to perform a Relative Accuracy Test Audit (RATA) on its Unit 2 Continuous Emissions Monitoring System (CEMS) located at the Crystal River Power Plant in Crystal River, Florida.

The test program conducted included Relative Accuracy Test Audits (RATAs) on the following CEMS analyzers at Crystal River Power Plant Unit 2 (EU -002):

- SO<sub>2</sub> ppm
- NO<sub>x</sub> lb/mmBtu
- CO<sub>2</sub> %
- Volumetric Flow WSCFH

The test program was conducted in order to evaluate the accuracy of the Unit 2 CEMS in accordance with the United States Environmental Protection Agency (USEPA) requirements in the Code of Federal Regulations, Title 40, Part 75, Appendix B, and section 2.3.1. The test program and results are presented and discussed in this report.

Ms. Erika Tuchbaum-Biro and Mr. Charles Dufeny of Progress Energy Florida, Inc. coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the USEPA.

Table 1 summarizes the results of the final RATAs conducted on Unit 2.

**Table 1: RATA Results  
Crystal River Power Plant  
Unit 2**

<b>RATA</b>	<b>% RA</b>	<b>BAF</b>
SO <sub>2</sub> ppm	3.64%	1.000
NO <sub>x</sub> -diluent	1.37%	1.000
CO <sub>2</sub>	4.0%	1.000
Flow	1.47% High load 2.70% Low load	1.000

## **2.0 Facility Description**

Crystal River Unit 2 is a fossil fuel steam generator consisting of a tangentially fired boiler, rated at 523.8 MW, 4795 MMBtu/hr. Primary fuel is bituminous coal or a bituminous coal and bituminous coal briquette mixture. Distillate fuel oil may be burned as a startup fuel. This unit may also burn oily flyash.

### **2.1 Process Equipment**

Fossil Fuel Steam Generator, Unit 2 is a pulverized coal dry bottom boiler, tangentially-fired. Emissions are controlled from the unit with a high efficiency electrostatic precipitator, manufactured by Buell Manufacturing Company, Inc.

Emissions are exhausted through a brick and mortar 502 ft. stack.

### **2.2 Regulatory Requirements**

The facility is required to conduct RATAs on the SO<sub>2</sub> pollutant concentration monitor, NO<sub>x</sub>-diluent CEMS, CO<sub>2</sub> pollutant concentration monitor, and flow monitor in accordance with 40CFR75, App. B, section 2.3.1.1 in order to validate emissions data collected by the NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub>, and flow CEMS for the Acid Rain Program.

RATAs were required to be conducted on the gaseous and flow CEMS at the designated normal operating load level defined in section 6.5.2.1 of 40CFR75, Appendix A, while firing on primary fuel used during normal (high load) operation. An additional RATA was required to be completed on the flow monitor at the low range operating level.

The Relative Accuracies of the Unit 2 CEMS are required to meet the performance specifications listed in Table 2.

**Table 2: CEMS RATA Performance Specifications**

<b>RATA</b>	<b>Semiannual (% RA)</b>	<b>Annual (% RA)</b>
SO <sub>2</sub> ppm	7.5% < RA ≤ 10.0% or ± 15.0 ppm <sup>1</sup>	RA ≤ 7.5% ± 12.0 ppm <sup>1</sup>
NO <sub>x</sub> -diluent	7.5% < RA ≤ 10.0% or ± 0.020 lb/mmBtu <sup>1</sup>	RA ≤ 7.5% or ± 0.015lb/mmBtu <sup>1</sup>
CO <sub>2</sub> or O <sub>2</sub> pollutant	7.5% < RA ≤ 10.0% or ± 1.0% CO <sub>2</sub> /O <sub>2</sub> <sup>1</sup>	RA ≤ 7.5% or ± 1.0% CO <sub>2</sub> /O <sub>2</sub> <sup>1</sup>
Flow	7.5% < RA ≤ 10.0% or ± 1.5 fps <sup>1</sup>	RA ≤ 7.5% <sup>1</sup>

<sup>1</sup> The difference between monitor and reference method mean values applies to low emitters only

### **3.0 Test Program/Operating Conditions**

The Relative Accuracy Test Audit was conducted to determine the relative accuracy of the Unit 2 NO<sub>x</sub>-diluent, SO<sub>2</sub> and CO<sub>2</sub> concentration, and flow monitoring CEMS.

Testing was completed on May 16, 2008 (low load flow RATA) and May 19, 2008 (high load flow and gaseous RATAs).

Unit 2 operated at an average of 219 gross megawatts during the low load flow RATA. During testing at the high load level, also designated as the normal operating level, Unit 2 operated at an average 490 gross megawatts during the high load flow and gaseous RATA.

Ms. Erika Tuchbaum-Biro and Mr. Charles Dufeny of Progress Energy Florida were present to coordinate plant operations throughout the test program.

## 4.0 Test Methods

All testing was performed in accordance with methods approved by the USEPA and FDEP. The following discusses the methods, as well as quality assurance and sample handling procedures.

### 4.1 NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub> Relative Accuracy Test Audit (RATA)

NO<sub>x</sub> and SO<sub>2</sub> reference method (RM) data was determined using instrument analyzer procedures. In addition, diluent gas concentrations of carbon dioxide (CO<sub>2</sub>) were also measured via instrumental methods. CO<sub>2</sub> data was also used to calculate NO<sub>x</sub> pollutant emissions in pounds per million Btu. Data collected by the reference method is compared to the CEMS data. Mathematical equations used to determine calculated emissions standards and RATA accuracy are located in Appendix A. Table 3 summarizes the EPA methods and instrumentation:

**Table 3: Summary of EPA Reference Methods and Instrumentation  
Crystal River Power Plant  
Unit 2**

Pollutant	EPA Method	Instrument	Serial Number
NO <sub>x</sub>	7E	TEI Model 42C	42C-61651-336
SO <sub>2</sub>	6C	TEI Model 43B	43B-49519-292
CO <sub>2</sub>	3A	CAI ZRH1	N3G2201T

All reference method analyzers used meet or exceed applicable performance specifications detailed in the appropriate method.

Gaseous emissions were tested using an in-stack dilution extraction probe. Gas samples were continuously extracted from the stack by a gas sample probe and diluted at a ratio of approximately 100:1 with clean, dry instrument air (dilution air). Samples were then transported to gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers.

Instrument outputs were recorded continuously with a Windows compatible personal computer, compiled into 15 second averages, and stored in a database for future reference.

Instrument ranges and calibration gases were chosen in accordance with each pollutant's applicable EPA method. Instrument ranges and calibration gases used are shown in Table 4:



**Table 4: Reference Method Calibration Span and Calibration Gases  
Crystal River Power Plant  
Unit 2**

<b>Pollutant</b>	<b>Test Location</b>	<b>Calibration Span</b>	<b>Calibration Gases<sup>a</sup></b>
NO <sub>x</sub>	Unit 2	483.6 ppm	0.0 ppm NO 287.0 ppm NO 483.6 ppm NO
SO <sub>2</sub>	Unit 2	976.6 ppm	0.0 ppm SO <sub>2</sub> 489.0 ppm SO <sub>2</sub> 976.6 ppm SO <sub>2</sub>
CO <sub>2</sub>	Unit 2	17.99 %	0.0 % CO <sub>2</sub> 9.42 % CO <sub>2</sub> 17.99 % CO <sub>2</sub>

<sup>a</sup> Concentrations of NO, SO<sub>2</sub> and CO<sub>2</sub> are in a balance of purified nitrogen (N<sub>2</sub>). All analyzers were zeroed with ultra high purity N<sub>2</sub>. All calibration gases have been certified to NIST traceable standards.

Calibration gas Certificates of Analysis can be found in Appendix B.

## **4.2 Volumetric Flow Relative Accuracy Test Audit (RATA)**

The following subsections describe the EPA Methods used to determine the Reference Method Volumetric Flow. All methods and QA/QC protocols were followed as described in the appropriate test methodologies.

### **4.2.1 Method 2F: Determination of Velocity and Volumetric Flow With 3-D Probes**

A 3-D DAT probe was used to determine the velocity pressure and yaw and pitch angles of the flow velocity vector in the stack. The method determined the yaw angle directly by rotating the probe to null the pressure across a pair of symmetrically placed ports on the probe head. The pitch angle was calculated using probe-specific calibration curves. From these values and a determination of the stack gas density, the average axial velocity of the stack gas was calculated. The average gas volumetric flow rate in the stack was then determined from the average axial velocity.

### **4.2.2 Method 3: Determination of Dry Gas Molecular Weight**

Method 3 was used to determine dry gas molecular weight of the sample gas. Carbon dioxide emissions were measured using instrument method 3A. The instrument analyzers were calibrated using the reference gases listed in Table 4. Collected data was corrected for instrument calibration drift for each run.

Oxygen emissions were back calculated using Equation 3B-2, a procedure accepted by the USEPA Clean Air Markets Division.

#### **4.2.3 Method 4: Determination of Moisture Content in Stack Gases**

Stack gas moisture content was determined utilizing Method 4. In Method 4, gas sample is extracted, at a rate no more than 0.75 cubic feet per minute, from the stack through a probe, inserted at least one meter from the stack wall, then sent through a set of pre-weighed impingers. Moisture is removed from the gas and collected in the impinger train. The gas exiting the sample train is maintained at a temperature less than or equal to 68 degrees Fahrenheit. The amount of gas pulled through the sample train is measure by a calibrated dry gas metering system.

At the end of the sampling run, the contents of the impingers are measured gravimetrically to the nearest 0.5 gram. Stack gas moisture is calculated based upon the impinger weight gain and the volume of gas collected.

### **4.3 Sampling Location/Traverse Points/Test Run Duration**

Unit 2's exhaust stack inner diameter, at the sample location, is 16.1 feet (194"). The emissions sampling location is 223 feet downstream from the nearest flow disturbance, and 250 feet upstream from the stack exhaust. A diagram of the sample location can be viewed in Appendix C.

#### **4.3.1 Gaseous Traverse Points and Run Durations**

Gas sample traverse points were located in accordance with 40CFR, Part 75, Appendix A, Section 6.5.6(b)(2) at 4.4%(8.02"), 14.6%(26.6"), and 29.6%(53.9") from the inner wall of the stack. Each point was sampled for seven minutes, equaling a total of 21 minutes per test run. A minimum of nine, but no more than 12, test runs were completed.

#### **4.3.2 Volumetric Flow Traverse Points and Run Durations**

Velocity traverse points were determined in accordance with EPA Method 1. A total of 16 traverse points (four points per port) were used to complete each flow test run. Sufficient time was allowed for differential pressure and stack temperature readings to stabilize at each point before readings were recorded. Each flow run was a minimum of five minutes in duration.

#### **4.3.3 Moisture Traverse Points and Run Durations**

The moisture sample probe was inserted at least one meter inside the stack from the inner wall.

During volumetric flow testing, one moisture run, in which a minimum of 21 cubic feet of sample was collected, was completed for every three reference method volumetric flow runs as required in 40CFR75, Appendix A, Section 6.5.7.

#### **4.3.4 Molecular Weight Traverse Points and Run Durations**

During reference method gaseous test runs (at high load), CO<sub>2</sub> data was collected at the traverse points and for the same period of time as discussed previously in section 4.3.1.

#### **4.4 Quality Assurance/Quality Control Procedures**

All sampling, analytical, and Quality Assurance/Quality Control (QA/QC) procedures outlined in the EPA methods were followed. All test equipment was calibrated before or during use in the field. Interference checks, response time checks, and NO<sub>2</sub> to NO converter checks were performed on each instrumental analyzer, as applicable, before field use. In the field, each analyzer and the entire instrument measurement system was checked for system bias before and following each test run using the calibration gases listed in Table 4. Appendix D contains the QA/QC checks.

The reference method 3-D type volumetric flow probe was leak checked prior to and following each test run. A minimum of 3" of pressure, or a pressure corresponding to approximately 75% of the measurement device's range, was applied to each leg of the test probe and tested for a minimum period of 15 seconds to confirm stability.

The moisture train was leak tested before and following each test run at a vacuum equal to or higher than the highest vacuum observed during each test run. A failed leak check occurs when there is more than .02 cubic feet of movement over a period of one minute.

## **5.0 Relative Accuracy Test Audit Results**

The following presents the results of the test program. Tables 5 through 9 summarize the SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, high load flow, and low load flow RATA results, respectively. Supporting RM field data and calculated values are presented in Appendix E. CEMS support data are located in Appendix F.

Run 5 of the gaseous RATA was not used due to a CEMS back purge during the test run.

### **5.1 SO<sub>2</sub> RATA Results**

The SO<sub>2</sub> CEMS relative accuracy over the nine test runs was 3.64%. Unit 2 SO<sub>2</sub> CEMS also passed the Bias Adjustment Factor Test, therefore no bias (1.000) is assigned to the CEMS data.

### **5.2 NO<sub>x</sub> RATA Results**

Unit 2 NO<sub>x</sub>-Diluent CEMS relative accuracy was 1.37%. Unit 2's NO<sub>x</sub>-diluent CEMS passed the BAF test. A BAF of 1.000 has been assigned to Unit 2 NO<sub>x</sub> CEMS.

### **5.3 CO<sub>2</sub> RATA Results**

The CO<sub>2</sub> CEMS had a relative accuracy of 4.0% over the nine run test period.

### **5.4 Volumetric Flow RATA Results**

Unit 2 volumetric flow's relative accuracy at the high operating level (normal operating level) was 1.47%. An accuracy of 2.70% was recorded at Unit 2's low operating level.

Unit 2 flow monitor passed the BAF test at the high load (normal) level, therefore no bias (1.000) is applied to the CEMS data.

**Table 5: Unit 2 SO<sub>2</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 2  
High Load Flow/Gas RATA  
Date: 5/19/2008

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	SO <sub>2</sub> RM WET ppm	SO <sub>2</sub> CEM WET ppm	Difference Like ppm
Run 1	19-May	8:20:00	8:41:00	490	616.7	637.2	-20.5
Run 2	19-May	9:01:00	9:22:00	490	616.9	627.1	-10.2
Run 3	19-May	9:38:00	9:59:00	490	595.8	616.2	-20.4
Run 4	19-May	10:19:00	10:40:00	491	595.8	607.8	-12.0
Run Not Used	19-May	11:01:00	11:22:00		574.3		
Run 6	19-May	11:37:00	11:58:00	490	563.3	575.9	-12.6
Run 7	19-May	12:15:00	12:36:00	491	549.4	567.1	-17.7
Run 8	19-May	12:58:00	13:19:00	490	539.3	556.2	-16.9
Run 9	19-May	13:38:00	13:59:00	490	526.6	552.8	-26.2
Run 10	19-May	14:18:00	14:39:00	491	533.8	549.3	-15.5

Average: 490 570.8 ppm 587.7 ppm -16.9 ppm

Bias Test (pass/fail): **Passed**  
Bias Adjustment Factor: **1.000**  
Method of RA Determination: **Part 75, Standard Emitter**

Standard Deviation: 5.0170  
Confidence Coefficient: 3.8564  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: **3.635**  
Maximum RA 10.00  
RA Status **Passed**

**Table 6: Unit 2 NO<sub>x</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 2  
High Load Flow/Gas RATA  
Date: 5/19/2008

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	NO <sub>x</sub> RM lbs/mmBtu	CEM lbs/mmBtu	Difference Like lbs/mmBtu
Run 1	19-May	8:20:00	8:41:00	490	0.373	0.370	0.003
Run 2	19-May	9:01:00	9:22:00	490	0.377	0.372	0.005
Run 3	19-May	9:38:00	9:59:00	490	0.370	0.373	-0.003
Run 4	19-May	10:19:00	10:40:00	491	0.376	0.373	0.003
Run Not Used	19-May	11:01:00	11:22:00		0.368		
Run 6	19-May	11:37:00	11:58:00	490	0.397	0.387	0.010
Run 7	19-May	12:15:00	12:36:00	491	0.378	0.386	-0.008
Run 8	19-May	12:58:00	13:19:00	490	0.384	0.385	-0.001
Run 9	19-May	13:38:00	13:59:00	490	0.381	0.388	-0.007
Run 10	19-May	14:18:00	14:39:00	491	0.391	0.387	0.004
Average:				490	0.381	0.380	0.001 lbs/mmBtu

**Bias Test (pass/fail): Passed**

**Bias Adjustment Factor: 1.000**

**Method of RA Determination: Part 75, Standard Emitter**

Standard Deviation: 0.0059  
Confidence Coefficient: 0.0045  
T-Factor: 2.306  
Number of runs Reported: 9

Note:  
All ppm values are corrected to lbs/mmBtu NO<sub>x</sub>  
using RM CO<sub>2</sub> and CEM CO<sub>2</sub> as diluents

**Relative Accuracy: 1.365**  
**Maximum RA 10.00**  
**RA Status Passed**

**Table 7: Unit 2 CO<sub>2</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 2  
High Load Flow/Gas RATA  
Date: 5/19/2008

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	CO <sub>2</sub> RM WET % V/V	CO <sub>2</sub> CEM WET % V/V	CO <sub>2</sub> Difference Like % V/V
Run 1	19-May	8:20:00	8:41:00	490	12.0	12.6	-0.6
Run 2	19-May	9:01:00	9:22:00	490	12.2	12.6	-0.4
Run 3	19-May	9:38:00	9:59:00	490	12.1	12.5	-0.4
Run 4	19-May	10:19:00	10:40:00	491	12.2	12.6	-0.4
Run Not Used	19-May	11:01:00	11:22:00		12.3		
Run 6	19-May	11:37:00	11:58:00	490	11.9	12.5	-0.6
Run 7	19-May	12:15:00	12:36:00	491	12.3	12.5	-0.2
Run 8	19-May	12:58:00	13:19:00	490	12.3	12.5	-0.2
Run 9	19-May	13:38:00	13:59:00	490	12.2	12.6	-0.4
Run 10	19-May	14:18:00	14:39:00	491	12.2	12.6	-0.4

Average: 490 12.2 % 12.5 % -0.4 %

Bias Test (pass/fail): Passed  
Bias Adjustment Factor: 1.000  
Method of RA Determination: Part 75, Average RM Value

Standard Deviation: 0.1215  
Confidence Coefficient: 0.0934  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 4.0  
Maximum RA 10.0  
RA Status Passed



**Table 8: Unit 2 High Load Flow Relative Accuracy Test Audit Summary**

**Volumetric Flow Relative Accuracy Determination**

Test Performed For:  
Progress Energy  
Crystal River Plant  
Unit 2  
High Load Flow  
Date: 5/19/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	19-May	8:40:00	8:21:00	490	61295000.0	61141000.0	154000.0
Run 2	19-May	8:46:00	9:04:00	490	62163000.0	61309000.0	854000.0
Run 3	19-May	9:14:00	9:29:00	490	61780000.0	61534000.0	246000.0
Run 4	19-May	10:19:00	10:34:00	490	63469000.0	61344000.0	2125000.0
Run 5	19-May	10:39:00	10:55:00	490	62216000.0	61610000.0	606000.0
Run 6	19-May	11:09:00	11:25:00	491	61024000.0	61349000.0	-325000.0
Run 7	19-May	12:55:00	13:17:00	490	60833000.0	61501000.0	-668000.0
Run 8	19-May	13:22:00	13:38:00	491	60416000.0	61533000.0	-1117000.0
Run 9	19-May	13:52:00	14:07:00	491	61098000.0	61467000.0	-369000.0

Average: 490 61,588,222.2 SCFH 61,420,888.9 SCFH 167,333.3 SCFH

Bias Test (pass/fail): Passed  
Bias Adjustment Factor: 1.000  
Method of RA Determination: Part 75, Standard Emitter

Standard Deviation: 960475.4031  
Confidence Coefficient: 738285.4265  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 1.47  
Maximum RA 10.00  
RA Status Passed

**Table 9: Unit 2 Low Load Flow Relative Accuracy Test Audit Summary**

**Volumetric Flow Relative Accuracy Determination**

Test Performed For:  
Progress Energy  
Crystal River Plant  
Unit 2  
Low Load Flow  
Date: 5/16/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	16-May	4:47:00	5:04:00	219	33989000.0	34542000.0	-553000.0
Run 2	16-May	5:09:00	5:26:00	219	33567000.0	34538000.0	-971000.0
Run 3	16-May	5:47:00	6:02:00	219	33313000.0	34367000.0	-1054000.0
Run 4	16-May	6:13:00	6:29:00	219	33719000.0	34590000.0	-871000.0
Run 5	16-May	6:38:00	6:53:00	219	33694000.0	34415000.0	-721000.0
Run 6	16-May	7:13:00	7:26:00	219	33764000.0	34392000.0	-628000.0
Run 7	16-May	7:38:00	7:52:00	219	34531000.0	34513000.0	18000.0
Run 8	16-May	8:02:00	8:17:00	219	33950000.0	34472000.0	-522000.0
Run 9	16-May	8:37:00	8:52:00	219	33767000.0	34496000.0	-729000.0

Average: 219 33,810,444.4 SCFH 34,480,555.6 SCFH -670,111.1 SCFH

**Bias Test (pass/fail): Passed**  
**Bias Adjustment Factor: 1.000**  
**Method of RA Determination: Part 75, Standard Emitter**

Standard Deviation: 315285.7610  
Confidence Coefficient: 242349.6550  
T-Factor: 2.306  
Number of runs Reported: 9

**Relative Accuracy: 2.70**  
**Maximum RA 10.00**  
**RA Status Passed**

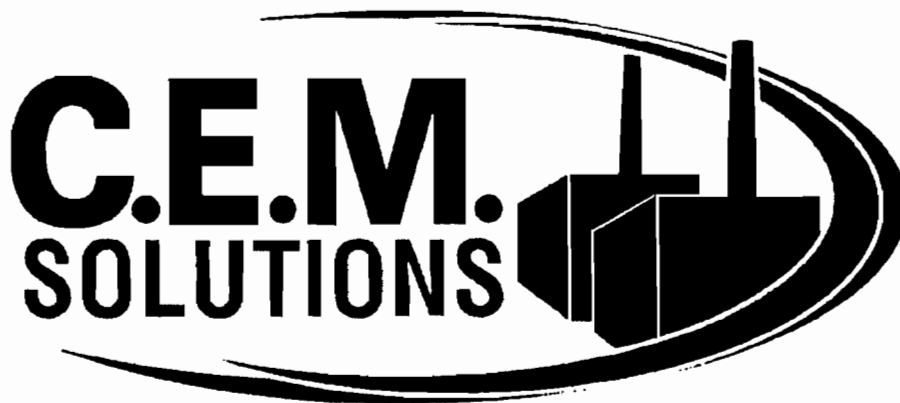
# ***Particulate Matter and Visible Emissions Test Report***

*Completed for:*

***Florida Power Corporation dba  
Progress Energy Florida, Inc.  
Crystal River Power Plant  
Unit 2 (EU-002)***

**Test Report Number: 20-3216-02-001**

**Test Completed: May 20 and 21, 2008**



**Particulate Matter and Visible Emissions  
Test Report**

**Florida Power Corporation dba Progress Energy Florida,  
Inc.**

**Crystal River Power Plant, Unit 2**  
Crystal River, Florida

C.E.M. Solutions Project No.: 3216

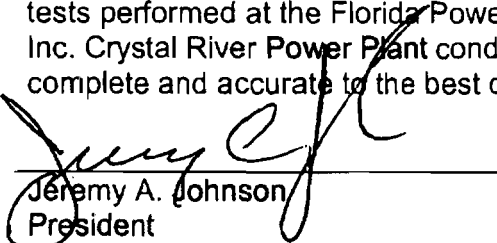
Testing Completed: May 20 and 21, 2008

C.E.M. Solutions, Inc. Report Number: 20-3216-02-001

C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, Florida 34442  
Phone: 352-489-4337

## Statement of Validity

I hereby certify the information and data provided in this emissions test report for tests performed at the Florida Power Corporation dba Progress Energy Florida Inc. Crystal River Power Plant conducted on May 20, 2008 and May 21, 2008 are complete and accurate to the best of my knowledge.



---

Jeremy A. Johnson  
President  
C.E.M. Solutions, Inc.

## Project Background

Name of Source Owner: Florida Power Corporation dba Progress Energy Florida, Inc.

Address of Owner: 299 First Avenue North  
St. Petersburg, Florida 33701

Source Identification: Facility: 0170004  
Emissions Unit: 2 (EU-002)

Location of Source: Crystal River, Florida

Type of Operation: SIC Code: 4911

Tests Performed: Method 1 – Traverse Points  
Method 2 – Stack Gas Volumetric Flow and Velocity  
Method 3A – Determination of Molecular Weight  
Method 4 – Stack Gas Moisture Content  
Method 9 – Determination of Opacity of Emissions  
Method 17 – Particulate Matter  
Method 19 – Determination of Emissions Rates

Test Supervisor: Mr. Charles Horton

Date(s) Tests Conducted: May 20 and 21, 2008

Site Test Coordinator: Mr. Charles Dufeny

Regulatory Observers: No Attendees

## **C.E.M. Solutions, Inc Test Personnel**

Project Field Manager:

Mr. Charles Horton

Test Technicians:

Mr. Jeremy Johnson  
Mr. Chris Harrell

## Table of Contents

1.0	Introduction.....	1
2.0	Facility Description .....	2
2.1	Process Equipment.....	2
2.2	Regulatory Requirements .....	2
3.0	Test Program/Operating Conditions .....	4
4.0	Test Methods.....	5
4.1	Sample and Velocity Traverse Points .....	5
4.2	Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tubes) .....	6
4.2.1	Method 2 Quality Assurance/Quality Control Procedures .....	6
4.3	Moisture Content Determination .....	7
4.3.1	Method 4 Quality Assurance/Quality Control Procedures .....	7
4.4	Particulate Matter Determination.....	7
4.4.1	Sample Recovery and Analysis .....	8
4.4.2	Quality Assurance/Quality Control Procedures .....	8
4.5	Visible Emissions Determination.....	10
4.6	CO <sub>2</sub> and O <sub>2</sub> Instrument Analyzer Methods.....	10
4.6.1	Quality Assurance/Quality Control Procedures .....	11
5.0	Test Results.....	12
5.1	Unit 2 (EU -002).....	12
5.1.1	Particulate Matter.....	12
5.1.2	Visible Emissions.....	12

## List of Tables

Table 1:	Compliance Test Results .....	1
Table 2:	Emissions Limitations and Standards.....	3
Table 3:	Heat Input during Test.....	4
Table 4:	Summary of EPA Reference Methods.....	5
Table 5:	Particulate Matter Isokinetic Summary .....	9
Table 6:	Summary of EPA Reference Methods and Instrumentation .....	10
Table 7:	Reference Method Calibration Span and Calibration Gases Used.....	11

## List of Figures

Figure 1:	Method 17 Sampling Train .....	9
-----------	--------------------------------	---



## **Appendices**

Appendix A: Facility Operating Data

Appendix B: Mathematical Equations

Appendix C: Sample Location Diagram/Traverse Points

Appendix D: Reference Method QA/QC

Appendix D-1: Method 17 QA/QC

Appendix D-2: Instrumental Analyzer (3A) QA/QC

Appendix E: Reference Method Data

Appendix E-1: Method 17

Appendix E-2: Method 9

Appendix E-3: Method 3A

## 1.0 Introduction

Florida Power Corporation dba Progress Energy Florida, Inc. (PEF) retained C.E.M. Solutions, Inc. to conduct emissions testing to determine levels of particulate matter (PM) and visible emissions (VE) emissions from the Unit 2 boiler exhausts (emissions unit EU-002) at its Crystal River Power Plant located in Crystal River, Florida.

The test program was conducted to determine the compliance status of Unit 2 in regards to its emissions limitations and standards outlined in Title V Air Operating Permit 0170004-015-AV. Target pollutants include the following:

- PM (lb/mmBtu)
- VE (in percent)

Mr. Charles Dufeny of the Progress Energy Florida Inc. coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the Florida Department of Environmental Protection.

Unit 2 was found to be in compliance with the permitted emissions limitations during the test program as summarized in Table 1.

The test program and results are presented and discussed in this report.

**Table 1: Compliance Test Results  
Unit 2  
Crystal River Power Plant**

Unit(s)	Pollutant	Unit Operating Mode	Reported Emissions Rate	Permitted Emissions Rate	Compliance Test Status (Pass/Fail)
2	PM	Normal	0.03 lb/mmBtu	0.1 lb/mmBtu	Pass
2	PM	Soot Blowing	0.05 lb/mmBtu	0.3 lb/mmBtu	Pass
2	VE	Normal	5.2 %	≤40 %	Pass
2	VE	Soot Blowing	0.4 %	≤60 %	Pass

## **2.0 Facility Description**

The Crystal River Power Plant Unit 2 is pulverized coal dry bottom boiler, tangentially-fired Fossil Fuel Steam Generator. Unit 2 is allowed to fire bituminous coal or bituminous coal and bituminous coal briquette. Unit 2 is a nominal 523.8 megawatt (electric) steam generator. The maximum operation heat input rate is 4795 mmBtu/hr for Unit 2.

### **2.1 Process Equipment**

Emissions are controlled from the unit with a high efficiency electrostatic precipitator, manufactured by Buell Manufacturing Company, Inc. Unit 2 exhausts through a 500 foot stack.

### **2.2 Regulatory Requirements**

The facility is required to conduct annual emissions testing to determine PM and VE emissions in accordance with Title V Permit Number 0170004-015-AV.

The Unit 2 emissions limitations and standards are summarized in Table 2.

**Table 2: Emissions Limitations and Standards  
Unit 2  
Crystal River Power Plant**

<b>Pollutant/Standard</b>	<b>Emission Limit</b>	<b>Units</b>	<b>Permit Condition</b>
PM lb/mmBtu	0.1 during normal (steady state), and 0.3 during soot blowing	Unit 2	A.6 and A.7
VE % <sup>a</sup>	40% during normal (steady state), and 60% during soot blowing	Unit 2	A.4.a and A.5

<sup>a</sup> six-minute average

### 3.0 Test Program/Operating Conditions

The test program was conducted to determine the compliance status of Unit 2 PM and VE emissions in regards to Title V Operating Permit 0170004-015-AV.

Testing was completed on May 20, 2008 (steady state) and May 21, 2008 (soot-blowing).

Table 3 summarizes the average heat input during the test program.

**Table 3: Heat Input during Test  
Progress Energy Florida  
Unit 2  
Crystal River Power Plant**

<b>Unit</b>	<b>Calculated Heat Input (mmBtu/hr)</b>	<b>Maximum Heat Input (mmBtu/hr)</b>	<b>Percent Max H.I.</b>
2	4401.8	4795.0	91.8

Unit 2 fuel flow and fuel analysis reports are located in Appendix A.

Fuel flow and fuel analysis reports were provided by Progress Energy.

## 4.0 Test Methods

All testing was performed in accordance with methods approved by the USEPA and FDEP. The following discusses the methods, as well as quality assurance and sample handling procedures.

Table 4 summarizes the EPA test methods utilized to complete the test program.

**Table 4: Summary of EPA Reference Methods**  
**Progress Energy Florida**  
**Unit 2**  
**Crystal River Power Plant**

<b>EPA Method</b>	<b>Description</b>
1	Sample and Velocity Traverses for Stationary Sources
2	Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot)
3A	Gas Analysis for Determining Dry Molecular Weight (Instrument Analyzer Procedure)
4	Moisture Content in Stack Gases
9	Visible emissions (Visible Emissions)
17	Particulate Emissions from Stationary Sources

### 4.1 Sample and Velocity Traverse Points

Sample and velocity traverse points were determined utilizing EPA Method 1.

The Unit 2 exhaust stack inner diameter, at the sample location, is 15.2 feet (182 inches). The emissions sampling location on Unit 2 is 223 feet downstream from the nearest flow disturbance and 250 feet from the stack exhaust.

A diagram of the sample location can be viewed in Appendix C.

## **4.2 Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tubes)**

Method 2 was used to determine the volumetric flow rate of the stack effluent gas.

Stack temperature differential pressure readings were taken with an S type pitot tube and Type K temperature sensor at each sample traverse point.

### **4.2.1 Method 2 Quality Assurance/Quality Control Procedures**

The S type pitot tube was inspected visually and measured to meet the design specifications of EPA Method 2, for a pitot coefficient of 0.84.

The incline manometer and each leg of the pitot tube was leak checked before and immediately after each test run.

Thermocouple sensors were calibrated prior to the test program and a post test check was performed after testing completion.

The incline manometer was leveled and zeroed before each test run.

Appendix D contains the completed QA/QC forms.

### **4.3 Moisture Content Determination**

Moisture content of the stack gas was determined by Method 4.

Stack gas was sampled at each traverse point, passed through pre-weighed impingers and then through a calibrated dry gas meter. Moisture is removed from the sample gas in the pre-weighed impingers, which are submerged in an ice bath, and later analyzed for moisture weight gain. Moisture is determined based upon the amount of moisture weight gain and sample gas collected.

Field moisture data sheets are also located in Appendix E.

#### **4.3.1 Method 4 Quality Assurance/Quality Control Procedures**

The moisture sampling train was leak checked prior to each test run at approximately 15 inches hg and immediately after each run at a vacuum higher than the highest vacuum recorded during the respective test run. Results are recorded on the moisture field data sheets.

Weighing to determine moisture content was conducted with a balance having an accuracy of 0.5 grams.

Gas temperature at the exit of the impingers was maintained at less than 68 degrees Fahrenheit.

### **4.4 Particulate Matter Determination**

USEPA Method 17 was used to determine particulate emissions. Stack gas was extracted isokinetically from the gas stream; particulate emissions are measured gravimetrically by determining the amount of particulate matter collected on the stainless steel nozzle and quartz fiber filter. The probe liner temperature was maintained at  $248 \pm 25$  degrees Fahrenheit.

Sample volume was measured by passing the gas through a set of weighed impingers used for moisture content, then passed through a calibrated dry gas meter. An S type pitot tube is attached to the probe to measure stack gas velocity and to maintain sampling conditions between 90% and 110% isokinetic. A type K temperature sensor is also attached to the probe to measure the stack gas temperature.

Isokinetic conditions were maintained throughout each test run of the test program as demonstrated in Table 5.

A minimum of 30 dscf of sample was taken each test run over a sampling period of approximately 60 minutes.



Method 17 field data sheets are located in Appendix E.

Figure 1 contains a diagram of the Method 17 sampling train.

#### **4.4.1 Sample Recovery and Analysis**

After each sample run, the nozzle and filter holder ahead of the filter were brushed and rinsed with acetone. Contents were stored in a leak free container for transport to the laboratory. The impingers were weighed for increase, to the nearest 0.5 gram, to determine moisture gain.

Particulate matter was determined by drying each filter at 230 degrees Fahrenheit for three hours, desiccated to a constant weight and recorded to the nearest 0.1 mg. Sample from the probe nozzle and filter holder were evaporated in a tared beaker, desiccated to a constant weight, and recorded to the nearest 0.1 mg.

Appendix E contains the analytical results for each run.

#### **4.4.2 Quality Assurance/Quality Control Procedures**

The probe nozzles were inspected and measured across three different diameters to determine the appropriate nozzle diameter.

Before and after each test run, the manometer was leveled and zeroed. Leak checks of the sampling train were conducted before and immediately after each test run.

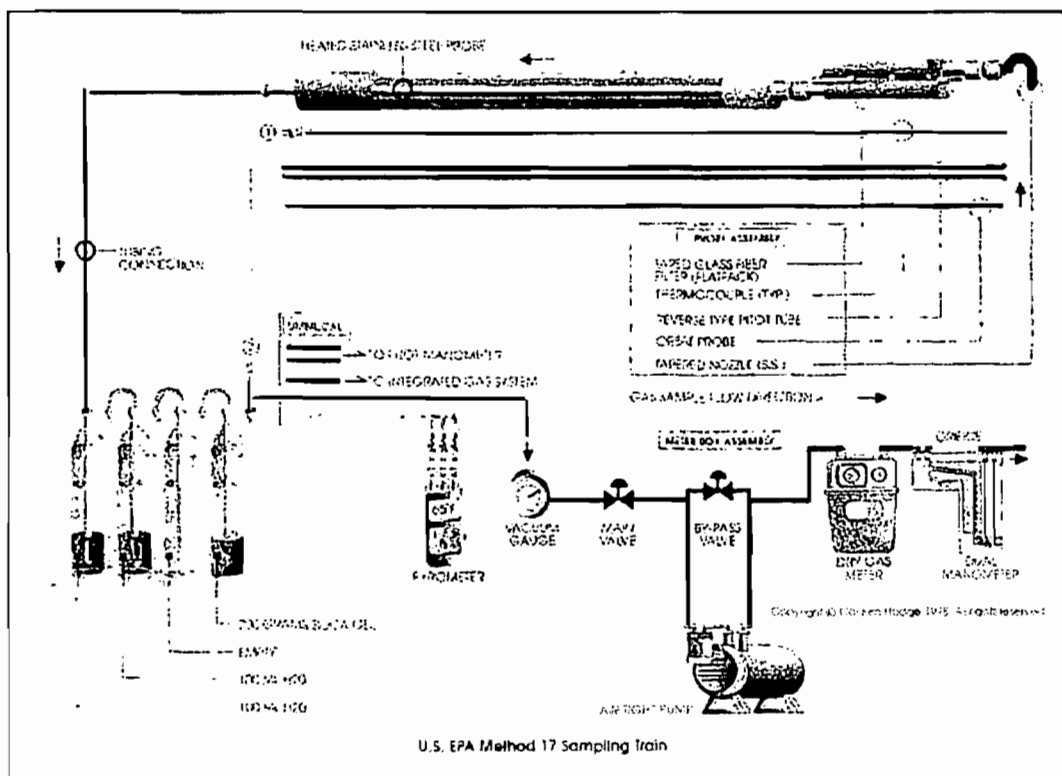
The dry gas meter was fully calibrated within six months prior to the test program using a set of EPA critical orifices. Post test program dry meter checks were completed to verify the accuracy of the meter's  $Y_1$ .

Completed QA/QC forms are located in Appendix D.

**Table 5: Particulate Matter Isokinetic Summary**  
**Progress Energy Florida**  
**Unit 2**  
**Crystal River Power Plant**

Unit/Operating Mode	% Isokinetic				
	Run 1	Run 2	Run 3	Average(s)	Tolerance
Unit 2 Normal	101.3	101.2	99.7	100.7	90-110
Unit 2 Soot-Blowing	100.5	99.3	100.6	100.2	

**Figure 1: Method 17 Sampling Train**



## 4.5 Visible Emissions Determination

USEPA Method 9 was utilized to determine visible emissions.

Visible emissions observations were performed by a FDEP certified visual emissions reader. Readings were taken at 15 second intervals and reduced into six minute averages as required by the applicable EPA standard. One-sixty minute visible emissions run was performed while the unit was operating at maximum capacity during each operating condition.

Method 9 data summary, field data and VE reader's certification are located in Appendix E.

## 4.6 CO<sub>2</sub> and O<sub>2</sub> Instrument Analyzer Methods

CO<sub>2</sub> reference method data was determined using instrument analyzer procedures. O<sub>2</sub> was back calculated using the fuel F<sub>o</sub> factor and stack moisture content. CO<sub>2</sub> and O<sub>2</sub> data was used to determine stack gas molecular weight. Table 6 summarizes the EPA methods and instrumentation:

**Table 6: Summary of EPA Reference Methods and Instrumentation**  
**Progress Energy Florida**  
**Unit 2**  
**Crystal River Power Plant**

Unit/Pollutant	EPA Method	Instrument	Serial Number
Unit 2 CO <sub>2</sub>	3A	CAI ZRH1	N3G2201T

All reference method analyzers used meet or exceed applicable performance specifications detailed in the appropriate method.

Gaseous emissions were tested using an in-stack dilution extraction probe. Gas samples were continuously extracted from the stack by a gas sample probe and diluted at a ratio of approximately 100:1 with clean, dry instrument air (dilution air). Samples were then transported to gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers.

Instrument outputs were recorded continuously with a Windows compatible personal computer, compiled into 15 second averages, and stored in a database for future reference.

Instrument ranges and calibration gases were chosen in accordance with each pollutant's applicable EPA method. Instrument ranges and calibration gases used are shown in Table 7:

**Table 7: Reference Method Calibration Span and Calibration Gases Used  
Progress Energy Florida  
Unit 2  
Crystal River Power Plant**

<b>Pollutant</b>	<b>Test Location</b>	<b>Calibration Span</b>	<b>Calibration Gases<sup>a</sup></b>
CO <sub>2</sub>	Unit 2	17.99 %	0.0 % CO <sub>2</sub> 9.52 % CO <sub>2</sub> 17.99 % CO <sub>2</sub>

<sup>a</sup> Concentrations, CO<sub>2</sub> is in a balance of purified nitrogen (N<sub>2</sub>). All analyzers were zeroed with ultra high purity N<sub>2</sub>. All calibration gases have been certified to NIST traceable standards.

Calibration gas Certificates of Analysis can be found in Appendix D.

#### **4.6.1 Quality Assurance/Quality Control Procedures**

All sampling, analytical, and Quality Assurance/Quality Control (QA/QC) procedures outlined in the EPA methods were followed. All test equipment was calibrated before or during use in the field. Interference checks and response time checks were performed on each instrumental analyzer, as applicable, before field use. In the field, each analyzer and the entire instrument measurement system was checked for system bias before and following each test run using the calibration gases listed in Table 7.

Appendix D contains the QA/QC checks.

## **5.0 Test Results**

The following presents the results of the test program. Supporting calculations and field data summaries are presented in Appendices B and E, respectively.

### **5.1 Unit 2 (EU -002)**

#### **5.1.1 Particulate Matter**

The three-run average particulate matter emissions during the normal (steady state) portion of the test program was 0.032 lb/mmBtu, passing the emissions limitation of 0.1 lb/mmBtu.

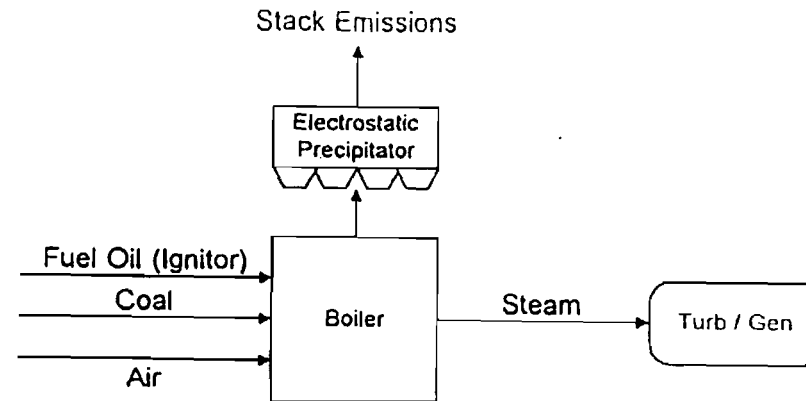
The three-run average particulate matter emissions during the soot blowing portion of the test program was 0.049 lb/mmBtu, passing the emissions limitation of 0.3 lb/mmBtu.

#### **5.1.2 Visible Emissions**

The highest six-minute visible emissions observed during the normal (steady state) portion of the test program were 5.2 percent, passing the 40 percent emissions limitation.

The highest six-minute visible emissions observed during the soot blowing portion of the test program were 0.4 percent, passing the 60 percent emissions limitation.

**EMISSION UNIT 003 and 004**  
**No. 5 Unit (003), FFFSG**  
**No. 4 Unit (004), FFFSG**



CLIENT/PROJECT  
Progress Energy Florida, Inc



**Golder  
Associates**

TAMPA, FLORIDA

TITLE  
**Process Flow Diagram  
Boilers 4 and 5  
Crystal River Power Plant**

DRAWN

CHECKED

REVIEWED

DATE

4/21/2009

NOT TO  
SCALE

FILE NO.

Job No.

083-89614

DWG NO.

SUBTITLE

REV. NO.

CR-EU3-11

**ATTACHMENT CR-EU3-I2  
FUEL ANALYSIS**

**Coal**

<u>Parameter</u>	<u>Typical Value</u>
Moisture Content (%)	7.1
Ash Content (%)	8.3
Sulfur Content (%)	0.7 (maximum)
Heat Content (Btu/lb)	12,200 (minimum) 13,200 (maximum)

Note: The coal is burned in Units No. 4 and 5. Except where noted, the values listed are general or typical values based upon information obtained from the suppliers. The coal is supplied by approximately 4 suppliers in eastern Kentucky, Virginia, and West Virginia.

**No. 2 Fuel Oil**

<u>Parameter</u>	<u>Typical Value</u>	<u>Max Value</u>
API gravity @ 60 F	30 <sup>1</sup>	-
Relative density	7.1 lb/gal <sup>2</sup>	
Heat content	19,500 Btu / lb (HHV)	
% sulfur	0.3 <sup>2</sup>	0.73 <sup>3</sup>
% nitrogen	0.025 - 0.03	
% ash	negligible	0.1 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) PEF's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the PEF fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air permit.



**EMISSION ATTACHMENT CR-EU3-I3**  
**Detailed Description of Control Equipment**

## ATTACHMENT CR-EU3-I3

### DETAILED DESCRIPTION OF CONTROL EQUIPMENT

#### Units No. 4 and No. 5 Design Parameters for Electrostatic Precipitators

<u>Parameter</u>	<u>Value</u>
Precipitator efficiency (%)	99.6
Gas Flow, acms (ACFM)	1,048 (2,221,000)
Gas Temperature, C (F)	130 (266)
Gas Velocity, m/c (FPS)	0.91 (3)
Effective front end area, m <sup>2</sup> (ft <sup>2</sup> )	1,146 (12,339)
Plate Heights, m (ft)	9.75 (32)
Effective width, m (ft)	117.65 (386)
Aspect ratio (four 2.74 m (9 ft) and one 3.66 m (12 ft) field)	1.5
Field depth, m (ft)	14.63 (48)
Effective volume, m <sup>3</sup> (ft <sup>3</sup> )	16,794 (593,000)
Duct width, m (in.)	0.23 (9)
Number of ducts	515
Total plate area, m <sup>2</sup> (ft <sup>2</sup> )	146,975 (1,582,080)
Collecting area, m <sup>2</sup> /acms (ft <sup>2</sup> /10 <sup>3</sup> ACFM)	140 (712)
Number of transformer rectifiers	80
Number of bus sections	160
Total power required, MW	5.4
Estimated precipitator dimensions, each (two precipitators/unit)	
Length, m (ft)	17.68 (58)
Width, m (ft)	64.01 (210)
Height, m (ft)	15.24 (50)
Overall height, m (ft) (including hoppers)	21.34 (70)

**EMISSION ATTACHMENT CR-EU3-I5**  
**Compliance Demonstration Reports**  
**Unit No. 5**

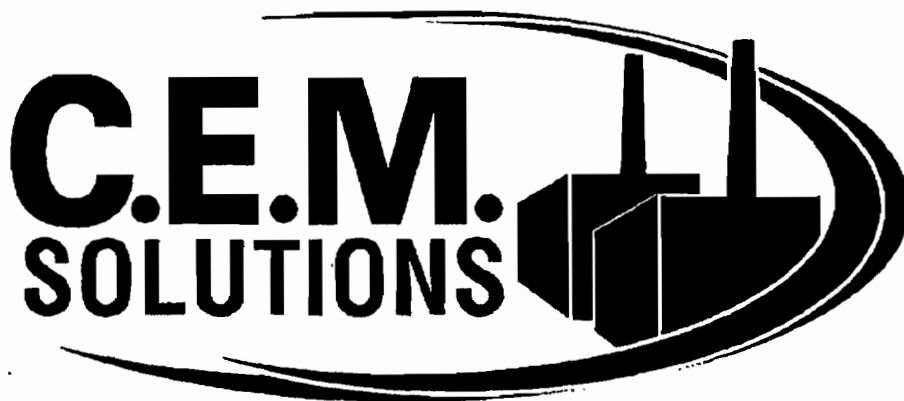
# ***Relative Accuracy Test Audit***

*Completed for:*

***Progress Energy Florida, Inc.  
Crystal River Energy Complex  
Unit 5 (EU-003)***

**Test Report Number: 20-3115-05**

**Test Completed: February 27, 2008**



# **Relative Accuracy Test Audit Report**

**Progress Energy Florida, Inc.  
Crystal River Energy Complex  
Unit 5 (EU-003)  
Crystal River, Florida**

**C.E.M. Solutions Project No. 3115**

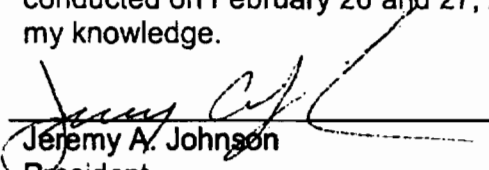
**Testing Completed: February 27, 2008**

**C.E.M. Solutions, Inc Report Number: 20-3115-03**

**C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, Florida 34442  
Phone: 352-489-4337**

## Statement of Validity

I hereby certify the information and data provided in this emissions test report for tests performed at the Progress Energy Florida, Inc. Crystal River facility conducted on February 26 and 27, 2008 are complete and accurate to the best of my knowledge.



Jeremy A. Johnson  
President  
C.E.M. Solutions, Inc.

## Project Background

Name of Source Owner: Progress Energy

Address of Owner: One Power Plaza  
299 First Avenue North  
St. Petersburg, Florida 33701

Source Identification: Oris Code 628  
Facility ID: 0170004  
Emissions Unit -003

Location of Source: Citrus County, Florida

Type of Operation: SIC Code: 4911

Tests Performed: Method 1 – Traverse Points  
Method 2F – Stack Gas Volumetric Flow and Velocity Using  
Three Dimensional Probes  
Method 2H - Determination of stack gas velocity taking into  
account velocity decay near the stack wall  
Method 3A – Determination of Oxygen and Carbon Dioxide  
Method 4 – Stack Gas Moisture Content  
Method 6C – Determination of Sulfur Dioxide  
Method 7E – Determination of Nitrogen Oxides  
Method 19 – Determination of Nitrogen Oxide Emissions Rates

Test Supervisor: Mr. Charles Horton

Date(s) Tests Conducted: High Load Gas and Flow RATA: February 26, 2008  
Mid Load Flow RATA: February 27, 2008

Site Test Coordinator: Ms. Erika Tuchbaum-Biro

State Regulatory Observers: No Attendees

## **C.E.M. Solutions, Inc Test Personnel**

Project Field Manager:

Mr. Charles Horton

Test Technicians:

Mr. Robert Douglas  
Mr. Thomas Harris



## Table of Contents

1.0	Introduction .....	1
2.0	Facility Description .....	2
2.1	Process Equipment .....	2
2.2	Regulatory Requirements .....	2
3.0	Test Program/Operating Conditions .....	4
4.0	Test Methods .....	5
4.1	NO <sub>x</sub> , SO <sub>2</sub> , CO <sub>2</sub> Relative Accuracy Test Audit (RATA) .....	5
4.2	Volumetric Flow Relative Accuracy Test Audit (RATA) .....	6
4.2.1	Method 2F: Determination of Volumetric Flow With 3-D Probes .....	6
4.2.2	Method 2H: Determination of Velocity Using Wall Decay Factor ...	7
4.2.3	Method 3: Determination of Dry Gas Molecular Weight .....	7
4.2.4	Method 4: Determination of Moisture Content in Stack Gases .....	7
4.3	Sampling Location/Traverse Points/Test Run Duration .....	7
4.3.1	Gaseous Traverse Points and Run Durations .....	8
4.3.2	Volumetric Flow Traverse Points and Run Durations .....	8
4.3.3	Moisture Traverse Points and Run Durations .....	8
4.3.4	Molecular Weight Traverse Points and Run Durations .....	8
4.4	Quality Assurance/Quality Control Procedures .....	9
5.0	Relative Accuracy Test Audit Results .....	10
5.1	SO <sub>2</sub> RATA Results .....	10
5.2	NO <sub>x</sub> RATA Results .....	10
5.3	CO <sub>2</sub> RATA Results .....	10
5.4	Volumetric Flow RATA Results .....	10

## List of Tables

Table 1: RATA Results .....	1
Table 2: CEMS RATA Performance .....	3
Table 3: Summary of EPA Reference Methods and Instrumentation .....	5
Table 4: Reference Method Instrument Ranges and Calibration Gases .....	6
Table 5: Unit 2 SO <sub>2</sub> Relative Accuracy Test Audit Summary .....	11
Table 6: Unit 2 NO <sub>x</sub> Relative Accuracy Test Audit Summary .....	12
Table 7: Unit 2 CO <sub>2</sub> Relative Accuracy Test Audit Summary .....	13
Table 8: Unit 2 High Load Flow Relative Accuracy Test Audit Summary .....	14
Table 9: Unit 5 Mid Load Flow Relative Accuracy Test Audit Summary .....	15

## **Appendices**

Appendix A: Mathematical Equations

Appendix B: Reference Method Calibration Gas Certificates of Analysis

Appendix C: Sample Location Diagram and Traverse Points

Appendix D: Reference Method Quality Assurance/Quality Control Checks

Appendix D-1: Volumetric Flow and Gaseous RATA

Appendix D-2: Volumetric Flow Equipment

Appendix E: Reference Method Run Data

Appendix F: CEMS Run Data

## 1.0 Introduction

Progress Energy Florida, Inc. retained C.E.M. Solutions, Inc. to perform a Relative Accuracy Test Audit (RATA) on its Unit 5 Continuous Emissions Monitoring System (CEMS) located at its facility in Crystal River, Florida.

The test program conducted included Relative Accuracy Test Audits (RATAs) on the following CEMS analyzers at Crystal River Unit 5:

- SO<sub>2</sub> ppm
- NO<sub>x</sub> lb/mmBtu
- CO<sub>2</sub> %
- Volumetric Flow WSCFH

The test program was conducted in order to evaluate the accuracy of the Unit 5 CEMS in accordance with the United States Environmental Protection Agency (USEPA) requirements in the Code of Federal Regulations, Title 40, Part 75, Appendix B, and Section 2.3.1. The test program and results are presented and discussed in this report.

Ms. Erika Tuchbaum-Biro of the Progress Energy Florida, Inc. Environmental Services Section coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the USEPA.

Unit 5 passed all of the conducted RATAs. Table 1 summarizes the results of the RATAs conducted on Unit 5.

**Table 1: RATA Results**  
**Crystal River Generating Complex**  
**Unit 5**

<b>RATA</b>	<b>% RA</b>	<b>BAF</b>
SO <sub>2</sub> ppm	1.36%	1.000
NO <sub>x</sub> -diluent	6.19%	1.000
CO <sub>2</sub>	3.4%	1.028
Flow	4.80% High Load 1.90% Mid Load	1.000

## **2.0 Facility Description**

Unit 5 of the Crystal River Energy Complex is a fossil fuel steam generator consisting of a dry bottom wall-fired boiler, rated at 760 MW, 6,665 MMBtu/hr. Primary fuel is bituminous coal or a bituminous coal and bituminous coal briquette mixture. Number 2 fuel oil and natural gas may be burned as a startup fuel and for low load flame stabilization.

### **2.1 Process Equipment**

Fossil Fuel Steam Generator, Unit 5 is a pulverized coal, dry bottom, wall-fired boiler. Emissions are controlled from the unit with a high efficiency electrostatic precipitator, manufactured by Combustion Engineering. Emissions are exhausted through a brick and mortar 600 ft. stack.

### **2.2 Regulatory Requirements**

The facility is required to conduct RATA's on the SO<sub>2</sub> pollutant concentration monitor, NO<sub>x</sub>-diluent CEMS, CO<sub>2</sub> pollutant concentration monitors, and flow monitors in accordance with 40CFR75, App. B, Section 2.3.1.1 in order to validate emissions data collected by the NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub>, and flow CEMS for the Acid Rain Program.

RATA's are required to be conducted on the gaseous and flow CEMS at the designated normal operating load level defined in section 6.5.2.1 of 40CFR75, Appendix A, while firing on primary fuel used during normal (high load) operation. An additional RATA was required to be completed on the flow monitor at the mid range operating level.

The Relative Accuracies of the Unit 5 CEMS are required to meet the performance specifications listed in Table 2.

**Table 2: CEMS RATA Performance Specifications**

<b>RATA</b>	<b>Semiannual (% RA)</b>	<b>Annual (% RA)</b>
SO <sub>2</sub> ppm	7.5% < RA ≤ 10.0% or ± 15.0 ppm <sup>1</sup>	RA ≤ 7.5% ± 12.0 ppm <sup>1</sup>
NO <sub>x</sub> -diluent	7.5% < RA ≤ 10.0% or ± 0.020 lb/mmBtu <sup>1</sup>	RA ≤ 7.5% or ± 0.015lb/mmBtu <sup>1</sup>
CO <sub>2</sub> or O <sub>2</sub> pollutant	7.5% < RA ≤ 10.0% or ± 1.0% CO <sub>2</sub> /O <sub>2</sub> <sup>1</sup>	RA ≤ 7.5% or ± 1.0% CO <sub>2</sub> /O <sub>2</sub> <sup>1</sup>
Flow	7.5% < RA ≤ 10.0% or ± 1.5 fps <sup>1</sup>	RA ≤ 7.5% <sup>1</sup>

<sup>1</sup> The difference between monitor and reference method mean values applies to low emitters only

### **3.0 Test Program/Operating Conditions**

The Relative Accuracy Test Audit was conducted to determine relative accuracy of Unit 5's NO<sub>x</sub>-diluent, SO<sub>2</sub> and CO<sub>2</sub> concentration, and flow monitoring CEMS.

Testing was completed on February 26 and 27, 2008.

During testing at the high load level, also designated as the normal operating level, Unit 5 operated at an average of 755 gross megawatts.

Unit 5 operated at an average of 571 gross megawatts during the mid load flow RATA.

Ms. Erika Tuchbaum-Biro of Progress Energy Florida, Inc. was present to coordinate plant operations throughout the test program.

## 4.0 Test Methods

All testing was performed in accordance with methods approved by the USEPA and FDEP. The following discusses the methods, as well as quality assurance and sample handling procedures.

### 4.1 NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub> Relative Accuracy Test Audit (RATA)

NO<sub>x</sub> and SO<sub>2</sub> reference method (RM) data was determined using instrument analyzer procedures. In addition, diluent gas concentrations of oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) were also measured via instrumental methods. CO<sub>2</sub> data was also used to calculate NO<sub>x</sub> pollutant emissions in pounds per million Btu. Data collected by the reference method is compared to the Unit 2 CEMS data. Mathematical equations used to determine calculated emissions standards and RATA accuracy are located in Appendix A. Table 3 summarizes the EPA methods and instrumentation:

**Table 3: Summary of EPA Reference Methods and Instrumentation  
Crystal River Generating Complex  
Unit 5**

<b>Pollutant</b>	<b>EPA Method</b>	<b>Instrument</b>	<b>Serial Number</b>
NO <sub>x</sub>	7E	TEI Model 42CHL	42CHL-74122-375
SO <sub>2</sub>	6C	TEI Model 43 HL	50730771
O <sub>2</sub>	3A	Servomex 1440	1420D/3379
CO <sub>2</sub>	3A	Servomex 1440	1415D/3379

All reference method analyzers used meet or exceed applicable performance specifications detailed in the appropriate method.

Gas samples were continuously extracted from the stack by a gas sample probe heated to approximately 250 degrees Fahrenheit. Samples were then transported to a gas sample conditioner via a heated sample line operating at 250°F or above. The gas sample conditioner lowers the dew point of the sample gas to approximately 5°C through minimum interference heat exchangers. The dry, cool sample is then sent to the gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers.

Instrument outputs were recorded continuously with a Windows compatible personal computer, compiled into 15 second averages, and stored in a database for future reference.

Instrument ranges and calibration gases were chosen in accordance with each pollutant's applicable EPA method. Instrument ranges and calibration gases used are shown in Table 4:

**Table 4: Reference Method Calibration Span and Calibration Gases  
Crystal River Generating Complex  
Unit 5**

<b>Pollutant</b>	<b>Test Location</b>	<b>Calibration Span</b>	<b>Calibration Gases<sup>a</sup></b>
NO <sub>x</sub>	Unit 5	486.0 ppm	0.0 ppm NO 225.0 ppm NO 486.0 ppm NO
SO <sub>2</sub>	Unit 5	971.0 ppm	0.0 ppm SO <sub>2</sub> 480.0 ppm SO <sub>2</sub> 971.0 ppm SO <sub>2</sub>
CO <sub>2</sub>	Unit 5	17.99 %	0.0 % CO <sub>2</sub> 9.10 % CO <sub>2</sub> 17.99 % CO <sub>2</sub>
O <sub>2</sub>	Unit 5	23.93 %	0.0 % O <sub>2</sub> 11.97% O <sub>2</sub> 23.93% O <sub>2</sub>

<sup>a</sup> Concentrations of NO, SO<sub>2</sub> and O<sub>2</sub> and CO<sub>2</sub> are in a balance of purified nitrogen (N<sub>2</sub>). All analyzers were zeroed with ultra high purity N<sub>2</sub>. All calibration gases have been certified to NIST traceable standards.

Calibration gas Certificates of Analysis can be found in Appendix B.

## **4.2 Volumetric Flow Relative Accuracy Test Audit (RATA)**

The following subsections describe the EPA Methods used to determine the Reference Method Volumetric Flow. All methods and QA/QC protocols were followed as described in the appropriate test methodologies.

### **4.2.1 Method 2F: Determination of Velocity and Volumetric Flow With 3-D Probes**

A 3-D DAT probe was used to determine the velocity pressure and yaw and pitch angles of the flow velocity vector in the stack. The method determined the yaw angle directly by rotating the probe to null the pressure across a pair of symmetrically placed ports on the probe head. The pitch angle was calculated using probe-specific calibration curves. From these values and a determination of the stack gas density, the average axial velocity of the stack gas was calculated. The average gas volumetric flow rate in the stack was then determined from the average axial velocity.



#### **4.2.2 Method 2H: Determination of Velocity Taking Into Account Velocity Decay Near The Stack Wall**

A wall effects adjustment factor was determined using Method 2H. It was used to adjust the average stack gas velocity obtained under Method 2F, to take into account velocity decay near the stack wall. The default WAF for brick and mortar stacks (0.990) was used for the high and mid level testing.

#### **4.2.3 Method 3: Determination of Dry Gas Molecular Weight**

Method 3 was used to determine dry gas molecular weight of the sample gas. During high and mid load testing, oxygen and carbon dioxide emissions were measured using instrument method 3A. The instrument analyzers were calibrated using the reference gases listed in Table 4. Collected data was corrected for instrument calibration drift for each run.

#### **4.2.4 Method 4: Determination of Moisture Content in Stack Gases**

Stack gas moisture content was determined utilizing Method 4. In Method 4, gas sample is extracted, at a rate no more than 0.75 cubic feet per minute, from the stack through a probe, inserted at least one meter from the stack wall, then sent through a set of pre-weighed impingers. Moisture is removed from the gas and collected in the impinger train. The gas exiting the sample train is maintained at a temperature less than or equal to 68 degrees Fahrenheit. The amount of gas pulled through the sample train is measured by a calibrated dry gas metering system.

At the end of the sampling run, the contents of the impingers are measured gravimetrically to the nearest 0.1 gram. Stack gas moisture is calculated based upon the impinger weight gain and the volume of gas collected.

### **4.3 Sampling Location/Traverse Points/Test Run Duration**

Unit 5's exhaust stack inner diameter, at the sample location, is 28 feet, 3 ½ inches (339.5"). The emissions sampling location is 195 feet downstream from the nearest flow disturbance, and 303 feet upstream from the stack exhaust. A diagram of the sample location can be viewed in Appendix C.

#### **4.3.1 Gaseous Traverse Points and Run Durations**

Gas sample traverse points were located in accordance with 40CFR, Part 75, Appendix A, Section 6.5.6(b)(2) at 4.4%(14.9"), 14.6%(49.5"), and 29.6%(100.5") from the inner wall of the stack. Each point was sampled for seven minutes, equaling a total of 21 minutes per test run. A minimum of nine, but no more than 12, test runs were completed.

#### **4.3.2 Volumetric Flow Traverse Points and Run Durations**

Velocity traverse points were determined in accordance with EPA Method 1. A total of 16 traverse points (three points per port) were used to complete each flow test run. Sufficient time was allowed for differential pressure and stack temperature readings to stabilize at each point before readings were recorded. Each flow run was a minimum of five minutes in duration.

#### **4.3.3 Moisture Traverse Points and Run Durations**

The moisture sample probe was inserted at least one meter inside the stack from the inner wall.

When moisture data was required to correct gaseous measurements from a dry to a wet basis, runs were conducted concurrently with the gaseous test runs for a period of 21 minutes.

During volumetric flow testing, one moisture run in which a minimum of 21 cubic feet of sample was collected, was completed for every three reference method volumetric flow runs as required in 40CFR75, Appendix A, section 6.5.7.

#### **4.3.4 Molecular Weight Traverse Points and Run Durations**

During reference method gaseous test runs, O<sub>2</sub> and CO<sub>2</sub> data was collected at the traverse points and for the same period of time as discussed previously in section 4.3.1.

#### **4.4 Quality Assurance/Quality Control Procedures**

All sampling, analytical, and Quality Assurance/Quality Control (QA/QC) procedures outlined in the EPA methods were followed. All test equipment was calibrated before or during use in the field. Interference checks, response time checks, and NO<sub>2</sub> to NO converter checks were performed on each instrumental analyzer, as applicable, before field use. In the field, each analyzer and the entire instrument measurement system was checked for system bias before and following each test run using the calibration gases listed in Table 3. Appendix D contains the QA/QC checks.

The reference method 3-D type volumetric flow probe was leak checked prior to and following each test run. A minimum of 3" of pressure, or a pressure corresponding to approximately 75% of the measurement device's range, was applied to each leg of the test probe and tested for a minimum period of 15 seconds to confirm stability.

The moisture train was leak tested before and following each test run at a vacuum equal to or higher than the highest vacuum observed during each test run. A failed leak check occurs when there is more than .02 cubic feet of movement over a period of one minute.

## **5.0 Relative Accuracy Test Audit Results**

The following presents the results of the test program. Tables 5 through 10 summarize the SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, high load flow and mid load flow Relative Accuracy Test Audit results. Supporting RM field data and calculated values are presented in Appendix E. CEMS support data are located in Appendix F.

### **5.1 SO<sub>2</sub> RATA Results**

The SO<sub>2</sub> CEMS relative accuracy over the nine test runs was 1.36%. Unit 5 SO<sub>2</sub> CEMS also passed the Bias Adjustment Factor Test, therefore no bias (1.000) is assigned to the CEMS data.

### **5.2 NO<sub>x</sub> RATA Results**

Unit 5 NO<sub>x</sub>-Diluent CEMS relative accuracy was 6.19%. Unit 5's NO<sub>x</sub>-diluent CEMS passed the Bias Adjustment Factor Test, and is assigned a BAF of 1.000.

### **5.3 CO<sub>2</sub> RATA Results**

The CO<sub>2</sub> CEMS had a relative accuracy of 3.4% over the nine run test period. The Unit 5 CO<sub>2</sub> CEMS did not pass the Bias Adjustment Factor Test. A BAF of 1.028 has been assigned to Unit 5 CO<sub>2</sub> CEMS.

### **5.4 Volumetric Flow RATA Results**

Unit 5 volumetric flow's relative accuracy at the high and mid operating levels was 4.80 and 1.90%, respectively.

Unit 5 flow monitor passed the BAF test at the high load (normal) level, therefore no bias (1.000) is applied to the CEMS data.

**Table 5: Unit 5 SO<sub>2</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 5  
Part 75 RATA  
Date: 2/26/2008

Test Performed By:  
C.E.M. Solutions, Inc.  
7990 W. Gulf to Lake Hwy.  
Crystal River, FL 34429  
Ph: 352-564-0441

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	SO <sub>2</sub> RM WET ppm	SO <sub>2</sub> CEM WET ppm	Difference Like ppm
Run 2	26-Feb	9:47:00	10:08:00	755	389.6	392.8	-3.2
Run 3	26-Feb	10:29:00	10:50:00	756	389.2	395.2	-6.0
Run 4	26-Feb	11:10:00	11:31:00	756	393.9	392.4	1.5
Run 5	26-Feb	11:53:00	12:14:00	755	387.8	392.1	-4.3
Run 6	26-Feb	12:36:00	12:57:00	755	395.9	393.6	2.3
Run 7	26-Feb	13:18:00	13:39:00	753	385.4	392.7	-7.3
Run 8	26-Feb	14:02:00	14:23:00	758	407.5	403.6	3.9
Run 9	26-Feb	14:46:00	15:07:00	755	397.6	403.0	-5.4
Run 10	26-Feb	15:32:00	15:53:00	756	400.8	402.9	-2.1

Average: 755 394.2 ppm 396.5 ppm -2.3 ppm

**Bias Test (pass/fail): Passed**  
**Bias Adjustment Factor: 1.000**  
**Method of RA Determination: Part 75, Standard Emitter**

Standard Deviation: 3.996  
Confidence Coefficient: 3.072  
T-Factor: 2.306  
Number of runs Reported: 9

**Relative Accuracy: 1.36**  
**Maximum RA 10.00**  
**RA Status Passed**

**Table 6: Unit 5 NO<sub>x</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 5  
Part 75 RATA  
Date: 2/26/2008

Test Performed By:  
C.E.M. Solutions, Inc.  
7990 W. Gulf to Lake Hwy.  
Crystal River, FL 34429  
Ph: 352-564-0441

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	NO <sub>x</sub> RM lbs/mmBtu	CEM lbs/mmBtu	Difference Like lbs/mmBtu
Run 2	26-Feb	9:47:00	10:08:00	755	0.419	0.443	-0.024
Run 3	26-Feb	10:29:00	10:50:00	756	0.421	0.448	-0.027
Run 4	26-Feb	11:10:00	11:31:00	756	0.425	0.452	-0.027
Run 5	26-Feb	11:53:00	12:14:00	755	0.419	0.446	-0.027
Run 6	26-Feb	12:36:00	12:57:00	755	0.423	0.449	-0.026
Run 7	26-Feb	13:18:00	13:39:00	753	0.434	0.459	-0.025
Run 8	26-Feb	14:02:00	14:23:00	758	0.454	0.477	-0.023
Run 9	26-Feb	14:46:00	15:07:00	755	0.449	0.473	-0.024
Run 10	26-Feb	15:32:00	15:53:00	756	0.450	0.477	-0.027
Average:				755	0.433	0.458	-0.026 lbs/mmBtu

**Bias Test (pass/fail): Passed**  
**Bias Adjustment Factor: 1.000**  
**Method of RA Determination: Part 75, Standard Emitter**

Standard Deviation: 0.002  
Confidence Coefficient: 0.001  
T-Factor: 2.306  
Number of runs Reported: 9

Note:  
All ppm values are corrected to lbs/mmBtu NO<sub>x</sub>  
using RM CO<sub>2</sub> and CEM CO<sub>2</sub> as diluents

**Relative Accuracy: 6.19**  
**Maximum RA 10.00**  
**RA Status Passed**

**Table 7: Unit 5 CO<sub>2</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 5  
Part 75 RATA  
Date: 02/26/2008

Test Performed By:  
C.E.M. Solutions, Inc.  
7990 W. Gulf to Lake Hwy.  
Crystal River, FL 34429  
Ph: 352-564-0441

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	CO2 RM WET % V/V	CO2 CEM WET % V/V	CO2 Difference Like % V/V
Run 2	26-Feb	9:47:00	10:08:00	755	12.6	12.2	0.4
Run 3	26-Feb	10:29:00	10:50:00	756	12.5	12.2	0.3
Run 4	26-Feb	11:10:00	11:31:00	756	12.6	12.2	0.4
Run 5	26-Feb	11:53:00	12:14:00	755	12.5	12.2	0.3
Run 6	26-Feb	12:36:00	12:57:00	755	12.5	12.2	0.4
Run 7	26-Feb	13:18:00	13:39:00	753	12.2	12.1	0.1
Run 8	26-Feb	14:02:00	14:23:00	758	12.6	12.1	0.5
Run 9	26-Feb	14:46:00	15:07:00	755	12.4	12.1	0.3
Run 10	26-Feb	15:32:00	15:53:00	756	12.4	12.1	0.4

Average: 755 12.5 % 12.1 % 0.3 %

**Bias Test (pass/fail): Failed**  
**Bias Adjustment Factor: 1.028**  
**Method of RA Determination: Part 75, Average RM Value**

Standard Deviation: 0.112  
Confidence Coefficient: 0.086  
T-Factor: 2.306  
Number of runs Reported: 9

**Relative Accuracy: 3.4**  
**Maximum RA 10.0**  
**RA Status Passed**

**Table 8: Unit 5 High Load Flow Relative Accuracy Test Audit Summary**

Test Performed For:  
Progress Energy  
Crystal River Plant  
Unit 5  
High Load Flow  
Date: 2/26/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	FLOW RM WSCFH	FLOW CEM WSCFH	Difference Like SCFH
Run 2	#REF!	9:47:00	10:08:00	755	107127000.0	108376000.0	-1249000.0
Run 3	#REF!	10:29:00	10:50:00	756	109801000.0	108789000.0	1012000.0
Run 4	#REF!	11:10:00	11:31:00	756	105714000.0	110041000.0	-4327000.0
Run 5	#REF!	11:53:00	12:14:00	755	107619000.0	109213000.0	-1594000.0
Run 6	#REF!	12:36:00	12:57:00	755	108988000.0	108187000.0	801000.0
Run 7	#REF!	13:18:00	13:39:00	753	106098000.0	110200000.0	-4102000.0
Run 8	#REF!	14:02:00	14:23:00	758	106051000.0	110970000.0	-4919000.0
Run 9	#REF!	14:46:00	15:07:00	755	103926000.0	109829000.0	-5903000.0
Run 10	#REF!	15:32:00	15:53:00	756	102799000.0	109208000.0	-6409000.0

Average: 755 106,458,111.1 SCFH 109,423,666.7 SCFH -2,965,555.6 SCFH

Bias Test (pass/fail): Passed  
Bias Adjustment Factor: 1.000  
Method of RA Determination: Part 75, Standard Emitter

Standard Deviation: 2790217.0216  
Confidence Coefficient: 2144746.8173  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 4.80  
Maximum RA 10.00  
RA Status Passed



**Table 9: Unit 5 Mid Load Flow Relative Accuracy Test Audit Summary**

**Volumetric Flow Relative Accuracy Determination**

Test Performed For:  
Progress Energy  
Crystal River Plant  
Unit 5  
Mid Load Flow  
Date:2/27/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	27-Feb	6:07:00	6:23:00	571	88137000.0	87496000.0	641000.0
Run 2	27-Feb	6:26:00	6:50:00	572	86181000.0	87917000.0	-1736000.0
Run 3	27-Feb	6:52:00	7:05:00	572	87770000.0	88062000.0	-292000.0
Run 4	27-Feb	7:31:00	7:45:00	571	86272000.0	88164000.0	-1892000.0
Run 5	27-Feb	7:47:00	7:59:00	571	86115000.0	88673000.0	-2558000.0
Run 6	27-Feb	8:04:00	8:15:00	572	86726000.0	87633000.0	-907000.0
Run 7	27-Feb	8:40:00	8:53:00	571	86804000.0	87226000.0	-422000.0
Run 8	27-Feb	8:55:00	9:07:00	571	87966000.0	88218000.0	-252000.0
Run 9	27-Feb	9:10:00	9:21:00	572	89547000.0	87680000.0	1867000.0

Average: 571 87,279,777.8 SCFH 87,896,555.6 SCFH -616,777.8 SCFH

Bias Test (pass/fail): Passed  
Bias Adjustment Factor: 1.000  
Method of RA Determination: Part 75, Standard Emitter

Standard Deviation: 1358264.5893  
Confidence Coefficient: 1044052.7143  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 1.903  
Maximum RA 10.00  
RA Status Passed

**EMISSION ATTACHMENT CR-EU3-I6**  
**Identification of Applicable Requirements**

## **APPLICABLE REQUIREMENTS LISTING - POWER PLANTS ACID RAIN UNITS**

**EMISSION UNIT ID: EU3 : CRYSTAL RIVER UNIT 4**

### **FDEP Rules:**

#### **Air Pollution Control-General Provisions:**

- 62-204.800(7)(b)1. (State Only) - NSPS Subpart D
- 62-204.800(7)(b)29. (State Only) - NSPS Subpart Y
- 62-204.800(7)(d)(State Only) - NSPS General Provisions
- 62-204.800(12) (State Only) - Acid Rain Program
- 62-204.800(13) (State Only) - Allowances
- 62-204.800(14) (State Only) - Acid Rain Program Monitoring

#### **Stationary Sources-General:**

- 62-210.650 - Circumvention; EUs with control device
- 62-210.700(1) - Malfunction only for FFSG
- 62-210.700(2) - Existing FFSG; startup/shut down
- 62-210.700(3) - Existing FFSG; sootblowing/load change
- 62-210.700(4) - maintenance
- 62-210.700(6)

#### **Acid Rain:**

- 62-214.300 - Acid Rain Units (Applicability)
- 62-214.320 - Acid Rain Units (Application Shield)
- 62-214.330 - Compliance Options (if 214.430)
- 62-214.340 - Exemptions (new units, retired units)
- 62-214.350(2);(3);(6) - Acid Rain Units (Certification)
- 62-214.370 - Acid Rain Units (Revisions; correction; potentially applicable if a need arises)
- 62-214.430 - Acid Rain Units (Compliance Options-if required)

#### **Stationary Sources-Emission Standards:**

- 62-296.405(2) - New Sources

#### **Stationary Sources-Emission Monitoring (where stack test is required):**

- 62-297.310(1) - Test Runs-Mass Emission
- 62-297.310(2)(b) - Operating Rate; other than CTs;no CT
- 62-297.310(3) - Calculation of Emission
- 62-297.310(4)(a)1. - Applicable Test Procedures;Sampling time
- 62-297.310(4)(b) - Sample Volume
- 62-297.310(4)(c) - Required Flow Rate Range-PM/H2SO4/F
- 62-297.310(4)(d) - Calibration
- 62-297.310(4)(e) - EPA Method 5-only
- 62-297.310(5) - Determination of Process Variables
- 62-297.310(6)(a) - Permanent Test Facilities-general
- 62-297.310(6)(c) - Sampling Ports

62-297.310(6)(d)	- Work Platforms
62-297.310(6)(e)	- Access
62-297.310(6)(f)	- Electrical Power
62-297.310(6)(g)	- Equipment Support
62-297.310(7)(a)2.	- FFSG excess emissions
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.	
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(7)(c)	- Waiver of Compliance Tests (Fuel Sampling)
62-297.310(8)	- Test Reports

#### **Federal Rules:**

##### **NSPS Subpart D:**

40 CFR 60.42(a)(1)	- PM (0.1 lb/mmBtu)
40 CFR 60.42(a)(2)	- VE (20%; 1-6min 27%)
40 CFR 60.43(a)(1)	- SO <sub>2</sub> ; liquid fuel (0.8 lb/mmBtu)
40 CFR 60.43(a)(2)	- SO <sub>2</sub> ; solid fuel (1.2 lb/mmBtu)
40 CFR 60.43(b)	- SO <sub>2</sub> ; Simultaneous firing
40 CFR 60.43(c)	- SO <sub>2</sub> ; compliance; allows gas co-firing
40 CFR 60.44(a)(2)	- NO <sub>x</sub> ; oil (0.3 lb/mmBtu)
40 CFR 60.44(a)(3)	- NO <sub>x</sub> ; coal (0.7 lb/mmBtu)
40 CFR 60.44(b)	- NO <sub>x</sub> ; Simultaneous firing
40 CFR 60.45 (a)	- Monitoring; Requires CEMS; VE, SO <sub>2</sub> & NO <sub>x</sub>
40 CFR 60.45(b)(2)	- Exempts SO <sub>2</sub> CEMS for non-FGD units
40 CFR 60.45(b)(3)	- Exempts CEMS when tests 70% of standard
40 CFR 60.45(b)(4)	- If no CEMS than no O <sub>2</sub> or CO <sub>2</sub> required
40 CFR 60.45(c)	- Performance Requirements for CEMS
40 CFR 60.45(e)	- Conversion Procedures for CEMS
40 CFR 60.45(g)(1)	- Excess Emission Reports-Opacity
40 CFR 60.45(g)(2)	- Excess Emission Reports-SO <sub>2</sub>
40 CFR 60.45(g)(3)	- Excess Emission Reports-NO <sub>x</sub>
40 CFR 60.46 (a)	- Test Methods for Performance tests
40 CFR 60.46 (b)	- Test Methods for PM, SO <sub>2</sub> and NO <sub>x</sub>
40 CFR 60.46 (c)	- Fuel combinations

##### **NSPS Subpart Y:**

40 CFR 60.252(c)	- VE (20%) Coal processing, conveying, storage
------------------	--

##### **NSPS General Requirements:**

40 CFR 60.7(b)	- Notification and Recordkeeping (startup/shutdown/malfunction)
40 CFR 60.7(f)	- Notification and Recordkeeping (maintain records-2 yrs)
40 CFR 60.8(c)	- Performance Tests (representative conditions)
40 CFR 60.8(e)	- Provide Stack Sampling Facilities
40 CFR 60.8(f)	- Test Runs
40 CFR 60.11(a)	- Compliance (ref. S. 60.8 or Subpart; other than opacity)
40 CFR 60.11(b)	- Compliance (opacity determined EPA Method 9)
40 CFR 60.11(c)	- Compliance (opacity; excludes startup/shutdown/malfunction)

40 CFR 60.11(d)  
40 CFR 60.11(e)(2)  
40 CFR 60.12  
40 CFR 60.13(a)  
40 CFR 60.13(c)  
40 CFR 60.13(d)(1)  
40 CFR 60.13(d)(2)  
40 CFR 60.13(e)  
40 CFR 60.13(h)

- Compliance (maintain air pollution control equip.)
- Compliance (opacity; ref. S. 60.8)
- Circumvention
- Monitoring (Appendix B; Appendix F)
- Monitoring (Opacity COMS)
- Monitoring (CEMS; span, drift, etc.)
- Monitoring (COMS; span, system check)
- Monitoring (frequency of operation)
- Monitoring (COMS; data requirements)

Acid Rain-Permits:

40 CFR 72.9(a)  
40 CFR 72.9(b)  
40 CFR 72.9(c)(1)  
40 CFR 72.9(c)(2)  
40 CFR 72.9(c)(3)(iii)  
40 CFR 72.9(c)(4)  
40 CFR 72.9(c)(5)  
40 CFR 72.9(d)  
40 CFR 72.9(e)  
40 CFR 72.9(f)  
40 CFR 72.9(g)  
40 CFR 72.20(a)  
40 CFR 72.20(b)  
40 CFR 72.20(c)  
40 CFR 72.21  
40 CFR 72.22  
40 CFR 72.23  
40 CFR 72.30(a)  
40 CFR 72.30(c)  
40 CFR 72.30(d)  
40 CFR 72.32  
40 CFR 72.33(a)  
40 CFR 72.33(b)  
40 CFR 72.33(c)  
40 CFR 72.33(d)  
40 CFR 72.33(e)  
40 CFR 72.33(f)  
40 CFR 72.40(a)  
40 CFR 72.40(b)  
40 CFR 72.40(c)  
40 CFR 72.40(d)  
40 CFR 72.51  
40 CFR 72.90

- Permit Requirements
- Monitoring Requirements
- SO<sub>2</sub> Allowances-hold allowances
- SO<sub>2</sub> Allowances-violation
- SO<sub>2</sub> Allowances-Phase II Units (listed)
- SO<sub>2</sub> Allowances-allowances held in ATS
- SO<sub>2</sub> Allowances-no deduction for 72.9(c)(1)(i)
- NO<sub>x</sub> Requirements
- Excess Emission Requirements
- Recordkeeping and Reporting
- Liability
- Designated Representative; required
- Designated Representative; legally binding
- Designated Representative; certification requirements
- Submissions
- Alternate Designated Representative
- Changing representatives; owners
- Requirements to Apply (operate)
- Requirements to Apply (reapply before expiration)
- Requirements to Apply (submittal requirements)
- Permit Application Shield
- Dispatch System ID;Phase I treatment
- Dispatch System ID;unit/system ID
- Dispatch System ID;ID requirements
- Dispatch System ID;ID change
- Dispatch System ID;Phase I with no ID
- Dispatch System ID;Phase I petition
- General; compliance plan
- General; multi-unit compliance options
- General; conditional approval
- General; termination of compliance options
- Permit Shield
- Annual Compliance Certification

Monitoring Part 75:

40 CFR 75.5  
40 CFR 75.10(a)(1)  
40 CFR 75.10(a)(2)

- Prohibitions
- Primary Measurement; SO<sub>2</sub>; except 75.11&.16; Subpart D
- Primary Measurement; NO<sub>x</sub>; except 75.12&.17; Subpart E

40 CFR 75.10(a)(3)(i)	- Primary Measurement; CO <sub>2</sub> ; monitor
40 CFR 75.10(a)(3)(ii)	- Primary Measurement; CO <sub>2</sub> ; Appendix G
40 CFR 75.10(a)(3)(iii)	- Primary Measurement; CO <sub>2</sub> ; O <sub>2</sub> monitor
40 CFR 75.10(a)(4)	- Primary Measurement; Opacity; except 75.14&.18
40 CFR 75.10(b)	- Primary Measurement; Performance Requirements
40 CFR 75.10(c)	- Primary Measurement; Heat Input; Appendix F
40 CFR 75.10(d)	- Primary Measurement; Hourly Operating ; Opacity; SO <sub>2</sub>
40 CFR 75.10(e)	- Primary Measurement; Optional Backup Monitor
40 CFR 75.10(f)	- Primary Measurement; Minimum Measurement
40 CFR 75.10(g)	- Primary Measurement; Minimum Recording
40 CFR 75.11(a)	- SO <sub>2</sub> Monitoring; Coal Units
40 CFR 75.11(b)	- SO <sub>2</sub> Monitoring; Moisture Correction (dry basis)
40 CFR 75.12(a)	- NO <sub>x</sub> Monitoring; Coal; Non-peaking oil/gas units
40 CFR 75.12(b)	- NO <sub>x</sub> Monitoring; Determination of NO <sub>x</sub> emission rate;
	Appendix F
40 CFR 75.13(a)	- CO <sub>2</sub> Monitoring; Continuous monitor
40 CFR 75.13(b)	- CO <sub>2</sub> Monitoring; Appendix G
40 CFR 75.13(c)	- CO <sub>2</sub> Monitoring; Appendix F
40 CFR 75.14(a)	- Opacity Monitoring; Coal and oil units
40 CFR 75.20(a)(5)	- Initial Certification Approval Process; Loss of Certification
40 CFR 75.20(b)	- Recertification Procedures (if recertification necessary)
40 CFR 75.20(c)	- Certification Procedures (if recertification necessary)
40 CFR 75.20(e)	- Certification Peaking/by-pass
40 CFR 75.20(g)	- Exceptions to CEMS; oil/gas/diesel; Appendix D & E
40 CFR 75.21(a)	- QA/QC; CEMS; Appendix B
40 CFR 75.21(b)	- QA/QC; Opacity; Part 51 Appendix M
40 CFR 75.21(c)	- QA/QC; Calibration Gases
40 CFR 75.21(d)	- QA/QC; Notification of RATA
40 CFR 75.21(e)	- QA/QC; Audits
40 CFR 75.21(f)	- QA/QC; CEMS
40 CFR 75.22	- Reference Methods
40 CFR 75.24	- Out-of-Control Periods; CEMS
40 CFR 75.30(a)(1)	- General Missing Data Procedures; SO <sub>2</sub>
40 CFR 75.30(a)(2)	- General Missing Data Procedures; flow
40 CFR 75.30(a)(3)	- General Missing Data Procedures; NO <sub>x</sub>
40 CFR 75.30(a)(4)	- General Missing Data Procedures; SO <sub>2</sub>
40 CFR 75.30(d)	- General Missing Data Procedures; SO <sub>2</sub>
40 CFR 75.32	- Monitoring Data Availability for Missing Data
40 CFR 75.33	- Standard Missing Data Procedures
40 CFR 75.35	- Missing Data for SO <sub>2</sub>
40 CFR 75.36	- Missing Data for Heat Input
40 CFR 75.40	- Alternate Monitoring Systems-General
40 CFR 75.41	- Alternate Monitoring Systems-Precision Criteria
40 CFR 75.42	- Alternate Monitoring Systems-Reliability Criteria
40 CFR 75.43	- Alternate Monitoring Systems-Accessability Criteria
40 CFR 75.44	- Alternate Monitoring Systems-Timeliness Criteria
40 CFR 75.45	- Alternate Monitoring Systems-Daily QA
40 CFR 75.46	- Alternate Monitoring Systems-Missing data
40 CFR 75.47	- Alternate Monitoring Systems-Criteria for Class

40 CFR 75.48	- Alternate Monitoring Systems-Petition
40 CFR 75.53	- Monitoring Plan ; revisions
40 CFR 75.54(a)	- Recordkeeping-general
40 CFR 75.54(b)	- Recordkeeping-operating parameter
40 CFR 75.54(c)	- Recordkeeping-SO <sub>2</sub>
40 CFR 75.54(d)	- Recordkeeping-NO <sub>x</sub>
40 CFR 75.54(e)	- Recordkeeping-CO <sub>2</sub>
40 CFR 75.54(f)	- Recordkeeping-Opacity
40 CFR 75.56	- Certification; QA/QC Provisions
40 CFR 75.55	- General Recordkeeping (Specific Situations)
40 CFR 75.60	- Reporting Requirements-General
40 CFR 75.61	- Reporting Requirements-Notification cert/recertification
40 CFR 75.62	- Reporting Requirements-Monitoring Plan
40 CFR 75.63	- Reporting Requirements-Certification/Recertification
40 CFR 75.64(a)	- Reporting Requirements-Quarterly reports; submission
40 CFR 75.64(b)	- Reporting Requirements-Quarterly reports; DR statement
40 CFR 75.64(c)	- Rep. Req.; Quarterly reports; Compliance Certification
40 CFR 75.64(d)	- Rep. Req.; Quarterly reports; Electronic format
40 CFR 75.65	- Opacity Reports
Appendix A-1.	- Installation and Measurement Locations (Completed)
Appendix A-2.	- Equipment Specifications (Completed)
Appendix A-3.	- Performance Specifications
Appendix A-4.	- Data Handling and Acquisition Systems
Appendix A-5.	- Calibration Gases
Appendix A-6.	- Certification Tests and Procedures
Appendix B	- QA/QC Procedures
Appendix C-1.	- Missing Data; SO <sub>2</sub> /NO <sub>x</sub> for controlled sources
Appendix C-2.	- Missing Data; Load-Based Procedure; NO <sub>x</sub> & flow
Appendix F	- Conversion Procedures
Appendix G-2.	- Determination of CO <sub>2</sub> ; from combustion sources
Appendix H	- Traceability Protocol

Acid Rain Program-NO<sub>x</sub> Emission Reduction (these are future requirements that may overlap with the term of the Title V permit):

40 CFR 76.5(g)	- NO <sub>x</sub> emission limitations; Group 1; Phase II; Jan.1, 2000
40 CFR 76.8	- Early Election; Group 1; Phase II (this is a elective regulation)
40 CFR 76.9(2)	- Permit Application/Compliance Plans; Phase II (1/1/98); Early Election (1/1/97 )
40 CFR 76.10	- Alternative Emission Limitations (elective)
40 CFR 76.11	- Emission Averaging (elective)
40 CFR 76.13	- Compliance and Excess Emissions
40 CFR 76.14	- Monitoring Recordkeeping and Reporting

Acid Rain Program-Excess Emissions (these are future requirements that may overlap with the term of the Title V permit):

40 CFR 77.3	- Offset Plans (future)
40 CFR 77.5(b)	- Deductions of Allowances (future)
40 CFR 77.6	- Excess Emissions Penalties (SO <sub>2</sub> and NO <sub>x</sub> ;future)

**EMISSION ATTACHMENT CR-EU3-I8**  
**Alternative Methods of Operation**



## **ALTERNATIVE METHODS OF OPERATION UNIT NO. 4 AND 5**

Units No. 4 and 5 are coal-fired unit which use fuel oil as an ignitor fuel during startup.

**EMISSION ATTACHMENT CR-EU4-I5**  
**Compliance Demonstration Reports**  
**Unit No. 4**

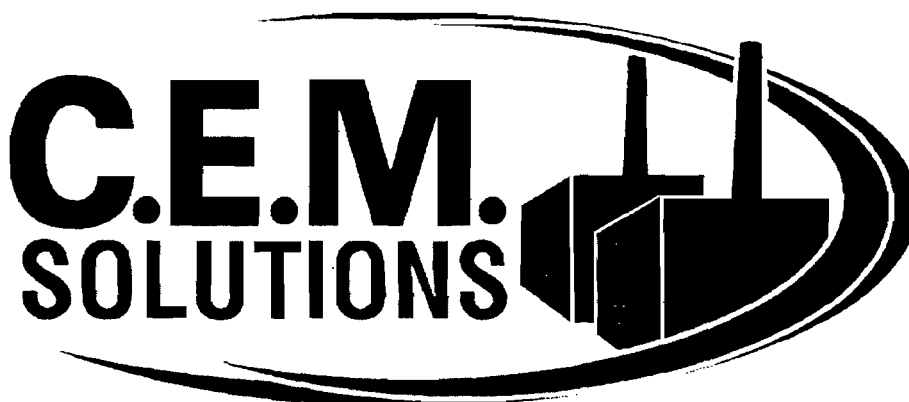
***Particulate Matter, Sulfur Dioxide,  
Nitrogen Oxides and Visible  
Emissions Test Report***

*Completed for:*

***Progress Energy Florida, Inc.  
Crystal River Energy Complex  
Unit 4***

**Test Report Number: 20-3077-04-001**

**Test Completed: January 31, 2008**



**Particulate Matter, Sulfur Dioxide, Nitrogen Oxide and  
Visible Emissions  
Test Report**

**Progress Energy  
Crystal River, Unit 4  
Crystal River, Florida**

C.E.M. Solutions Project No.: 3077

Testing Completed: January 31, 2008

C.E.M. Solutions, Inc. Report Number: 20-3077-04-001

C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, Florida 34442  
Phone: 352-489-4337

## Plant's Authorization and Validity Statement

I hereby certify that to the best of my knowledge, all applicable field procedures and calculations comply with Florida Department of Environmental Protection requirements, and all test data and plant operating data are true and correct.

---

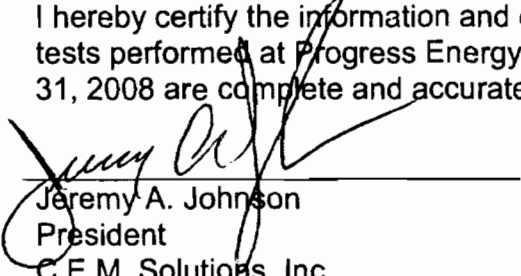
Mr. Bernie Cumbie  
Plant Manager

---

Date

## Statement of Validity

I hereby certify the information and data provided in this emissions test report for tests performed at Progress Energy's Crystal River facility conducted on January 31, 2008 are complete and accurate to the best of my knowledge.



---

Jeremy A. Johnson  
President  
C.E.M. Solutions, Inc.

## Project Background

Name of Source Owner: Progress Energy

Address of Owner: One Power Plaza  
299 First Avenue North  
St. Petersburg, FL 33701

Source Identification: Facility: 0170004  
Emissions Unit: EU-004

Location of Source: Citrus County, Florida

Type of Operation: SIC Code 4911

Tests Performed: Method 1 – Traverse Points  
Method 2 – Stack Gas Volumetric Flow and Velocity  
Method 3A – Determination of Molecular Weight  
Method 4 – Stack Gas Moisture Content  
Method 6C – Determination of Sulfur Dioxide  
Method 7E – Determination of Nitrogen Oxides  
Method 9 – Determination of Opacity of Emissions  
Method 17 – Particulate Matter  
Method 19 – Determination of Emissions Rates

Test Supervisor: Mr. Jeremy A. Johnson

Date(s) Tests Conducted: January 31, 2008

Site Test Coordinator: Erika Tuchbaum-Biro

State Regulatory Observers: No Attendees

## **C.E.M. Solutions, Inc Test Personnel**

Project Field Manager:

Mr. Charles Horton

Test Technicians:

Mr. Thomas Harris  
Mr. Robert Douglas



## Table of Contents

1.0	Introduction.....	1
2.0	Facility Description .....	2
2.1	Process Equipment.....	2
2.2	Regulatory Requirements .....	2
3.0	Test Program/Operating Conditions .....	3
4.0	Test Methods.....	4
4.1	Sample and Velocity Traverse Points .....	4
4.2	Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tubes) .....	5
4.2.1	Method 2 Quality Assurance/Quality Control Procedures .....	5
4.3	Moisture Content Determination .....	6
4.3.1	Method 4 Quality Assurance/Quality Control Procedures .....	6
4.4	Particulate Matter Determination.....	6
4.4.1	Sample Recovery and Analysis .....	7
4.4.2	Quality Assurance/Quality Control Procedures .....	7
4.4.2	Quality Assurance/Quality Control Procedures .....	7
4.5	Opacity Determination .....	9
4.6	NO <sub>x</sub> , SO <sub>2</sub> , CO <sub>2</sub> and O <sub>2</sub> Instrument Analyzer Methods .....	9
4.6.1	Quality Assurance/Quality Control Procedures .....	10
5.0	Test Results.....	11
5.1	Particulate Matter .....	11
5.2	Visual Emissions.....	11
5.3	Sulfur Dioxide.....	11
5.4	Nitrogen Oxides .....	11

## List of Tables

Table 1: Compliance Test Results .....	1
Table 2: Emissions Limitations and Standards.....	2
Table 3: Summary of EPA Reference Methods.....	4
Table 4: Particulate Matter Isokinetics Summary .....	8
Table 5: Summary of EPA Reference Methods and Instrumentation .....	9
Table 6: Reference Method Instrument Ranges and Calibration Gases .....	10
Table 7: Compliance Test Summary .....	11

## List of Figures

Figure 1: Method 17 Sampling Train .....	8
--	---

## Appendices

Appendix A: Facility Operating Data	
Appendix B: Mathematical Equations	
Appendix C: Sample Location Diagram/Traverse Points	
Appendix D: Reference Method QA/QC	
Appendix D-1: Method 17 QA/QC	
Appendix D-2: Instrumental Analyzer (3A, 6C, 7E) QA/QC	
Appendix E: Reference Method Data	
Appendix E-1: Method 17	
Appendix E-2: Method 9	
Appendix E-3: Method 3A, 6C and 7E	

## 1.0 Introduction

Progress Energy, Florida retained C.E.M. Solutions, Inc. to conduct emissions testing to determine levels of particulate matter (PM), visible emission (VE), sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) emissions from Unit 4 boiler exhausts (emissions unit EU-004) at its facility located in Crystal River, Florida.

The test program was conducted to determine the compliance status of Unit 4 in regards to its emissions limitations and standards outlined in Title V Air Operating Permit 0170004-015-AV. Target pollutants include the following:

- PM (in lb/mmBtu)
- VE (in percent)
- SO<sub>2</sub> (in lb/mmBtu)
- NO<sub>x</sub> (lb/mmBtu)

Ms. Erika Tuchbaum-Biro of Progress Energy Florida coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the Florida Department of Environmental Protection.

Unit 4 was found to be in compliance with the permitted emissions limitations as summarized in Table 1.

The test program and results are presented and discussed in this report.

**Table 1: Compliance Test Results**  
**Unit 4**  
**Crystal River Generating Complex**

<b>Pollutant</b>	<b>Reported Emissions Rate</b>	<b>Permitted Emissions Rate</b>	<b>Compliance Test Status (Pass/Fail)</b>
PM	0.006 lb/mmBtu	0.10 lb/mmBtu	Pass
VE	2.1 %	≤20 %	Pass
SO <sub>2</sub>	0.952 lb/mmBtu	1.20 lb/mmBtu	Pass
NO <sub>x</sub>	0.495 lb/mmBtu	0.7 lb/mmBtu	Pass

## 2.0 Facility Description

Crystal River Unit 4 is a fossil fuel steam generator consisting of a dry bottom wall-fired boiler, rated at 760 MW, 6665 MMBtu/hr. Primary fuel is bituminous coal or a bituminous coal and bituminous coal briquette mixture. Number 2 fuel oil and natural gas may be burned as a startup fuel and for low load flame stabilization.

## 2.1 Process Equipment

Fossil Fuel Steam Generator, Unit 4 is a pulverized coal, dry bottom, wall-fired boiler. Emissions are controlled from the unit with a high efficiency electrostatic precipitator, manufactured by Combustion Engineering. Emissions are exhausted through a 600 ft. brick and mortar stack.

## 2.2 Regulatory Requirements

The facility is required to conduct annual emissions testing to determine PM, SO<sub>2</sub>, NO<sub>x</sub> and visible emissions in accordance with Title V Permit Number 0170004-015-AV.

Unit 4's emissions limitations and standards are summarized in Table 2.

**Table 2: Emissions Limitations and Standards**  
**Unit 4**  
**Crystal River Energy Complex**

Pollutant/Standard	Emission Limit	Permit Condition
PM lb/mmBtu	0.10	B.4.(a)(1)
VE % <sup>a</sup>	≤20%, except one period ≤27% per hour	B.4.(a)(2)
SO <sub>2</sub> lb/mmBtu <sup>b</sup>	1.20	B.5.a.(a)(2)
NO <sub>x</sub> lb/mmBtu <sup>c</sup>	0.70	B.6(a)(3)

<sup>a</sup> six-minute average

<sup>b</sup> 24-hour average

<sup>c</sup> 30-day rolling average

### **3.0 Test Program/Operating Conditions**

The test program was conducted to determine the compliance status of Unit 4's PM, VE, SO<sub>2</sub> and NO<sub>x</sub> emissions in regards to Title V Operating Permit 0170004-015-AV.

Testing was completed on January 31, 2008.

During the test program, Unit 4's heat input averaged 6166.4 mmBtu/hr while operating on 100 percent solid fuel, which correlates to 93 percent of the maximum heat input (6665 mmBtu/hr).

Unit 4 fuel flow and fuel analysis reports are located in Appendix A.

Fuel flow and fuel analysis reports were provided by Progress Energy Florida.

## 4.0 Test Methods

All testing was performed in accordance with methods approved by the USEPA and FDEP. The following discusses the methods, as well as quality assurance and sample handling procedures.

Table 3 summarizes the EPA test methods utilized to complete the test program.

**Table 3: Summary of EPA Reference Methods**

Unit 4 Crystal River Energy Complex	
EPA Method	Description
1	Sample and Velocity Traverses for Stationary Sources
2	Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot)
3A	Gas Analysis for Determining Dry Molecular Weight (Instrument Analyzer Procedure)
4	Moisture Content in Stack Gases
6C	Sulfur Dioxide (Instrument Analyzer Procedure)
7E	Nitrogen Oxide (instrument Analyzer Procedure)
9	Opacity (Visible Emissions)
17	Particulate Emissions from Stationary Sources
19	Determination of Emissions Rates

### 4.1 Sample and Velocity Traverse Points

Sample and velocity traverse points were determined utilizing EPA Method 1.

The inner stack diameter, at the sample location, of Unit 4's exhaust stack is 28' 3 1/2" (339.5"). The sample location for the stack is 10.7 diameters (302.75') downstream from the nearest disturbance and 6.90 diameters upstream (195.25') from the stack exit. 4 ports located 90 degrees from each other were used at the sample location. In accordance with Method 1, a total of 12 points (3 points per port) were used. Traverse points were located at 4.4%, 14.6% and 29.6%, of the inner diameter, from the inside wall of the sample location.

A diagram of the sample location can be viewed in Appendix C.

## **4.2 Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tubes)**

Method 2 was used to determine the volumetric flow rate of the stack effluent gas.

Stack temperature differential pressure readings were taken with an S type pitot tube and Type K temperature sensor at each sample traverse point.

### **4.2.1 Method 2 Quality Assurance/Quality Control Procedures**

The S type pitot tube was inspected visually and measured to meet the design specifications of EPA Method 2, for a pitot coefficient of 0.84.

The incline manometer and each leg of the pitot tube was leak checked before and immediately after each test run.

Thermocouple sensors were calibrated prior to the test program and a post test check was performed after testing completion.

The incline manometer was leveled and zeroed before each test run.

Appendix D contains the completed QA/QC forms.

### **4.3 Moisture Content Determination**

Moisture content of the stack gas was determined by Method 4.

Stack gas was sampled at each traverse point, passed through pre-weighed impingers and then through a calibrated dry gas meter. Moisture is removed from the sample gas in the pre-weighed impingers, which are submerged in an ice bath, and later analyzed for moisture weight gain. Moisture is determined based upon the amount of moisture weight gain and sample gas collected.

Field moisture data sheets are also located in Appendix E.

#### **4.3.1 Method 4 Quality Assurance/Quality Control Procedures**

The moisture sampling train was leak checked prior to each test run at approximately 15" Hg and immediately after each run at a vacuum higher than the highest vacuum recorded during the respective test run. Results are recorded on the moisture field data sheets.

Weighing to determine moisture content was conducted with a balance having an accuracy of 0.1 grams.

Gas temperature at the exit of the impingers was maintained at less than 68 degrees Fahrenheit.

### **4.4 Particulate Matter Determination**

USEPA Method 17 was used to determine particulate emissions. Stack gas was extracted isokinetically from the gas stream; particulate emissions are measured gravimetrically by determining the amount of particulate matter collected on the stainless steel nozzle and glass or quartz fiber filter. The probe liner temperature was maintained at  $248 \pm 25$  degrees Fahrenheit.

Sample volume was measured by passing the gas through a set of weighed impingers used for moisture content, then passed through a calibrated dry gas meter. An S type pitot tube is attached to the probe to measure stack gas velocity and to maintain sampling conditions between 90% and 110% isokinetics. A type K temperature sensor is also attached to the probe to measure the stack gas temperature.

Isokinetic conditions were maintained throughout each test run of the test program as demonstrated in Table 4.

A minimum of 30 dscf of sample was taken each test run over a sampling period of approximately 60 minutes.



Method 17 field data sheets are located in Appendix E.

Figure 1 contains a diagram of the Method 17 sampling train.

#### **4.4.1 Sample Recovery and Analysis**

After each sample run, the nozzle and filter holder ahead of the filter were brushed and rinsed with acetone. Contents were stored in a leak free container for transport to the laboratory. The impingers were weighed for increase, to the nearest 0.5 gram, to determine moisture gain.

Particulate matter was determined by drying each filter at 230 degrees Fahrenheit for three hours, desiccated to a constant weight and recorded to the nearest 0.1 mg. Sample from the probe nozzle and filter holder were evaporated in a tared beaker, desiccated to a constant weight, and recorded to the nearest 0.1 mg.

Appendix E contains the analytical results for each run.

#### **4.4.2 Quality Assurance/Quality Control Procedures**

The probe nozzles were inspected and measured across three different diameters to determine the appropriate nozzle diameter.

Before and after each test run, the manometer was leveled and zeroed. Leak checks of the sampling train were conducted before and immediately after each test run.

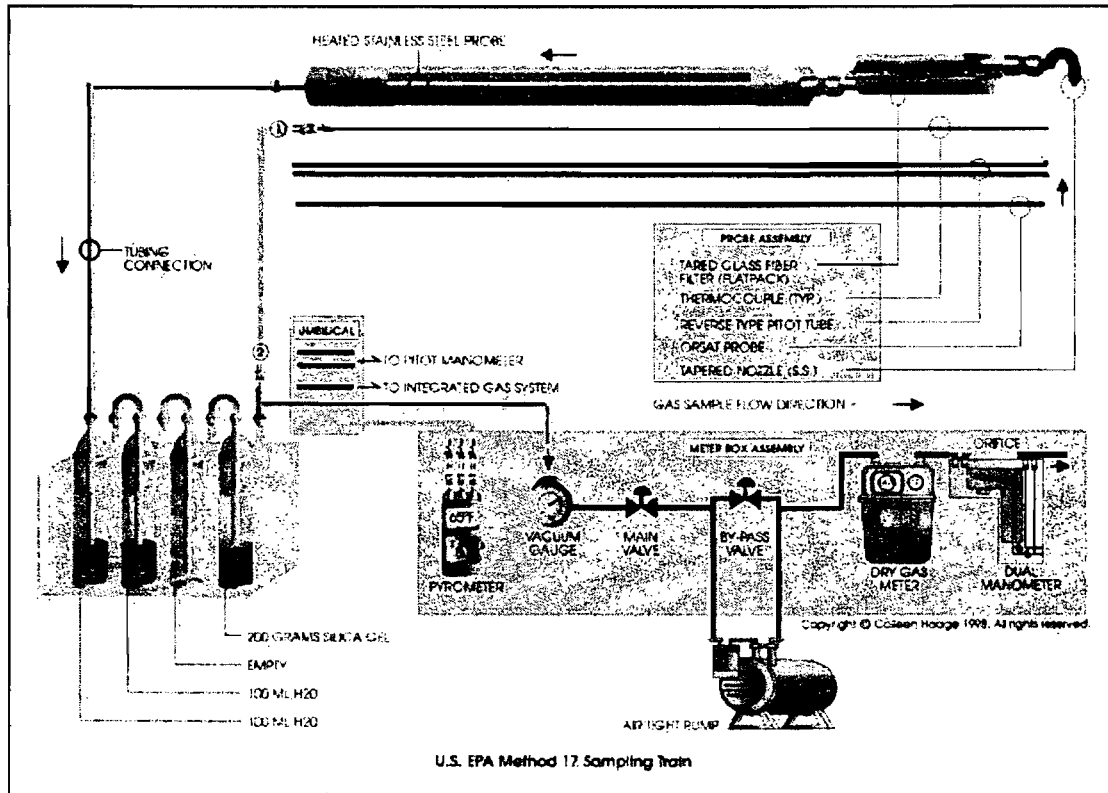
The dry gas meter was fully calibrated within six months prior to the test program using a set of EPA critical orifices. Post test program dry meter checks were completed to verify the accuracy of the meter's  $Y_i$ .

Completed QA/QC forms are located in Appendix D.

**Table 4: Particulate Matter Isokinetic Summary**  
**Unit 4**  
**Crystal River Energy Complex**

Unit	% Isokinetic				
	Run 1	Run 2	Run 3	Average(s)	Tolerance
4	107.7	107.9	106.0	107.2	90-110

**Figure 1: Method 17 Sampling Train**



## 4.5 Visible Emission Determination

USEPA Method 9 was utilized to determine visible emissions.

Visible emissions observations were performed by a FDEP certified visible emissions reader. Readings were taken at 15 second intervals and reduced into six minute averages as required by the applicable EPA standard. One-sixty minute visible emissions run was performed while the unit was operating at maximum capacity.

Method 9 data summary, field data and VE reader's certification are located in Appendix E.

## 4.6 NO<sub>x</sub>, SO<sub>2</sub>, and CO<sub>2</sub> Instrument Analyzer Methods

NO<sub>x</sub>, SO<sub>2</sub> and CO<sub>2</sub> reference method data was determined using instrument analyzer procedures. In addition, diluent gas concentrations of carbon dioxide (CO<sub>2</sub>) were measured via instrumental methods. CO<sub>2</sub> data was also used to calculate NO<sub>x</sub> and SO<sub>2</sub> emissions in pounds per million Btu and determine stack gas molecular weight. Mathematical equations used to determine calculated emissions standards can be reviewed in Appendix B. Table 5 summarizes the EPA methods and instrumentation:

**Table 5: Summary of EPA Reference Methods and Instrumentation  
Unit 4**

**Crystal River Energy Complex**

<b>Pollutant</b>	<b>EPA Method</b>	<b>Instrument</b>	<b>Serial Number</b>
NO <sub>x</sub>	7E	TEI Model 42CLS	401904667
SO <sub>2</sub>	6C	TEI Model 43 C	43C-56507-308
CO <sub>2</sub>	3A	ZRH1	N4J0831T

All reference method analyzers used meet or exceed applicable performance specifications detailed in the appropriate method.

Emissions were tested using an in-stack dilution extraction probe. Gas samples were continuously extracted from the stack by a gas sample probe and diluted at a ratio of approximately 100:1 with clean, dry instrument air (dilution air). Samples were then transported to gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers.

Instrument outputs were recorded continuously with a Windows compatible personal computer, compiled into 15 second averages, and stored in a database for future reference.

Instrument ranges and calibration gases were chosen in accordance with each pollutant's applicable EPA method. Instrument ranges and calibration gases used are shown in Table 6:

**Table 6: Reference Method Calibration Span and Calibration Gases**  
**Unit 4**

**Crystal River Energy Complex**

<b>Pollutant</b>	<b>Test Location</b>	<b>Calibration Span</b>	<b>Calibration Gases<sup>a</sup></b>
NO <sub>x</sub>	Unit 4	486.0 ppm	0.0 ppm NO 287.0 ppm NO 486.0 ppm NO
SO <sub>2</sub>	Unit 4	971.0 ppm	0.0 ppm SO <sub>2</sub> 489.0 ppm SO <sub>2</sub> 971.0 ppm SO <sub>2</sub>
CO <sub>2</sub>	Unit 4	18.98 %	0.0 % CO <sub>2</sub> 9.10 % CO <sub>2</sub> 18.98 % CO <sub>2</sub>

<sup>a</sup> Concentrations of NO<sub>x</sub>, SO<sub>2</sub> and CO<sub>2</sub> are in a balance of purified nitrogen (N<sub>2</sub>). All analyzers were zeroed with ultra high purity N<sub>2</sub>. All calibration gases have been certified to NIST traceable standards.

Calibration gas Certificates of Analysis can be found in Appendix D.

#### **4.6.1 Method 3: Determination of Dry Gas Molecular Weight**

Method 3 was used to determine dry gas molecular weight of the sample gas. During high and mid load testing, carbon dioxide emissions were measured using instrument method 3A. The instrument analyzers were calibrated using the reference gases listed in Table 4. Collected data was corrected for instrument calibration drift for each run.

Oxygen emissions were back calculated using Equation 3B-2 to determine stack gas molecular weight as approved by FDEP.

#### **4.6.2 Quality Assurance/Quality Control Procedures**

All sampling, analytical, and Quality Assurance/Quality Control (QA/QC) procedures outlined in the EPA methods were followed. All test equipment was calibrated before or during use in the field. Interference checks, response time checks, and NO<sub>2</sub> to NO converter checks were performed on each instrumental analyzer, as applicable, before field use. In the field, each analyzer and the entire instrument measurement system was checked for system bias before and following each test run using the calibration gases listed in Table 6.

Appendix D contains the QA/QC checks.

## 5.0 Test Results

The following presents the results of the test program. Supporting calculations and field data summaries are presented in Appendix B and E, respectively.

Table 7 summarizes the results of the test program.

### 5.1 Particulate Matter

The three-run average particulate matter emissions during the test program was 0.006 lb/mmBtu, passing the performance specification of 0.10 lb/mmBtu.

### 5.2 Visible Emissions

The highest six-minute average visible emissions observed from the Unit 4 stack during operation was 2.1 percent opacity, passing the 20 percent emission limit.

### 5.3 Sulfur Dioxide

Sulfur dioxide emissions during the compliance test were 0.952 lb/mmBtu while Unit 4 operated on 100 percent solid fuel, passing the 1.20 lb/mmBtu emission limitation.

### 5.4 Nitrogen Oxides

Nitrogen oxides emitted during the compliance test were 0.495 lb/mmBtu while Unit 4 operated on 100 percent solid fuel, passing the 0.7 lb/mmBtu emission limitation.

**Table 7: Compliance Test Summary  
Unit 4  
Crystal River Generating Complex**

Parameter	Unit(s)	Run 1	Run 2	Run 3	Average	Limit
PM	Unit 4	0.006	0.007	0.006	0.06 lb/mmBtu	0.1 lb/mmBtu
VE	Unit 4	2.1 %	N/A	N/A	2.1%	20 %
SO <sub>2</sub>	Unit 4	0.949	0.960	0.948	0.952 lb/mmBtu	1.2 lb/mmBtu
NO <sub>x</sub>	Unit 4	0.493	0.498	0.493	0.495 lb/mmBtu	0.7 lb/mmBtu

# **Relative Accuracy Test Audit Report**

**Progress Energy Florida  
Crystal River, Unit 4  
Crystal River, Florida**

C.E.M. Solutions Project No. 3077

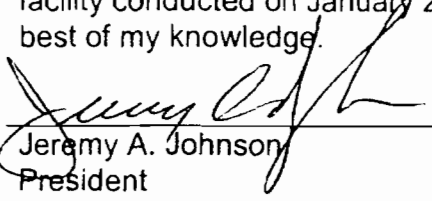
Testing Completed: January 29 and 30, 2008

C.E.M. Solutions, Inc Report Number: 20-3077-04

C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, Florida 34442  
Phone: 352-489-4337

## Statement of Validity

I hereby certify the information and data provided in this emissions test report for tests performed at the Progress Energy Florida, Inc. Crystal River Power Plant facility conducted on January 29 and 30, 2008 are complete and accurate to the best of my knowledge.



---

Jeremy A. Johnson  
President  
C.E.M. Solutions, Inc.

## Project Background

Name of Source Owner: Progress Energy Florida, Inc.

Address of Owner: One Power Plaza  
299 First Avenue North  
St. Petersburg, Florida 33701

Source Identification: Oris Code 628  
Facility ID: 0170004  
Emissions Unit -004

Location of Source: Citrus County, Florida

Type of Operation: SIC Code: 4911

Tests Performed: Method 1 – Traverse Points  
Method 2 – Stack Gas Volumetric Flow and Velocity  
Method 2H - Determination of stack gas velocity taking into account velocity decay near the stack wall  
Method 3A – Determination of Oxygen and Carbon Dioxide  
Method 4 – Stack Gas Moisture Content  
Method 6C – Determination of Sulfur Dioxide  
Method 7E – Determination of Nitrogen Oxides  
Method 19 – Determination of Nitrogen Oxide Emissions Rates

Test Supervisor: Mr. Jeremy A. Johnson

Date(s) Tests Conducted: High Load Gas and Flow RATA: January 29, 2008  
Mid Load Flow RATA: January 30, 2008

Site Test Coordinator: Erika Tuchbaum-Biro

State Regulatory Observers: William Schroeder and Bret Galbraith of  
Florida Department of Environmental Protection  
Division of Air Resource Management



## **C.E.M. Solutions, Inc Test Personnel**

Project Field Manager:

Mr. Jeremy A. Johnson

Test Technicians:

Mr. Robert Douglas

Mr. Thomas Harris

## Table of Contents

1.0	Introduction.....	1
2.0	Facility Description .....	2
2.1	Process Equipment.....	2
2.2	Regulatory Requirements .....	2
3.0	Test Program/Operating Conditions .....	4
4.0	Test Methods.....	5
4.1	NO <sub>x</sub> , SO <sub>2</sub> , CO <sub>2</sub> Relative Accuracy Test Audit (RATA) .....	5
4.2	Volumetric Flow Relative Accuracy Test Audit (RATA).....	6
4.2.1	Method 2: Determination of Velocity and Volumetric Flow With Type S Pitot Tube .....	6
4.2.2	Method 2H: Determination of Velocity Taking Into Account Velocity Decay Near The Stack Wall .....	6
4.2.3	Method 3: Determination of Dry Gas Molecular Weight.....	7
4.2.4	Method 4: Determination of Moisture Content in Stack Gases .....	7
4.3	Sampling Location/Traverse Points/Test Run Duration .....	7
4.3.1	Gaseous Traverse Points and Run Durations.....	8
4.3.2	Volumetric Flow Traverse Points and Run Durations .....	8
4.3.3	Moisture Traverse Points and Run Durations .....	8
4.3.4	Molecular Weight Traverse Points and Run Durations .....	8
4.4	Quality Assurance/Quality Control Procedures .....	9
5.0	Relative Accuracy Test Audit Results.....	10
5.1	SO <sub>2</sub> RATA Results .....	10
5.2	NO <sub>x</sub> RATA Results .....	10
5.3	CO <sub>2</sub> RATA Results.....	10
5.4	Volumetric Flow RATA Results .....	10

## List of Tables

Table 1: RATA Results.....	1
Table 2: CEMS RATA Performance .....	3
Table 3: Summary of EPA Reference Methods and Instrumentation .....	5
Table 4: Reference Method Instrument Calibration Span and Calibration Gases	6
Table 5: Unit 4 SO <sub>2</sub> Relative Accuracy Test Audit Summary .....	11
Table 6: Unit 4 NO <sub>x</sub> Relative Accuracy Test Audit Summary .....	12
Table 7: Unit 4 CO <sub>2</sub> Relative Accuracy Test Audit Summary .....	13
Table 8: Unit 4 High Load Flow Relative Accuracy Test Audit Summary .....	14
Table 9: Unit 4 Mid Load Flow Relative Accuracy Test Audit Summary.....	15

## Appendices

Appendix A: Mathematical Equations

Appendix B: Reference Method Calibration Gas Certificates of Analysis

Appendix C: Sample Location Diagram and Traverse Points

Appendix D: Reference Method Quality Assurance/Quality Control Checks

Appendix D-1: Volumetric Flow and Gaseous RATA

Appendix D-2: Volumetric Flow Equipment

Appendix E: Reference Method Run Data

Appendix F: CEMS Run Data

## 1.0 Introduction

Progress Energy, Florida retained C.E.M. Solutions, Inc. to perform a Relative Accuracy Test Audit (RATA) on the Unit 4 Continuous Emissions Monitoring System (CEMS) located at its facility located in Crystal River, Florida.

The test program conducted included Relative Accuracy Test Audits (RATAs) on the following CEMS analyzers at Crystal River Unit 4:

- SO<sub>2</sub> ppm
- NO<sub>x</sub> lb/mmBtu
- CO<sub>2</sub> %
- Volumetric Flow WSCFH

The test program was conducted in order to evaluate the accuracy of the Unit 4 CEMS in accordance with the United States Environmental Protection Agency (USEPA) requirements in the Code of Federal Regulations, Title 40, Part 75, Appendix B, and section 2.3.1. The test program and results are presented and discussed in this report.

Erika Tuchbaum-Biro of the Progress Energy Florida, Environmental Services coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the USEPA.

Unit 4 passed all of the conducted RATAs as summarized in Table 1.

**Table 1: RATA Results  
Unit 4  
Crystal River Power Plant**

<b>RATA</b>	<b>% RA</b>	<b>BAF</b>
SO <sub>2</sub> ppm	3.41 %	1.000
NO <sub>x</sub> -diluent	5.10 %	1.000
CO <sub>2</sub>	0.61 %	1.000
Flow	5.32% High Load 6.49 % Mid Load	1.061

## **2.0 Facility Description**

Crystal River Unit 4 is a fossil fuel steam generator consisting of a dry bottom wall-fired boiler, rated at 760 MW, 6665 MMBtu/hr. Primary fuel is bituminous coal or a bituminous coal and bituminous coal briquette mixture. Number 2 fuel oil and natural gas may be burned as a startup fuel and for low load flame stabilization.

### **2.1 Process Equipment**

Fossil Fuel Steam Generator, Unit 4 is a pulverized coal, dry bottom, wall-fired boiler. Emissions are controlled from the unit with a high efficiency electrostatic precipitator, manufactured by Combustion Engineering. Emissions are exhausted through a 600 ft. brick and mortar stack.

### **2.2 Regulatory Requirements**

The facility is required to conduct RATA's on the SO<sub>2</sub> pollutant concentration monitor, NO<sub>x</sub>-diluent CEMS, CO<sub>2</sub> pollutant concentration monitors, and flow monitors in accordance with 40CFR75, App. B, section 2.3.1.1 in order to validate emissions data collected by the NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub>, and flow CEMS for the Acid Rain Program.

RATA's are required to be conducted on the gaseous and flow CEMS at the designated normal operating load level defined in section 6.5.2.1 of 40CFR75, Appendix A, while firing on primary fuel used during normal (high load) operation. An additional RATA was required to be completed on the flow monitor at the mid range operating level.

The Relative Accuracies of the Unit 4 CEMS are required to meet the performance specifications listed in Table 2.

**Table 2: CEMS RATA Performance Specifications**

<b>RATA</b>	<b>Semiannual (% RA)</b>	<b>Annual (% RA)</b>
SO <sub>2</sub> ppm	7.5% < RA ≤ 10.0% or ± 15.0 ppm <sup>1</sup>	RA ≤ 7.5% ± 12.0 ppm <sup>1</sup>
NO <sub>x</sub> -diluent	7.5% < RA ≤ 10.0% or ± 0.020 lb/mmBtu <sup>1</sup>	RA ≤ 7.5% or ± 0.015lb/mmBtu <sup>1</sup>
CO <sub>2</sub> or O <sub>2</sub> pollutant	7.5% < RA ≤ 10.0% or ± 1.0% CO <sub>2</sub> /O <sub>2</sub> <sup>1</sup>	RA ≤ 7.5% or ± 1.0% CO <sub>2</sub> /O <sub>2</sub> <sup>1</sup>
Flow	7.5% < RA ≤ 10.0% or ± 1.5 fps <sup>1</sup>	RA ≤ 7.5% <sup>1</sup>

<sup>1</sup> The difference between monitor and reference method mean values applies to low emitters only

### **3.0 Test Program/Operating Conditions**

The Relative Accuracy Test Audit was conducted to determine relative accuracy of the Unit 4 NO<sub>x</sub>-diluent, SO<sub>2</sub> and CO<sub>2</sub> concentration, and flow monitoring CEMS.

Testing was completed on January 29 and 30, 2008.

During testing at the high load level, also designated as the normal operating level, Unit 4 operated at an average of 765 gross megawatts.

Unit 4 operated at an average of 563 gross megawatts during the mid load flow RATA.

Erika Tuchbaum-Biro of Progress Energy Florida was present to coordinate plant operations throughout the test program.

Mr William Schroeder and Bret Galbraith of the Florida Department of Environmental Protection, Division of Air Resource Management were present during a portion of this test.

## 4.0 Test Methods

All testing was performed in accordance with methods approved by the USEPA and FDEP. The following discusses the methods, as well as quality assurance and sample handling procedures.

### 4.1 NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub> Relative Accuracy Test Audit (RATA)

NO<sub>x</sub> and SO<sub>2</sub> reference method (RM) data was determined using instrument analyzer procedures. In addition, diluent gas concentrations carbon dioxide (CO<sub>2</sub>) were also measured via instrumental methods. CO<sub>2</sub> data was also used to calculate NO<sub>x</sub> pollutant emissions in pounds per million Btu. Data collected by the reference method is compared to the Unit 2 CEMS data. Mathematical equations used to determine calculated emissions standards and RATA accuracy are located in Appendix A. Table 3 summarizes the EPA methods and instrumentation:

**Table 3: Summary of EPA Reference Methods and Instrumentation**  
Unit 4  
Crystal River Power Plant

Pollutant	EPA Method	Instrument	Serial Number
NO <sub>x</sub>	7E	TEI Model 42CLS	401904667
SO <sub>2</sub>	6C	TEI Model 43 C	43C-56507-308
CO <sub>2</sub>	3A	ZRH1	N4J0831T

All reference method analyzers used meet or exceed applicable performance specifications detailed in the appropriate method.

Emissions were tested using an in-stack dilution extraction probe. Gas samples were continuously extracted from the stack by a gas sample probe and diluted at a ratio of approximately 100:1 with clean, dry instrument air (dilution air). Samples were then transported to gas analyzers, located in the environmentally controlled test trailer for analysis by the reference method analyzers.

Instrument outputs were recorded continuously with a Windows compatible personal computer, compiled into 15 second averages, and stored in a database for future reference.

Instrument ranges and calibration gases were chosen in accordance with each pollutant's applicable EPA method. Instrument ranges and calibration gases used are shown in Table 4:

**Table 4: Reference Method Instrument Calibration Span and Calibration Gases**



**Table 4: Reference Method Instrument Calibration Span and Calibration Gases**  
**Unit 4**  
**Crystal River Power Plant**

<b>Pollutant</b>	<b>Test Location</b>	<b>Calibration Span</b>	<b>Calibration Gases<sup>a</sup></b>
NO <sub>x</sub>	Unit 2	486.0 ppm	0.0 ppm NO 287.0 ppm NO 486.0 ppm NO
SO <sub>2</sub>	Unit 2	971.0 ppm	0.0 ppm SO <sub>2</sub> 489.0 ppm SO <sub>2</sub> 971.0 ppm SO <sub>2</sub>
CO <sub>2</sub>	Unit 2	18.98 %	0.0 % CO <sub>2</sub> 9.10 % CO <sub>2</sub> 18.98 % CO <sub>2</sub>

<sup>a</sup> Concentrations of NO, SO<sub>2</sub> and CO<sub>2</sub> are in a balance of purified nitrogen (N<sub>2</sub>). All analyzers were zeroed with ultra high purity N<sub>2</sub>. All calibration gases have been certified to NIST traceable standards.

Calibration gas Certificates of Analysis can be found in Appendix B.

## **4.2 Volumetric Flow Relative Accuracy Test Audit (RATA)**

The following subsections describe the EPA Methods used to determine the Reference Method Volumetric Flow. All methods and QA/QC protocols were followed as described in the appropriate test methodologies.

### **4.2.1 Method 2: Determination of Velocity and Volumetric Flow With Type S Pitot Tube**

Reference Method Volumetric Flow data was determined utilizing EPA Method 2.

The stack gas velocity is determined from the gas density and from measurements of the average velocity head with a Type S pitot tube. Method 3 is used to determine stack gas density and Method 4 is used to determine stack gas moisture.

### **4.2.2 Method 2H: Determination of Velocity Taking Into Account Velocity Decay Near The Stack Wall**

A wall effects adjustment factor was determined using Method 2H. It was used to adjust the average stack gas velocity obtained under Method 2, to take into account velocity decay near the stack wall. The default WAF for brick and mortar stacks (0.990) was used for the high and mid level testing.

#### **4.2.3 Method 3: Determination of Dry Gas Molecular Weight**

Method 3 was used to determine dry gas molecular weight of the sample gas. During high and mid load testing, carbon dioxide emissions were measured using instrument method 3A. The instrument analyzers were calibrated using the reference gases listed in Table 4. Collected data was corrected for instrument calibration drift for each run.

Oxygen emissions were back calculated using Equation 3B-2, a procedure accepted by the USEPA Clean Air Markets Division.

#### **4.2.4 Method 4: Determination of Moisture Content in Stack Gases**

Stack gas moisture content was determined utilizing Method 4. In Method 4, gas sample is extracted, at a rate no more than 0.75 cubic feet per minute, from the stack through a probe, inserted at least one meter from the stack wall, then sent through a set of pre-weighed impingers. Moisture is removed from the gas and collected in the impinger train. The gas exiting the sample train is maintained at a temperature less than or equal to 68 degrees Fahrenheit. The amount of gas pulled through the sample train is measured by a calibrated dry gas metering system.

At the end of the sampling run, the contents of the impingers are measured gravimetrically to the nearest 0.1 gram. Stack gas moisture is calculated based upon the impinger weight gain and the volume of gas collected.

### **4.3 Sampling Location/Traverse Points/Test Run Duration**

Unit 4's exhaust stack inner diameter, at the sample location, is 28 feet, 3 ½ inches (339.5"). The emissions sampling location is 195 feet downstream from the nearest flow disturbance, and 303 feet upstream from the stack exhaust. A diagram of the sample location can be viewed in Appendix C.

#### **4.3.1 Gaseous Traverse Points and Run Durations**

Gas sample traverse points were located in accordance with 40CFR, Part 75, Appendix A, Section 6.5.6(b)(2) at 4.4%(14.9"), 14.6%(49.5"), and 29.6%(100.5") from the inner wall of the stack. Each point was sampled for seven minutes, equaling a total of 21 minutes per test run. A minimum of nine, but no more than 12, test runs were completed.

#### **4.3.2 Volumetric Flow Traverse Points and Run Durations**

Velocity traverse points were determined in accordance with EPA Method 1. A total of 12 traverse points (three points per port) were used to complete each flow test run. Sufficient time was allowed for differential pressure and stack temperature readings to stabilize at each point before readings were recorded. Each flow run was a minimum of five minutes in duration.

#### **4.3.3 Moisture Traverse Points and Run Durations**

The moisture sample probe was inserted at least one meter inside the stack from the inner wall.

When moisture data was required to correct gaseous measurements from a dry to a wet basis, runs were conducted concurrently with the gaseous test runs for a period of 21 minutes.

During volumetric flow testing, one moisture run in which a minimum of 21 cubic feet of sample was collected, was completed for every three reference method volumetric flow runs as required in 40CFR75, Appendix A, section 6.5.7.

#### **4.3.4 Molecular Weight Traverse Points and Run Durations**

During reference method gaseous test runs, CO<sub>2</sub> data was collected at the traverse points and for the same period of time as discussed previously in section 4.3.1.

#### 4.4 Quality Assurance/Quality Control Procedures

All sampling, analytical, and Quality Assurance/Quality Control (QA/QC) procedures outlined in the EPA methods were followed. All test equipment was calibrated before or during use in the field. Interference checks, response time checks, and NO<sub>2</sub> to NO converter checks were performed on each instrumental analyzer, as applicable, before field use. In the field, each analyzer and the entire instrument measurement system was checked for system bias before and following each test run using the calibration gases listed in Table 3. Appendix D contains the QA/QC checks.

The reference method volumetric flow type S Pitot tube was leak checked prior to and following each test run. A minimum of 3" of differential pressure was applied to each leg of the test probe and tested for a minimum period of 1 minute to confirm stability.

The moisture train was leak tested before and following each test run at a vacuum equal to or higher than the highest vacuum observed during each test run. A failed leak check occurs when there is more than .02 cubic feet of movement over a period of one minute.

## **5.0 Relative Accuracy Test Audit Results**

The following presents the results of the test program. Tables 5, 6, 7, 8 and 9 summarize the SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, high load flow and mid load flow Relative Accuracy Test Audit results, respectively. Supporting RM field data and calculated values are presented in Appendix E. CEMS support data are located in Appendix F.

### **5.1 SO<sub>2</sub> RATA Results**

The SO<sub>2</sub> CEMS relative accuracy over the nine test runs was 3.41%. Unit 4 SO<sub>2</sub> CEMS also passed the Bias Adjustment Factor Test; therefore no bias (1.000) is assigned to the CEMS data.

### **5.2 NO<sub>x</sub> RATA Results**

Unit 4 NO<sub>x</sub>-Diluent CEMS relative accuracy was 5.10 %. Unit 4's NO<sub>x</sub>-diluent CEMS passed the BAF test. A BAF of 1.000 has been assigned to Unit 4 NO<sub>x</sub> CEMS.

### **5.3 CO<sub>2</sub> RATA Results**

The CO<sub>2</sub> CEMS had a relative accuracy of 0.60% over the nine run test period. The Unit 4 CO<sub>2</sub> CEMS passed the Bias Adjustment Factor Test, and is assigned a BAF of 1.000.

### **5.4 Volumetric Flow RATA Results**

Unit 4 volumetric flow's relative accuracy at the high and mid operating levels was 5.32% and 6.49%, respectively.

Unit 4 flow monitor failed the BAF test at the mid and high load (normal) level, therefore the highest bias (1.061) observed during testing is applied to the CEMS data.

A total of 12 volumetric flow RATA test runs were completed at the mid load operating level to decrease the relative accuracy.

**Table 5: Unit 4 SO<sub>2</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 4  
Normal Load Pt. 75 RATA  
Date: 1/29/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	SO <sub>2</sub> RM WET ppm	SO <sub>2</sub> CEM WET ppm	Difference Like ppm
Run 1	29-Jan	9:06:00	9:27:00	765	390.6	406.5	-15.9
Run 2	29-Jan	9:50:00	10:11:00	764	397.0	410.1	-13.1
Run 3	29-Jan	10:36:00	10:57:00	764	392.0	403.9	-11.9
Run 4	29-Jan	11:22:00	11:43:00	765	387.2	398.3	-11.1
Run 5	29-Jan	12:08:00	12:29:00	766	381.0	393.3	-12.3
Run 6	29-Jan	12:59:00	13:20:00	766	384.7	396.1	-11.4
Run 7	29-Jan	13:45:00	14:06:00	767	388.0	396.9	-8.9
Run 8	29-Jan	14:29:00	14:50:00	762	386.2	396.0	-9.8
Run 9	29-Jan	15:12:00	15:33:00	763	386.2	396.9	-10.7

Average: 765 388.1 ppm 399.8 ppm -11.7 ppm

**Bias Test (pass/fail):** Passed  
**Bias Adjustment Factor:** 1.000  
**Method of RA Determination:** Part 75, Standard Emitter

**Standard Deviation:** 2.0359  
**Confidence Coefficient:** 1.5650  
**T-Factor:** 2.306  
**Number of runs Reported:** 9

**Relative Accuracy:** 3.412  
**Maximum RA** 10.00  
**RA Status** Passed

**Table 6: Unit 4 NO<sub>x</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 4  
Normal Load Pt. 75 RATA  
Date: 1/29/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	NO <sub>x</sub> RM lbs/mmBtu	CEM lbs/mmBtu	Difference Like lbs/mmBtu
Run 1	29-Jan	9:06:00	9:27:00	765	0.527	0.546	-0.019
Run 2	29-Jan	9:50:00	10:11:00	764	0.526	0.546	-0.020
Run 3	29-Jan	10:36:00	10:57:00	764	0.519	0.541	-0.022
Run 4	29-Jan	11:22:00	11:43:00	765	0.525	0.547	-0.022
Run 5	29-Jan	12:08:00	12:29:00	766	0.517	0.535	-0.018
Run 6	29-Jan	12:59:00	13:20:00	766	0.502	0.531	-0.029
Run 7	29-Jan	13:45:00	14:06:00	767	0.506	0.528	-0.022
Run 8	29-Jan	14:29:00	14:50:00	762	0.512	0.541	-0.029
Run 9	29-Jan	15:12:00	15:33:00	763	0.514	0.541	-0.027

Average: 765 0.516 0.540 -0.023 lbs/mmBtu

**Bias Test (pass/fail): Passed**  
**Bias Adjustment Factor: 1.000**  
**Method of RA Determination: Part 75, Standard Emitter**

Standard Deviation: 0.0042  
Confidence Coefficient: 0.0032  
T-Factor: 2.306  
Number of runs Reported: 9

Note:  
All ppm values are corrected to lbs/mmBtu NO<sub>x</sub>  
using RM CO<sub>2</sub> and CEM CO<sub>2</sub> as diluents

**Relative Accuracy: 5.100**  
**Maximum RA 10.00**  
**RA Status Passed**

**Table 7: Unit 4 CO<sub>2</sub> Relative Accuracy Test Audit Summary**

**Relative Accuracy Determination**

Test Performed For:  
Progress Energy Florida  
Crystal River  
Unit 4  
Normal Load Pt. 75 RATA  
Date:1/29/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

Run Number	Date of Run	Start Time	Stop Time	Unit Load MW	CO2 RM WET % V/V	CO2 CEM WET % V/V	CO2 Difference Like % V/V
Run 1	29-Jan	9:06:00	9:27:00	765	11.8	11.9	-0.1
Run 2	29-Jan	9:50:00	10:11:00	764	11.8	11.9	-0.1
Run 3	29-Jan	10:36:00	10:57:00	764	11.8	11.9	-0.1
Run 4	29-Jan	11:22:00	11:43:00	765	11.8	11.9	0.0
Run 5	29-Jan	12:08:00	12:29:00	766	11.8	11.9	-0.1
Run 6	29-Jan	12:59:00	13:20:00	766	12.0	11.9	0.1
Run 7	29-Jan	13:45:00	14:06:00	767	11.9	11.9	0.0
Run 8	29-Jan	14:29:00	14:50:00	762	11.9	11.8	0.1
Run 9	29-Jan	15:12:00	15:33:00	763	11.9	11.8	0.1

Average: 765 11.9 % 11.9 % 0.0 %

Bias Test (pass/fail): Passed  
Bias Adjustment Factor: 1.000  
Method of RA Determination: Part 75, Average RM Value

Standard Deviation: 0.0872  
Confidence Coefficient: 0.0670  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 0.61  
Maximum RA 10.0  
RA Status Passed



**Table 8: Unit 4 High Load Flow Relative Accuracy Test Audit Summary**

**Volumetric Flow Relative Accuracy Determination**

Test Performed For:  
Progress Energy  
Crystal River Plant  
Unit 4  
High Load Flow  
Date: 1/29/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	29-Jan	9:06:00	9:27:00	765	109555000.0	113399000.0	-3844000.0
Run Not Used	29-Jan	9:50:00	10:05:00	765	121655000.0	113033000.0	8622000.0
Run 3	29-Jan	10:36:00	10:52:00	764	117938000.0	113132000.0	4806000.0
Run 4	29-Jan	11:22:00	11:38:00	764	117647000.0	113099000.0	4548000.0
Run 5	29-Jan	12:08:00	12:28:00	766	118437000.0	113193000.0	5244000.0
Run 6	29-Jan	12:59:00	13:16:00	767	114991000.0	113504000.0	1487000.0
Run 7	29-Jan	13:45:00	14:01:00	767	116950000.0	112734000.0	4216000.0
Run 8	29-Jan	14:29:00	14:45:00	762	117196000.0	113568000.0	3628000.0
Run 9	29-Jan	15:12:00	15:29:00	763	119471000.0	112745000.0	6726000.0
Run 10	29-Jan	16:03:00	16:18:00	765	119639000.0	112952000.0	6687000.0

Average: 765 116,869,333.3 SCFH 113,147,333.3 SCFH 3,722,000.0 SCFH

Bias Test (pass/fail): Failed  
Bias Adjustment Factor: 1.033  
Method of RA Determination: Part 75, Standard Emitter

Standard Deviation: 3249644.4036  
Confidence Coefficient: 2497893.3316  
T-Factor: 2.306  
Number of runs Reported: 9

Relative Accuracy: 5.322  
Maximum RA 10.00  
RA Status Passed

**Table 9: Unit 4 Mid Load Flow Relative Accuracy Test Audit Summary**

**Volumetric Flow Relative Accuracy Determination**

Test Performed For:  
Progress Energy  
Crystal River Plant  
Unit 4  
Mid Load Flow  
Date: 1/30/08

Test Performed By:  
C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Ph: 352-489-4337

<u>Run Number</u>	<u>Date of Run</u>	<u>Start Time</u>	<u>Stop Time</u>	<u>Unit Load MW</u>	<u>FLOW RM WSCFH</u>	<u>FLOW CEM WSCFH</u>	<u>Difference Like SCFH</u>
Run 1	30-Jan	6:51:00	7:02:00	502	95042000.0	88868000.0	6174000.0
Run Not Used	30-Jan	7:05:00	7:17:00	499	94951000.0	88314000.0	6637000.0
Run Not Used	30-Jan	7:20:00	7:31:00	501	95240000.0	88022000.0	7218000.0
Run Not Used	30-Jan	7:34:00	7:45:00	500	96273000.0	88330000.0	7943000.0
Run 5	30-Jan	9:55:00	10:10:00	570	99753000.0	95205000.0	4548000.0
Run 6	30-Jan	10:12:00	10:25:00	571	100684000.0	94193000.0	6491000.0
Run 7	30-Jan	11:35:00	11:47:00	571	100642000.0	94255000.0	6387000.0
Run 8	30-Jan	11:52:00	12:02:00	571	100216000.0	93478000.0	6738000.0
Run 9	30-Jan	12:07:00	12:18:00	570	99282000.0	94686000.0	4596000.0
Run 10	30-Jan	12:20:00	12:31:00	572	99109000.0	94198000.0	4911000.0
Run 11	30-Jan	13:09:00	13:21:00	571	98514000.0	93476000.0	5038000.0
Run 12	30-Jan	13:24:00	13:35:00	571	100616000.0	93940000.0	6676000.0
Average:				563	99,317,555.6 SCFH	93,588,777.8 SCFH	5,728,777.8 SCFH

**Bias Test (pass/fail): Failed**  
**Bias Adjustment Factor: 1.061**  
**Method of RA Determination: Part 75, Standard Emitter**

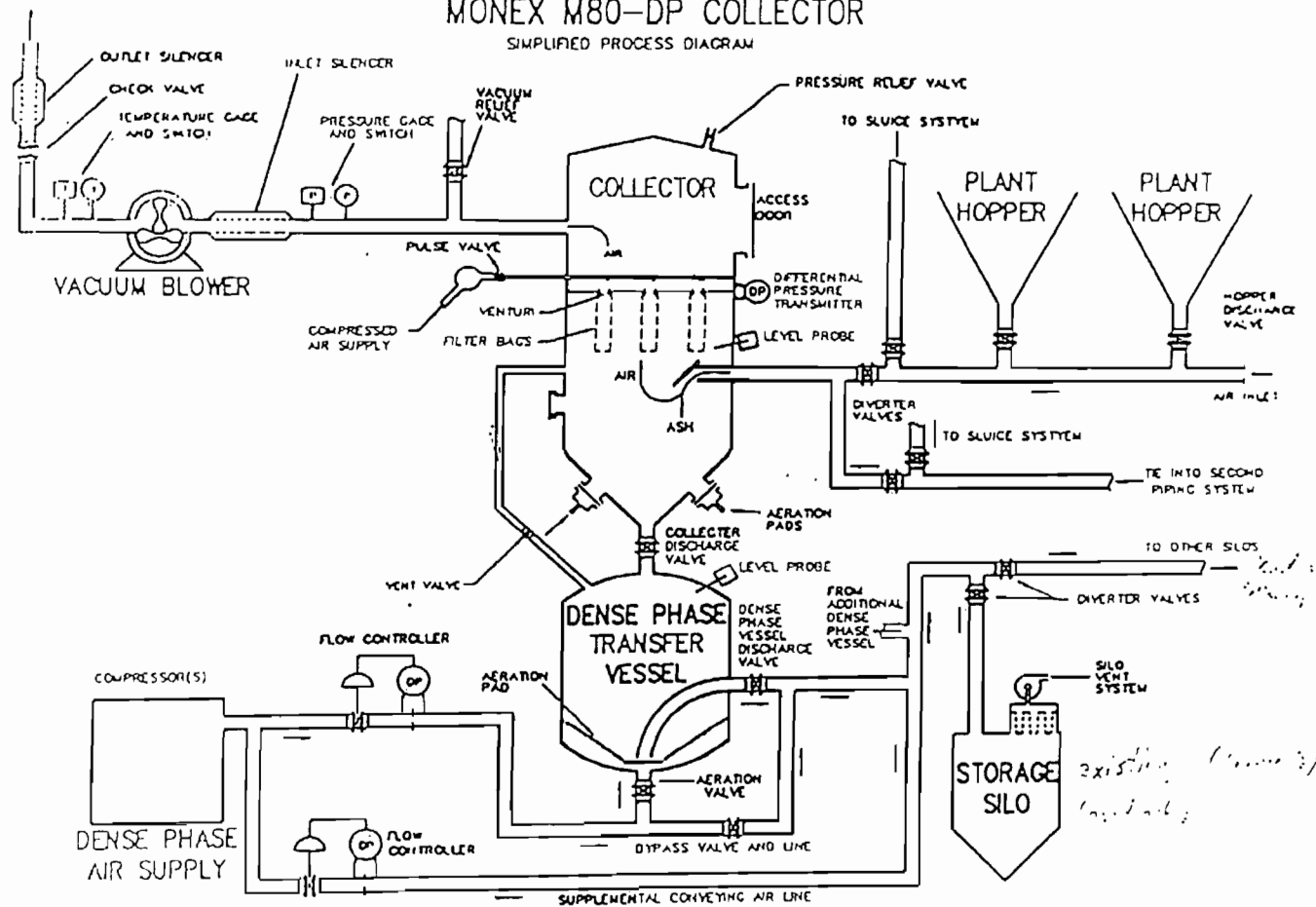
**Standard Deviation:** 932173.3715  
**Confidence Coefficient:** 716530.5982  
**T-Factor:** 2.306  
**Number of runs Reported:** 9  
  
**Relative Accuracy:** 6.490  
**Maximum RA** 10.00  
**RA Status** Passed

**EMISSION UNIT 006, 008, 009, 010, and 014**

**Fly Ash Transfer (Source 1) from FFSG Unit 1 (006)**  
**Fly Ash Transfer (Source 3) from FFSG Units 1 and 2 (008)**  
**Fly Ash Transfer (Source 4) from FFSG Unit 2 (009)**  
**Fly Ash Transfer (Source 5) from FFSG Unit 2 (010)**  
**Bottom Ash Storage Silo for FFSG Units 1 and 2 (014)**

# MONEX M80-DP COLLECTOR

SIMPLIFIED PROCESS DIAGRAM



CLIENT/PROJECT  
Progress Energy Florida, Inc

TAMPA, FLORIDA



TITLE  
**Process Flow Diagram  
Fly Ash Transfer EU006  
Crystal River Power Plant**

DRAWN	CHECKED	REVIEWED	DATE 4/21/2009	NOT TO SCALE	FILE NO.	Job No. 083-89614	DWG NO.	SUBTITLE	REV. NO.	CR-EU5-11
-------	---------	----------	-------------------	-----------------	----------	----------------------	---------	----------	----------	-----------

**EMISSION ATTACHMENT CR-EU5-I3**  
**Detailed Description of Control Equipment**

# MONEX

RESOURCES INC

45 N.E. Loop 410, Suite 700  
San Antonio, Texas 78216  
Telephone (210) 349-4069  
Fax (210) 349-8512

DATE: 11 August, 1994

FAX TRANSMISSION

TO: Mr. Mike Kennedy  
Florida Power Corp.  
(813) 866-4926

FROM: Sam Young *JSY*

OUR FAX FILE NO. 0811-15

TOTAL PAGES (including this one) 2

If you do not receive all of the pages, please telephone or fax us immediately.

Mr. Kennedy:

At James Merkel's request, I am sending you the following information pertaining to revisions of your air quality permit. I believe this is what you have discussed with James on this date.

For sources 1,4, and 5, the full capacity of the vacuum pumps are 2800 cfm at 16" mercury based on a 100BHp motor. However, the vacuum pumps are operating at a reduced speed so that only 1820 cfm at 16" mercury, 80BHp is used. With an empty hopper the vacuum pumps air flow will be 2200 cfm at 4" mercury.

The particulate matter emissions for sources 1,4, and 5 are controlled by a Monex Resources, Inc. Model MD80 Collector. Cloth area of each collector is 797 square foot. Dust loading inside the collector will be 30 grains/cubic foot of air. Filter efficiency is 99.9%.

With this in mind, emissions for sources 1,4, and 5 will be as follows:

<u>Air Flow</u>	<u>New Emission Rate</u>	<u>Permitted Emission Rate</u>	<u>Air to Cloth Ratio</u>
1820 cfm	0.468#/hr.	3.52 #/hr	2.28
2200 cfm	0.566#/hr.	2.2 #/hr.	2.76
2800 cfm	0.72 #/hr.	2.2 #/hr	3.51

Page 2  
Mr. Mike Kennedy  
August 11, 1994

Average hourly ash transfer rates will be:

Source 1	34 tph - 44 tph
Source 4	50 tph - 60 tph
Source 5	60 tph - 70 tph

The lower number of the range is the performance requirement. The high number of the range is the maximum hourly average.

For source 3 the new hourly maximum air flow will be as follows:

New transfer compressor	1210 cfm
Existing scavenger fan	1074 cfm
Existing aeration blower	250 cfm
Existing pulse air	<u>12 cfm</u>
	2546 cfm

The particulate matter emissions are controlled by an existing baghouse with 1885 square foot of cloth area. If filter efficiency is assumed to be 99.9%, the emissions will be 0.22#/hr.

ISY/kps

cc: Robert Lister, Gary Beckcom, Paul Goodman, James Merkel

**EMISSION ATTACHMENT CR-EU5-I5**  
**Compliance Demonstration Reports/Records**



## **Visible Emissions Test Report**

**Florida Power Corporation dba  
Progress Energy Florida, Inc.  
Crystal River Power Plant  
Emissions Units -006, -008, -009 and -014  
Crystal River, Florida**

**C.E.M. Solutions Project No. 3359**

**Testing Completed: August 27, 2008**

**C.E.M. Solutions, Inc Report Number: 20-3359-06080914-001**

**C.E.M. Solutions, Inc.  
1183 E. Overdrive Circle  
Hernando, FL 34442  
Phone: 352-489-4337**

## Project Background

Name of Source Owner: Florida Power Corporation dba Progress Energy Florida, Inc.

Address of Owner: 299 First Avenue North  
St. Petersburg, Florida 33701

Source Identification: Facility ID: 0170004  
Emissions Units: -006, -008, -009 and -014

Location of Source: Citrus County, Florida

Type of Operation: SIC Code: 4911

Tests Performed: Method 9 – Visual Determination of Emissions

Test Supervisor: Charles Horton

Date(s) Tests Conducted: August 27, 2008

Site Test Coordinator: Erika Tuchbaum-Biro

State Regulatory Observers: No Observers Present

## Table of Contents

1.0	Introduction.....	1
2.0	Facility Description .....	2
2.1	Process Equipment.....	2
2.1.1	EU-006.....	2
2.1.2	EU-008.....	2
2.1.3	EU-009.....	2
2.1.4	EU-014.....	3
2.2	Regulatory Requirements .....	3
3.0	Test Program/Operating Conditions .....	4
4.0	Test Methods.....	5
4.1	Determination of Visible Emissions.....	5
5.0	Test Results.....	6
5.1	Emissions Unit -006 .....	6
5.2	Emissions Unit -008 .....	6
5.3	Emissions Unit -009 .....	6
5.4	Emissions Unit -014 .....	6

## List of Tables

Table 1:	VE Test Results.....	1
Table 2:	Summary of Emissions Limits .....	3
Table 3:	Facility Operating Data Summary.....	4

## Appendices

- Appendix A: Facility Operating Data
- Appendix B: Method 9 Support Data

## 1.0 Introduction

Florida Power Corporation dba Progress Energy Florida, Inc. (PEF) retained C.E.M. Solutions, Inc. to perform visible emissions (VE) testing on emissions units -006, -008, -009 and -014 located at its Crystal River Power Plant in Crystal River, Florida.

Emissions Unit EU-010 had 0.0 hours of operation during the last fiscal year, therefore it was not evaluated during the test program.

The test program was conducted in order to evaluate the compliance status of the Units 1 and 2 bottom ash and fly ash storage silos baghouse vents and the baghouse vents for various fly ash transfer points with respect to Title V air operating permit number 0170004-015-AV. The test program and results are presented and discussed in this report.

Erika Tuchbaum-Biro of the PEF Crystal River Power Plant coordinated plant operations throughout the test program. All testing was conducted in accordance with test methods promulgated by the USEPA.

The results of the visible emissions tests are summarize in Table 1:

**Table 1: VE Test Results  
Progress Energy Florida, Inc.  
Crystal River Power Plant**

Pollutant	Test Results	Emission Limit <sup>a</sup>
-006	0.0%	<5%
-008	0.0%	<5%
-009	0.0%	<5%
-014, vent A	0.0%	<20%
-014, vent B	0.0%	<20%
-014, vent C	0.0%	<20%

<sup>a</sup> six-minute block average

## 1.0 Introduction

Progress Energy Florida, Inc. (PEF) retained C.E.M. Solutions, Inc. to perform source emissions testing on the Fly Ash Transfer System (EU -006) from Fossil Fuel Steam Generator (FFSG) Unit 1 located at the Crystal River Energy Complex South Plant in Crystal River, Florida.

The test program was conducted in order to evaluate the compliance status of the Fly Ash Transfer System, in respect to Title V air operating permit number 0170004-015-AV. The test program and results are presented and discussed in this report.

Nick Maltese of the Progress Energy Florida, Inc. coordinated plant operations during the test program. All testing was conducted in accordance with test methods promulgated by the USEPA.

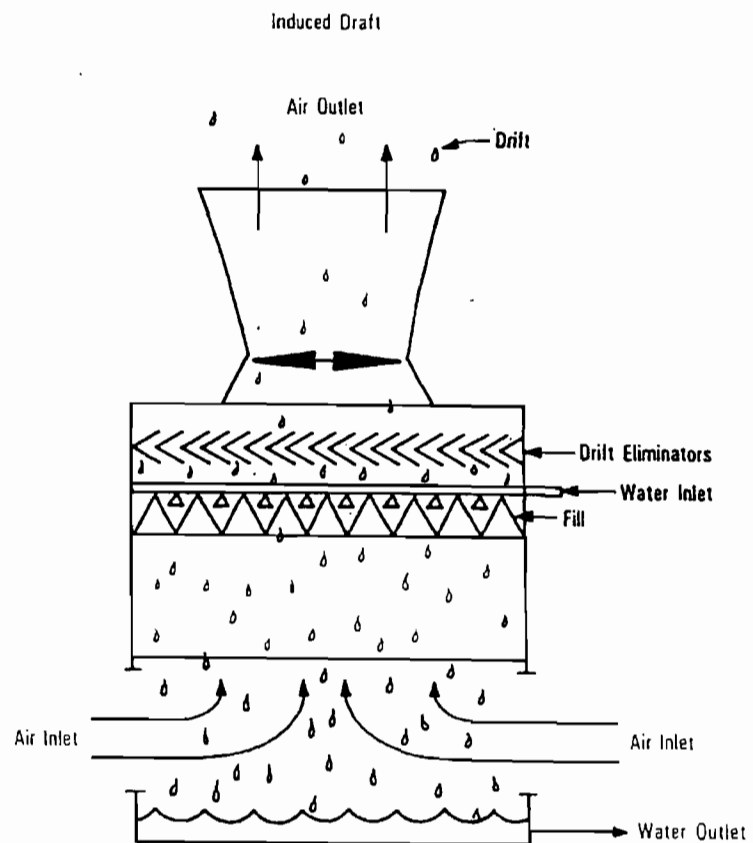
The Fly Ash Transfer System passed the Visible Emissions test with a 6 minute block average visible emission of 0.83%. A summary of the visible emission test results is located in Table 1 below.

**Table 1: Summary of Results  
Progress Energy Florida, Inc.  
Crystal River Energy Complex  
Fly Ash Transfer (EU -006)**

Unit Number	Highest 6 Minute Visible Emission Average*
Fly ash Transfer, EU -006	0.83%

\*Six minute block average

**EMISSION ATTACHMENT CR-EU9-I1**  
**Cooling Tower for FFSG Units 1, 2, and 3**



CLIENT/PROJECT  
Progress Energy Florida, Inc



TAMPA, FLORIDA

TITLE  
**Process Flow Diagram  
Cooling Towers for Units 1, 2 and 3  
Crystal River Power Plant**

DRAWN

CHECKED

REVIEWED

DATE  
4/21/2009

NOT TO  
SCALE

FILE NO.

Job No.  
083-89614

DWG NO.

SUBTITLE

REV. NO.

CR-EU9-I1

**EMISSION ATTACHMENT CR-EU9-I3**  
**Detailed Description of Control Equipment**

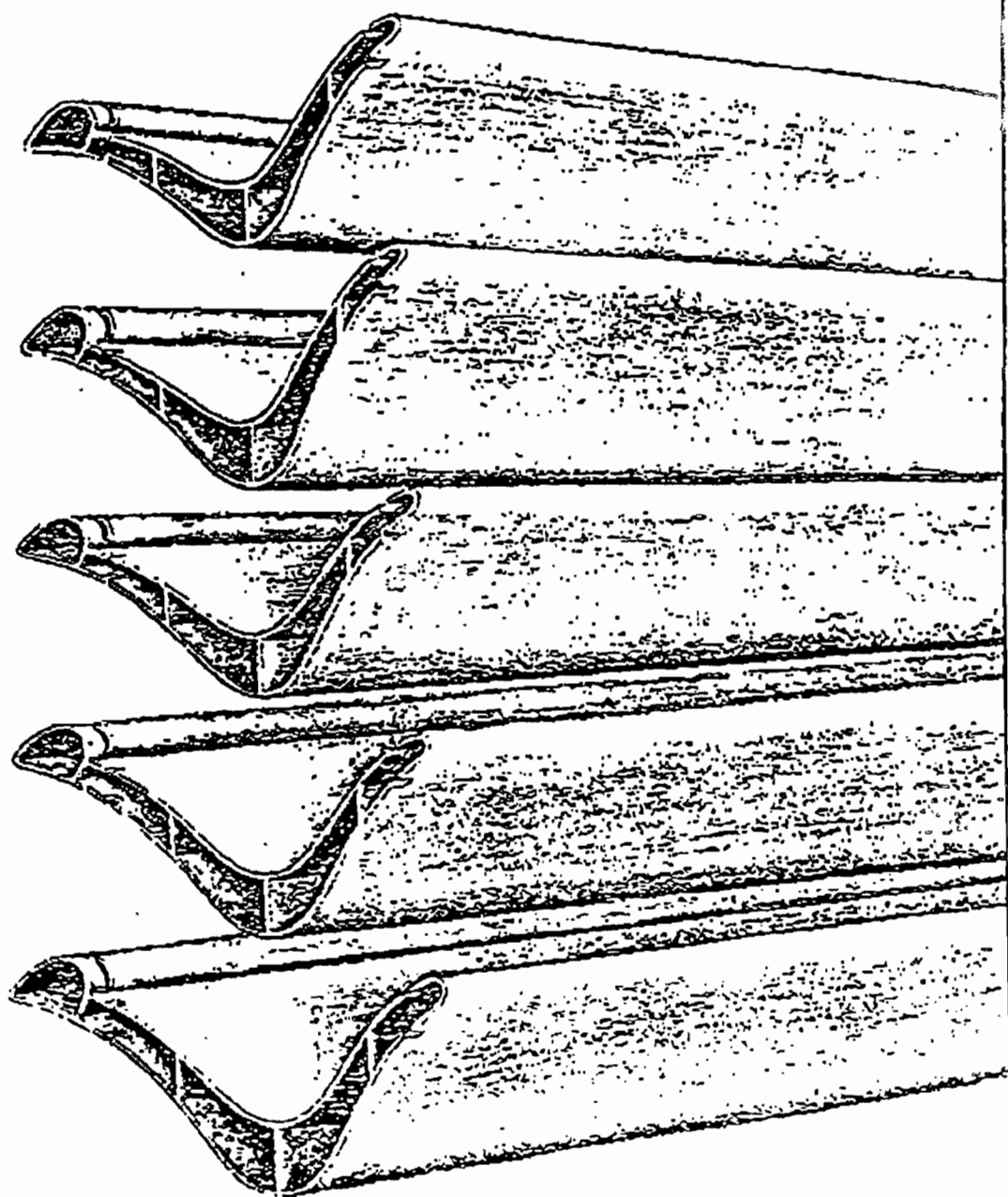


### **Detailed Description of Control Equipment**

The drift eliminator system for the Helper Cooling Towers for Units 1, 2, and 3 is located directly above and supported on the water distribution pipes. The drift eliminator is based on the impingement type using polyvinylchloride (PVC) blades. The blades change the air flow direction two times within the cooling tower before the air is discharged out of the tower. The water droplets, which separate from the air flow within the drift eliminator, collect and fall back to the fill surface. The drift eliminator system is guaranteed to limit the maximum drift loss to 0.0005 % of the design flow.

# SPECTRA

a new standard of excellence  
in cooling tower drift eliminators



**THERMATEC**

SANTA ROSA, CA

U.S. and foreign patents pending

The SPECTRA PVC drift eliminator is the result of extensive research and testing using state of the art technology to solve an old problem in the most effective way yet devised.

Removing liquid droplets from a gas stream while using as little fan energy as possible ... that's what drift removal is all about. One look at the SPECTRA blade will tell you why it's superior in getting this troublesome job done in an energy efficient way. (FIGURE 1.)

Most drift eliminator designs used today do a pretty good job in removing those big drift drops under normal circumstances, but ... when the going gets tough they leave a lot to be desired. Those small drops while not as noticeable, can be just as damaging to plant equipment and may have an even more serious impact on your neighbors and the environment since once airborne they travel further. The SPECTRA blade gets ALL the big drops and collects a much higher percentage of the small drops by putting the right blade surface where it counts. You also get a useful gas velocity operating range well beyond the limits of other designs. This can be important to you when the wind is up or on a tower that's been causing you drift problems.

We invite comparison ... Ask about a cost demonstration test at our research facility.

The SPECTRA PVC drift eliminator is made of material that meets or exceeds the ASTM D-1784 specifications for Type 1, Grade 2 Rigid Polyvinylchloride Compounds. Type 1 PVC compounds have the highest strength and chemical resistance properties of all the rigid PVC compounds. (TABLE 1.)

**High strength** — PVC retains high impact and tensile strength over a wide range of temperature conditions and resists heat distortion. In these respects it is considered superior to other plastics. These properties coupled with a highly stable double wall blade construction and low working stresses insure stable blade dimensions and structural integrity of the SPECTRA design even under severe thermal shock conditions.

**Weather exposure** — PVC is exceptionally durable in outdoor weather exposures and retains its superior physical properties. It stands up well to ultraviolet radiation, temperature variations, air contaminants and biological attack.

**Chemical and corrosion resistance** — PVC is highly impervious to chemical or biological degradation. Strong acids,

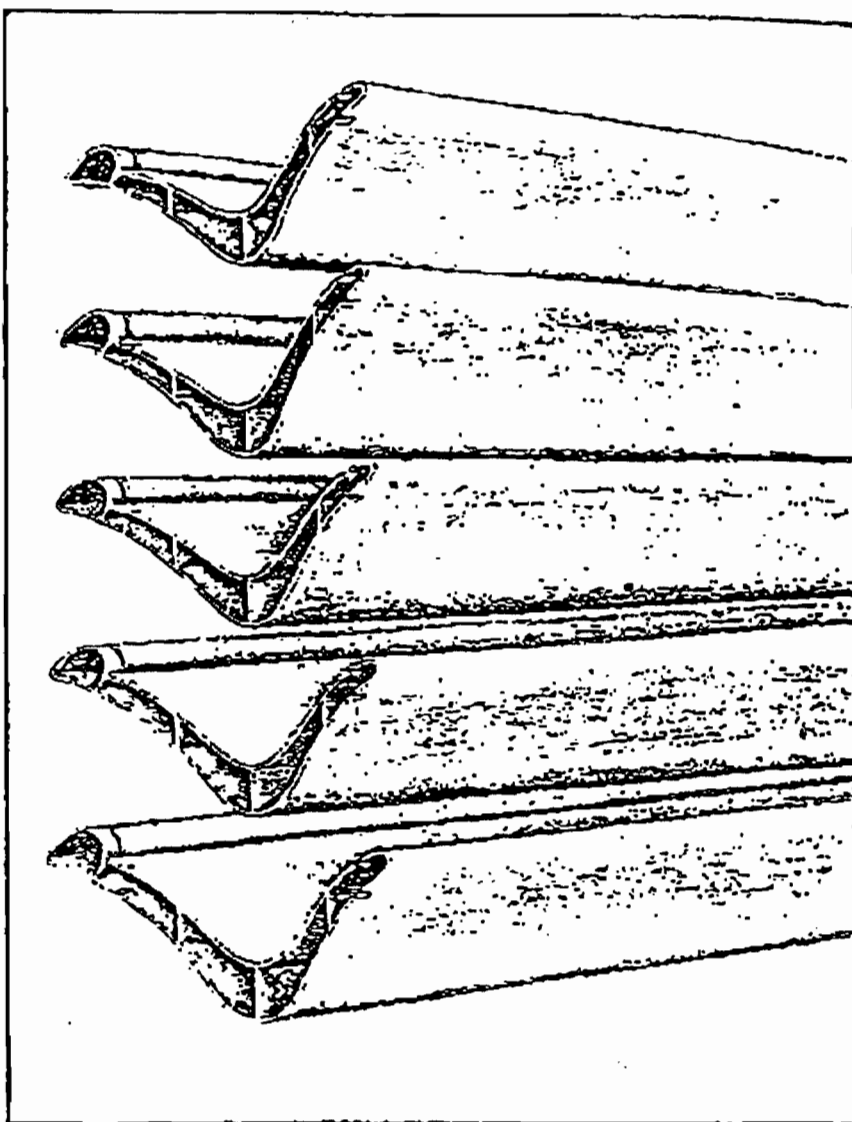
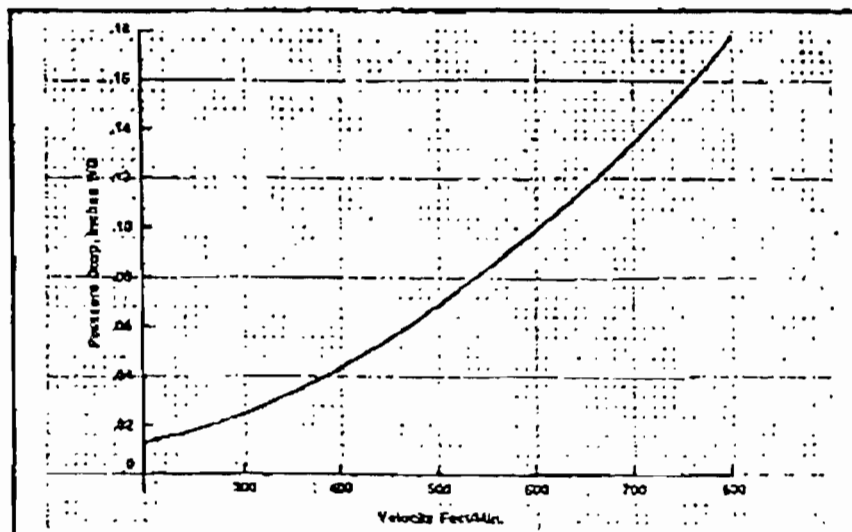


FIGURE 1



SPECTRA Pressure Drop Curve

**EMISSION ATTACHMENT CR-EU9-I6**  
**Identification of Applicable Requirements**

## APPLICABLE REQUIREMENTS LISTING - POWER PLANTS

EMISSION UNIT: Cooling Towers for Units 1, 2 and 3

### FDEP Rules:

#### Stationary Sources-General:

- 62-210.700(1) - Malfunction
- 62-210.700(4) - poor maintenance
- 62-210.700(6) - notification

#### Stationary Sources-Emission Standards:

Note: General VE in Rule 62-296.320(4)(b) does not apply since VE determinations exclude uncombined water and an appropriate VE test cannot be performed.

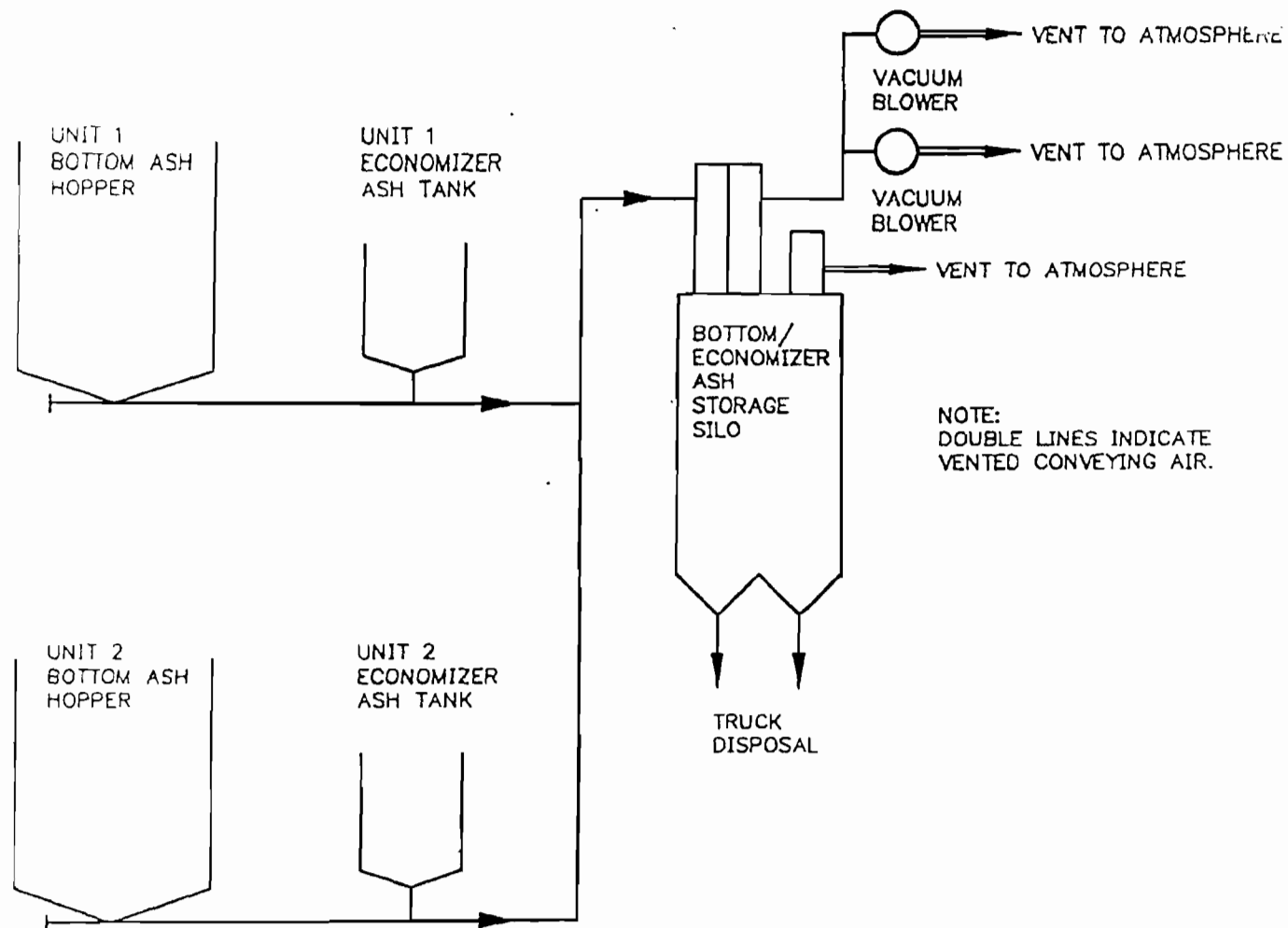
#### Stationary Sources-Emission Monitoring (where stack test is required):

Note: Cooling Towers are non-traditional sources and tests facilities must be temporary in nature. The temporary facilities would meet the intent of the following rules as allowed by the source.

- 62-297.310(1) - Test Runs-Mass Emission
- 62-297.310(2)(b) - Operating Rate; other than CTs
- 62-297.310(3) - Calculation of Emission
- 62-297.310(4)(a) - Applicable Test Procedures;Sampling time
- 62-297.310(4)(b) - Sample Volume
- 62-297.310(4)(c) - Required Flow Rate Range-PM/H2SO4/F
- 62-297.310(4)(d) - Calibration
- 62-297.310(4)(e) - EPA Method 5-only
- 62-297.310(5) - Determination of Process Variables
- 62-297.310(6)(b) - Temporary Test Facilities
- 62-297.310(6)(c) - Sampling Ports
- 62-297.310(6)(d) - Work Platforms
- 62-297.310(6)(e) - Access
- 62-297.310(6)(f) - Electrical Power
- 62-297.310(6)(g) - Equipment Support
- 62-297.310(7)(a)2. - FFSG excess emissions
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4. - FDEP Notification - 15 days
- 62-297.310(7)(a)9. - Test Reports
- 62-297.310(8)

**EMISSION UNIT 014 (CR-EU10)**  
**Bottom Ash Storage Silo for FFSG Units 1, 2, and 3**

**EMISSION ATTACHMENT CR-EU10-I1**  
**Process Flow Diagram**



CLIENT/PROJECT  
Progress Energy Florida, Inc



TAMPA, FLORIDA

TITLE  
**Process Flow Diagram  
Units 1 and 2 Cry Bottom Ash System  
Crystal River Power Plant**

DRAWN

CHECKED

REVIEWED

DATE

4/20/2009

NOT TO  
SCALE

FILE NO.

Job No.

083-89614

DWG NO.

SUBTITLE

REV. NO.

CR-EU10-11



Stack and operating data provided for two identical filter/separator vacuum blower outlets.

For bin vent filter outlet, the stack height is 78 feet, and the diameter is 0.67 ft. The gas flow rate is 2,400 dscfm at an exit temperature equal to ambient.

Bottom ash handling system designed to collect and store all of the bottom ash and economizer ash from Units 1 and 2. Ash is conveyed by means of dry vacuum system designed to handle ash from both units at same time. Vacuum to transfer ash is produced by separate vacuum blower (total of two) located on silo. Air and ash from each unit passes through a filter/separator baghouse collector (one per unit) with air exhausting through vacuum blowers. The air in silo displaced by incoming ash is vented to atmosphere through additional bag filter identified as bin vent filter.

Actual Exit Diameter = 0.833 feet

**EMISSION ATTACHMENT CR-EU10-I3**  
**Detailed Description of Control Equipment**

# **UCC Service Corporation**

2100 Norman Drive West • Waukegan, IL 60085  
(708) 473-6800 • FAX: (708) 473-6859

29 July 1993

Florida Power Corporation  
P.O. Box 14042  
St. Petersburg, FL 33733

Attention: Mr. Wayne Love

Subject: Crystal River Station  
Unit No. 2 Bottom Ash System  
Magaldi Ash Conveyor (MAC) Retrofit  
Florida Power Contract No. S09758  
Environmental Permit Data  
UCSC Proposal No. 93501

Gentlemen:

Following is the information requested concerning the environmental operating permit for the bottom ash storage silo. This information is based on our proposal dated 16 June 1993.

1. Air flow to the silo:
  - Approximately 2200 cfm for Unit No. 1 and 2200 cfm for Unit No. 2.
2. Product flow to the silo:
  - The vacuum system maximum design point is 8 tph.
3. Estimated effluent from the filter/separator in grains/cu. ft. and total in 24 hrs:
  - Maximum grains/cu. ft. = 0.02
  - Total in 24 hrs
    - Filter/separators = 63,360 grains/24 hr x 2 filter/separator = 126,720 grains/24 hr.
    - Bin vent filter = 69,120 grains/24 hr (Note: This figure assumes future addition of dry unloading spout)
4. Air to cloth ratio:
  - Based on current conveying design point of 2200 cfm.
    - Filter/separator = 4.5 to 1 maximum
    - Bin vent filter = 4.5 to 1 maximum.
5. Manufacturer's literature on the filter/separator
  - See United Conveyor Corporation (UCC) Product Data Brochure

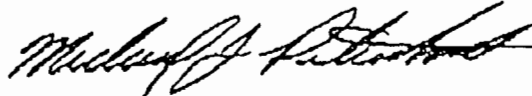
Florida Power Corp.  
Crystal River Station  
UCC Proposal No. 93501  
29 July 1993  
Page 2

6. Estimated efficiency of the bags as supplied by UCC.
  - Efficiency = 99.9%
7. Type of bag
  - Nomex

Should you have any further questions, please contact me.

Regards,

FOR UC SERVICE CORPORATION



Michael J. Petershack  
Systems Improvement Engineer

mbw

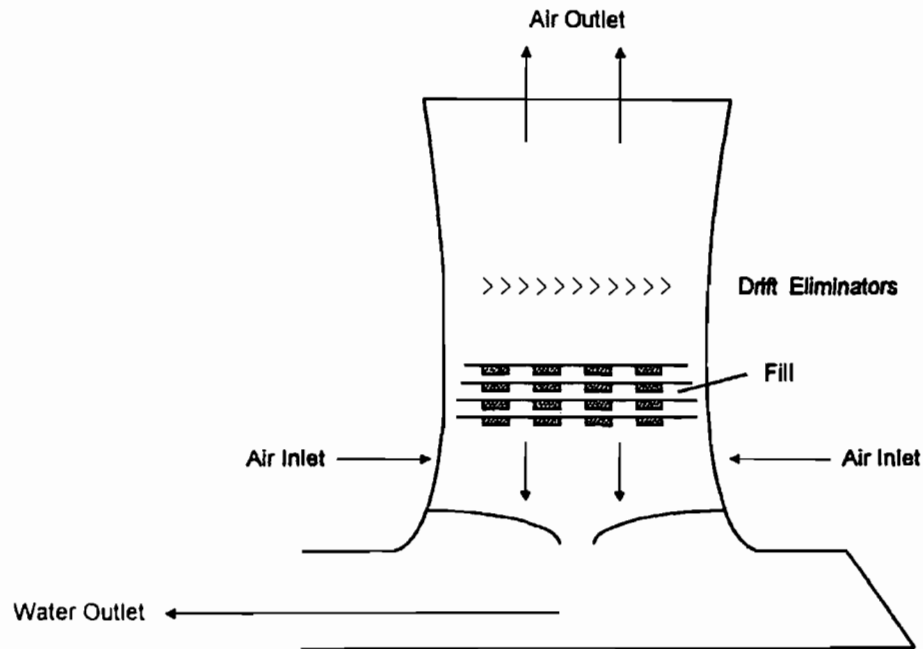
Attachment  
cc: Dave Parta - UCC  
Jim Tonias - UCC

Represented by:

James M. Clontz Associates  
P.O. Box 271204  
Tampa, FL 33688  
813-961-4511

**EMISSION UNIT 015 (CR-EU11)**  
**Cooling Towers for FFSG Units 4 and 5**

**EMISSION ATTACHMENT CR-EU11-I1**  
**Process Flow Diagram**



CLIENT/PROJECT  
Progress Energy Florida, Inc

TAMPA, FLORIDA



**Golder  
Associates**

TITLE  
**Process Flow Diagram  
Natural Draft Cooling Tower  
Crystal River Power Plant**

DRAWN

CHECKED

REVIEWED

DATE  
4/20/2009

NOT TO  
SCALE

FILE NO.

Job No.  
083-89614

DWG NO.

SUBTITLE

REV. NO.

CR-EU11-11

**EMISSION ATTACHMENT CR-EU11-I3**  
**Detailed Description of Control Equipment**



### DRIFT ELIMINATOR SYSTEM

The tower drift eliminator system is located directly above and supported on the water distribution pipes. The drift eliminator is of the impingement type consisting of PVC blades. The blades change the air flow direction two (2) times before the air is discharged. The water droplets, which separate from the air flow within the drift eliminator, collect and fall back to the fill surface. The proposed drift eliminator system is guaranteed to limit the maximum drift loss to .0005% of the design flow.

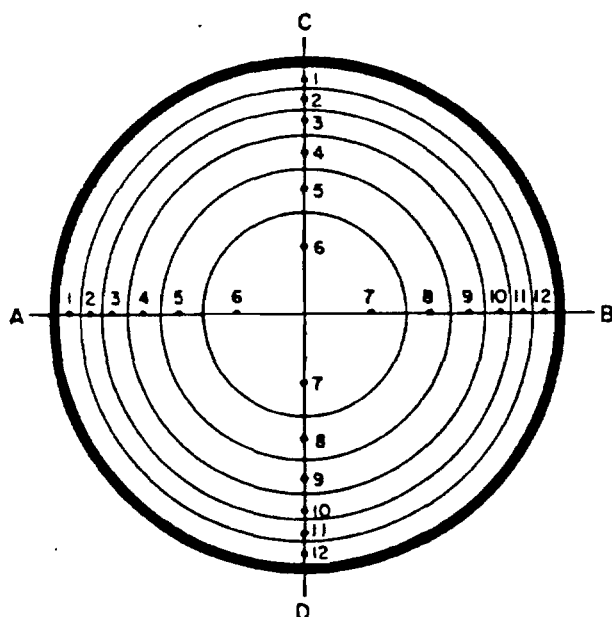
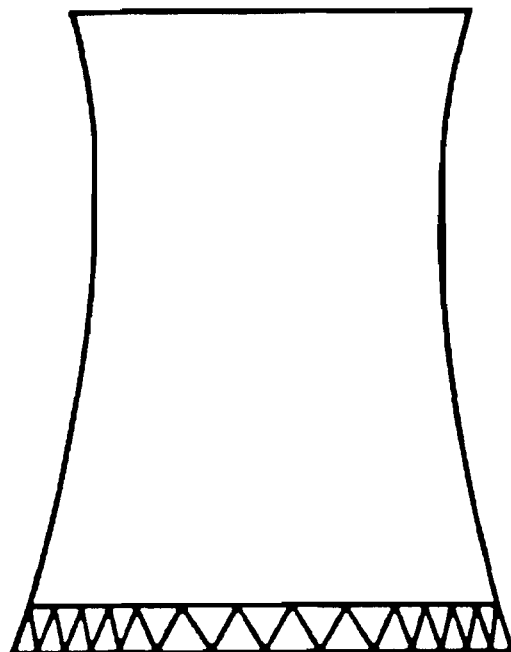
### ACCESS FACILITIES

Two (2) precast concrete stairways with handrails are provided. These stairways are spaced 180° apart and provide access from ground level to the top of flume walkways.

Within the tower, a network of precast concrete walkways are provided. These walkways are located on top of the five (5) main water distribution flumes and between the flumes.

### MATERIAL OF CONSTRUCTION

Item 1.	Tower Structural Supports (Internals)	Precast Concrete
Item 2.	Tower Enclosure	Cast-In-Place Concrete
Item 3.	Water Distribution System	
	A. Inlet Header	Fiberglass Reinforced Polyester
	B. Inlet Riser	Cast-In-Place Concrete
	C. Flumes	Precast Concrete
	D. Distribution Pipes	Fiberglass Reinforced Polyester
	E. Spray Nozzles	Polypropylene



#### EQUAL AREA MEASUREMENT POINTS

Position	Distance from Edge	
	(feet)	(meters)
1	7.0	2.1
2	22.1	6.7
3	39.0	11.9
4	58.5	17.8
5	82.5	25.1
6	117.4	35.8

Figure 3.1  
EQUAL AREA SAMPLING STATIONS  
AT THE DRIFT ELIMINATOR LEVEL



ENVIRONMENTAL SYSTEMS CORPORATION  
200 TECH CENTER DRIVE  
KNOXVILLE, TENNESSEE 37912

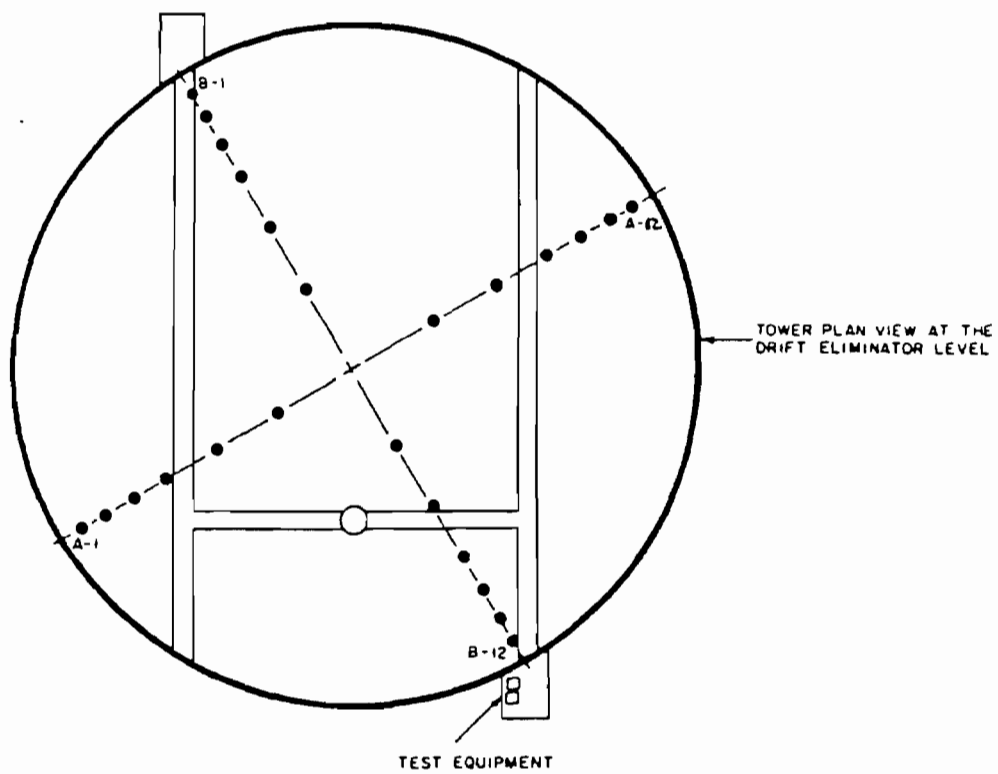


Figure 3.2  
SAMPLING POINT LOCATIONS



ENVIRONMENTAL SYSTEMS CORPORATION  
200 TECH CENTER DRIVE  
KNOXVILLE, TENNESSEE 37912

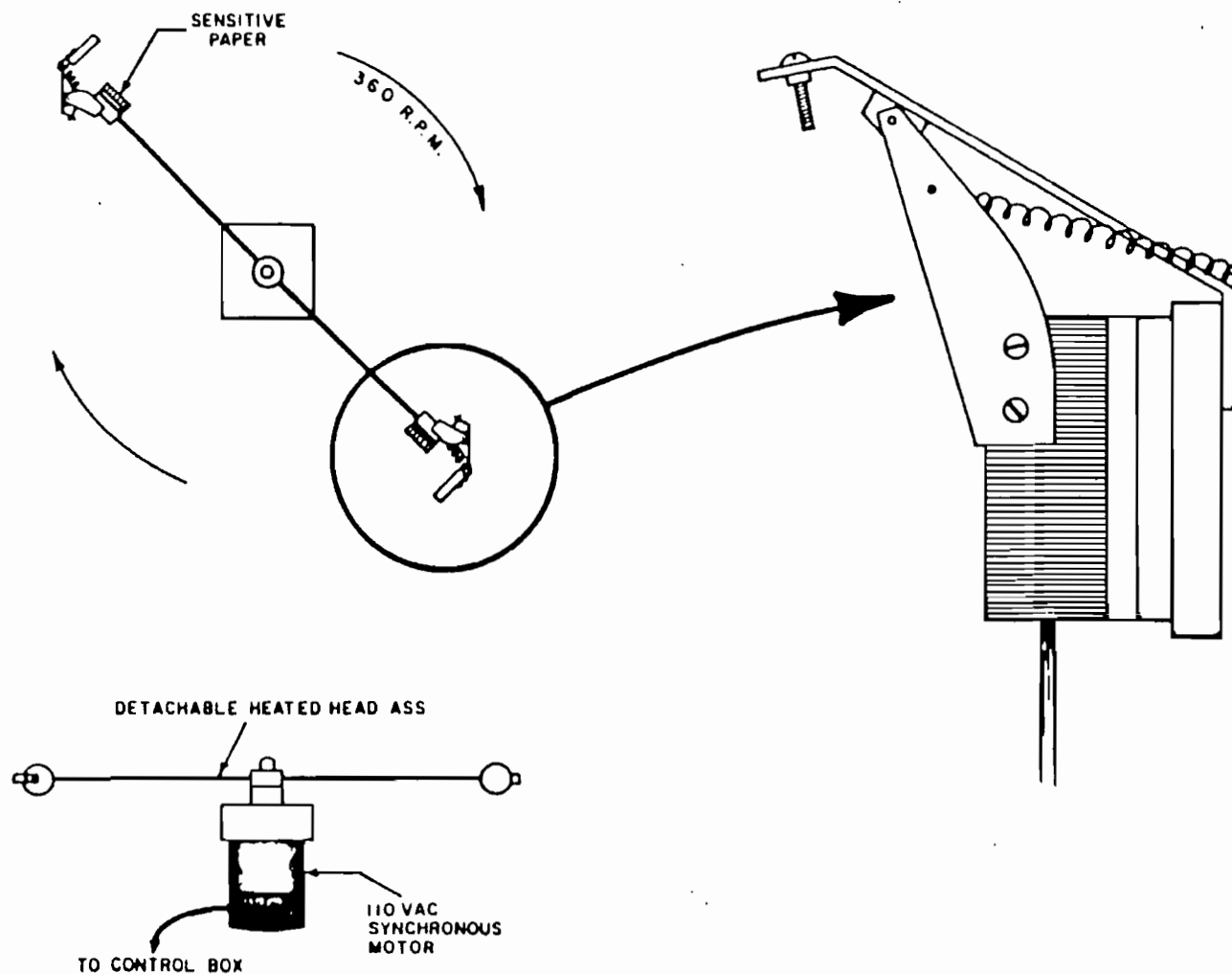
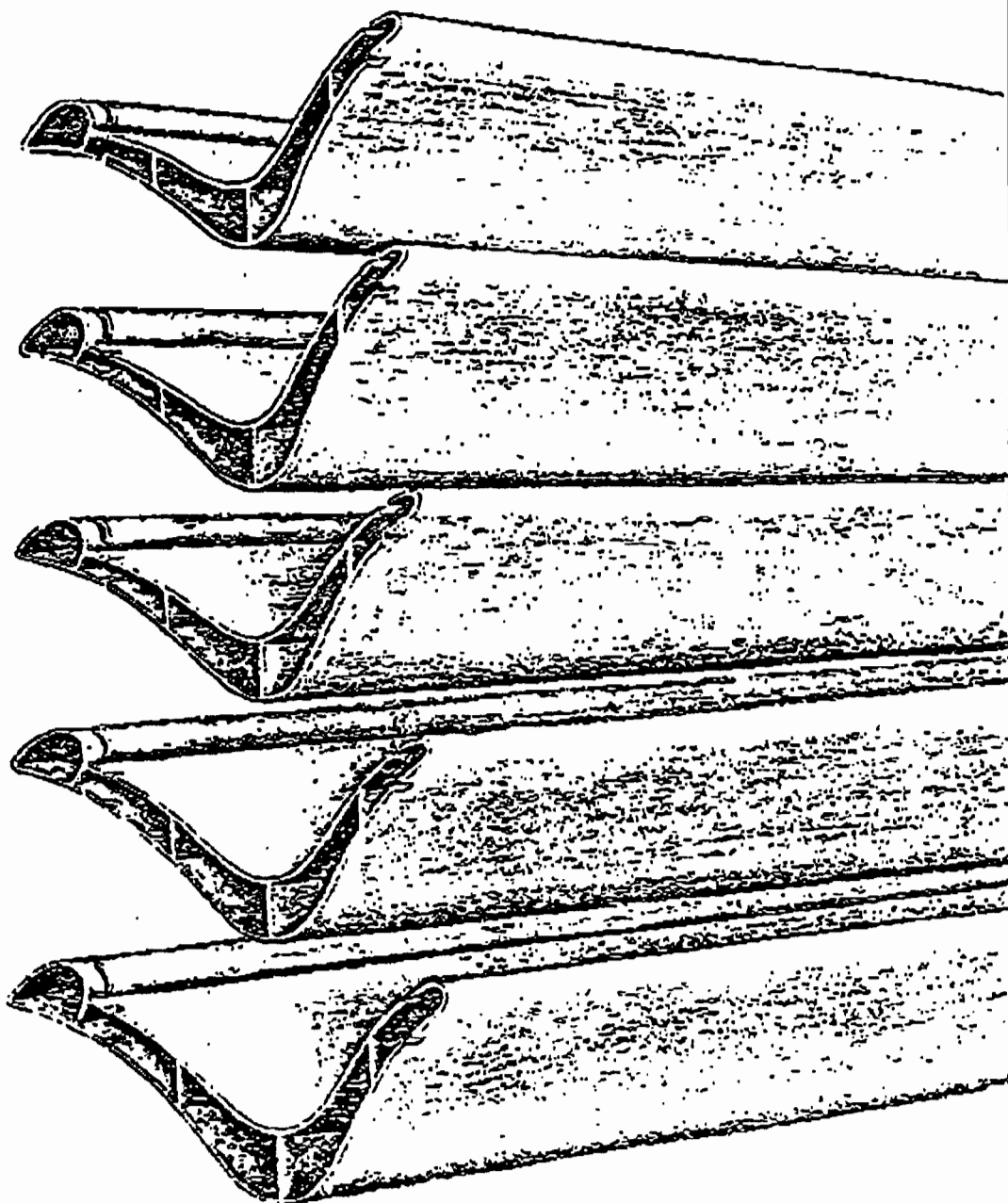


Figure 3.3  
ROTATING SENSITIVE PAPER MACHINE

# SPECTRA

a new standard of excellence  
in cooling tower drift eliminators



## THERMATEC

SANTA ROSA, CA

U.S. and foreign patents pending

The SPECTRA PVC drift eliminator is the result of extensive research and testing using state of the art technology to solve an old problem in the most effective way yet devised.

Removing liquid droplets from a gas stream while using as little fan energy as possible ... that's what drift removal is all about. One look at the SPECTRA blade will tell you why it's superior in getting this troublesome job done in an energy efficient way. (FIGURE 1.)

Most drift eliminator designs used today do a pretty good job in removing those big drift drops under normal circumstances, but ... when the going gets tough they leave a lot to be desired. Those small drops while not as noticeable, can be just as damaging to plant equipment and may have an even more serious impact on your neighbors and the environment since once airborne they travel further. The SPECTRA blade gets ALL the big drops and collects a much higher percentage of the small drops by putting the right blade surface where it counts. You also get a useful gas velocity operating range well beyond the limits of other designs. This can be important to you when the wind is up or on a tower that's been causing you drift problems.

We invite comparison ... Ask about a cost demonstration test at our research facility.

The SPECTRA PVC drift eliminator is made of material that meets or exceeds the ASTM D-1784 specifications for Type 1, Grade 2 Rigid Polyvinylchloride Compounds. Type 1 PVC compounds have the highest strength and chemical resistance properties of all the rigid PVC compounds. (TABLE 1.)

**High strength** — PVC retains high impact and tensile strength over a wide range of temperature conditions and resists heat distortion. In these respects it is considered superior to other plastics. These properties coupled with a highly stable double wall blade construction and low working stresses insure stable blade dimensions and structural integrity of the SPECTRA design even under severe thermal shock conditions.

**Weather exposure** — PVC is exceptionally durable in outdoor weather exposures and retains its superior physical properties. It stands up well to ultraviolet radiation, temperature variations, air contaminants and biological attack.

**Chemical and corrosion resistance** — PVC is highly impervious to chemical or biological degradation. Strong acids,

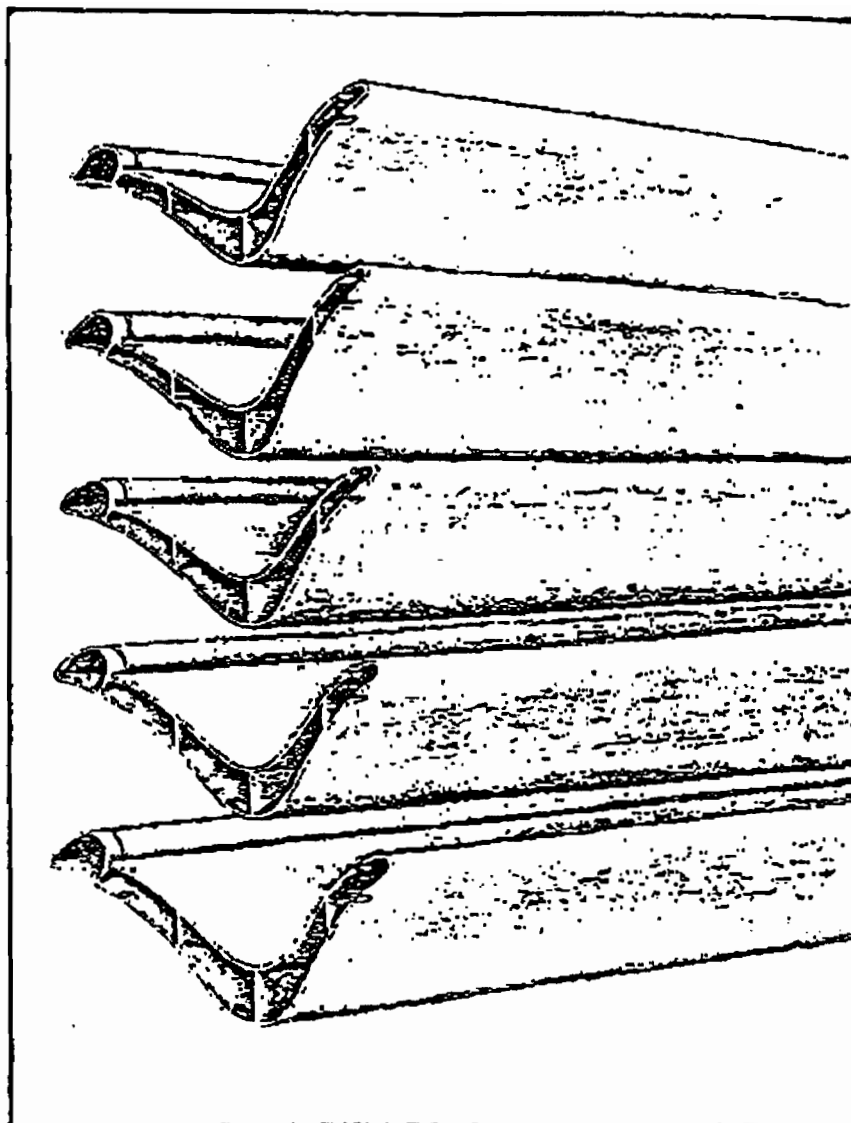
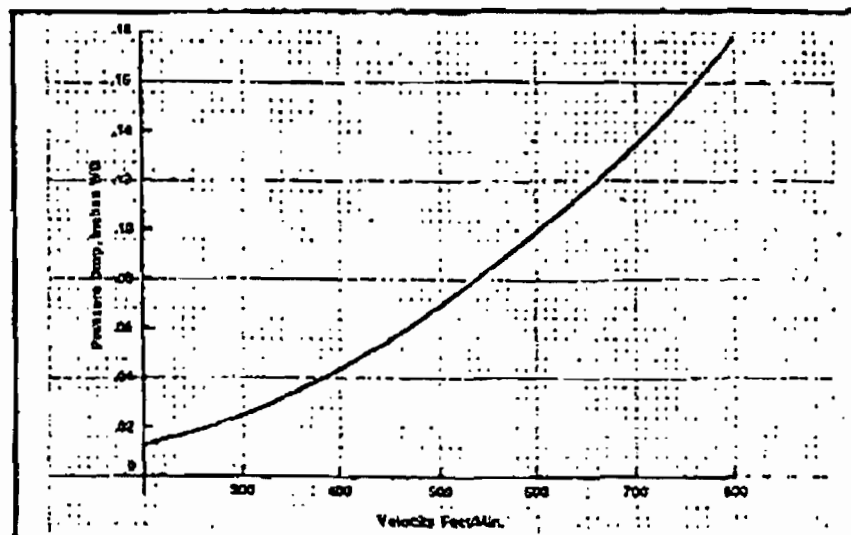


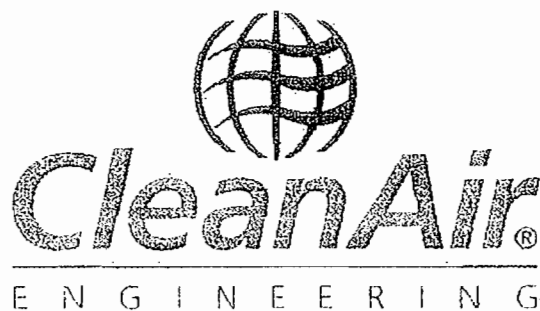
FIGURE 1



SPECTRA Pressure Drop Curve

**EMISSION ATTACHMENT CR-EU11-I5**  
**Compliance Demonstration Reports/Records**

Ms. Cynthia Wilkinson  
Progress Energy  
Crystal River Energy Complex  
15760 West Powerline Street (CN77)  
Crystal River, FL 34428



---

DRIFT TEST REPORT  
Prepared for:  
PROGRESS ENERGY  
AT THE CRYSTAL RIVER PLANT  
ATTN: CYNTHIA WILKINSON

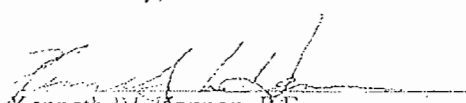
Client Reference No: 345311  
CleanAir Reference No. 10372  
CA-07-10372, Revision 1: January 11, 2007

---

Submitted by,

  
David E. Wheeler, P.E.

Reviewed by,

  
Kenneth W. Hennon, P.E.



Progress Energy  
Crystal River Unit 5

Client Reference No: 345311  
CleanAir Reference No. 10372

**REVISION HISTORY**

ii

**DRIFT TEST REPORT**

## Revision History

Revision No.	Date	Pages	Comments
0	12/26/07	All	Revision 0
1	1/11/08	Pages iv and 3-2	Revision 1 – Compare emissions to permit requirements.

Progress Energy  
Crystal River Unit 5

Client Reference No: 345311  
CleanAir Reference No. 10372

**CONTENTS**

iii

EXECUTIVE SUMMARY.....	iii
1 PROJECT OVERVIEW.....	1-1
1.1 SCOPE OF WORK.....	1-1
1.2 COOLING TOWER DESCRIPTION.....	1-1
Table 1-1 Cooling Tower Thermal Design Data.....	1-2
2 TEST METHODS.....	2-1
2.1 PLAN OPERATING CONDITIONS.....	2-1
2.2 OVERVIEW OF THE SENSITIVE PAPER METHOD.....	2-1
2.3 TEST INSTRUMENTS.....	2-1
2.4 MEASUREMENT LOCATIONS.....	2-1
2.5 WATER SAMPLING.....	2-2
3 REPORTING.....	3-1
3.1 CALCULATIONS.....	3-1
3.2 DATA PRESENTATION.....	3-2
Table 3-1: Drift Emissions Summary.....	3-4
Table 3-2: Particulate Emission Rate.....	3-5

Progress Energy  
Crystal River Unit 5

Client Reference No: 345311  
CleanAir Reference No. 10372

## EXECUTIVE SUMMARY

iv

Progress Energy contracted Clean Air Engineering (CleanAir) to conduct drift emissions testing of a natural draft cooling tower that serves the cooling needs of the steam condenser of Unit 5 at the Crystal River generating station.

CleanAir is licensed by the Cooling Technology Institute (CTI) for the conduct of both thermal performance and drift emissions tests. Drift emission rate and droplet size distribution was evaluated through three sensitive paper drift tests of the natural draft cooling tower. Tests were conducted under the guidelines of site specific test plan written by CleanAir for this test. The objective of the test was to determine the cooling tower drift rate and mass emission rate for the tower for both benchmarking and regulatory purposes.

Three test runs were performed November 14, 15, and 16, 2007. The average drift emission rate as determined by the three test runs was 130 grams/sec of circulating water. The average concentration of dissolved solids during the three days of testing was 38,000 ppm. Based on this concentration and the measured drift emission, the emission rate of particulate matter is 4.9 grams/sec (39 lbm/hr). The particulate emission rate is lower than the permitted limit of 175 lbm/hr as indicated in the following table.

Parameter	Emission Rate (lbm/hr)
Permit Requirement	175
Test Result	39

The average drift rate for the three test runs was 0.00069 percent of the circulating water flow.

Ms. Cynthia Wilkinson  
Progress Energy  
Crystal River Energy Complex  
15760 West Powerline Street (CN77)  
Crystal River, FL 34428



---

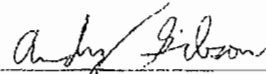
**DRIFT TEST REPORT**

Prepared for:  
**PROGRESS ENERGY**  
**AT THE CRYSTAL RIVER PLANT**  
**ATTN: CYNTHIA WILKINSON**

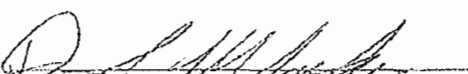
Client Reference No: 345311  
CleanAir Reference No. 10372  
CA08-10372, Revision 0: March 4, 2008

---

Submitted by,

  
\_\_\_\_\_  
Andrew Gibson

Reviewed by,

  
\_\_\_\_\_  
David E. Wheeler, P.E.

Progress Energy  
Crystal River Unit 4

Client Reference No: 345311  
CleanAir Reference No. 10372

**REVISION HISTORY**

ii

**DRIFT TEST REPORT**

## Revision History

Revision No:	Date	Pages	Comments
0	3/4/08	All	Revision 0

Progress Energy  
Crystal River Unit 4

Client Reference No: 345311  
CleanAir Reference No. 10372

**CONTENTS**

iii

EXECUTIVE SUMMARY .....	III
1 PROJECT OVERVIEW .....	1-1
1.1 SCOPE OF WORK .....	1-1
1.2 COOLING TOWER DESCRIPTION .....	1-1
Table 1-1 Cooling Tower Thermal Design Data .....	1-2
2 TEST METHODS .....	2-1
2.1 PLAN OPERATING CONDITIONS .....	2-1
2.2 OVERVIEW OF THE SENSITIVE PAPER METHOD .....	2-1
2.3 TEST INSTRUMENTS .....	2-1
2.4 MEASUREMENT LOCATIONS .....	2-1
Figure 2-1 Sampling Points .....	2-2
2.5 WATER SAMPLING .....	2-2
3 REPORTING .....	3-1
3.1 CALCULATIONS .....	3-1
3.2 DATA PRESENTATION .....	3-2
Table 3-1: Drift Emissions Summary .....	3-1
Table 3-2: Particulate Emission Rate .....	3-1

Progress Energy  
Crystal River Unit 4

Client Reference No: 345311  
CleanAir Reference No. 10372

## EXECUTIVE SUMMARY

iv

Progress Energy contracted Clean Air Engineering (CleanAir) to conduct drift emissions testing of a natural draft cooling tower that serves the cooling needs of the steam condenser of Unit 4 at the Crystal River generating station.

CleanAir is licensed by the Cooling Technology Institute (CTI) for the conduct of both thermal performance and drift emissions tests. Drift emission rate and droplet size distribution was evaluated through three sensitive paper drift tests of the natural draft cooling tower. Tests were conducted under the guidelines of site specific test plan written by CleanAir for this test. The objective of the test was to determine the cooling tower drift rate and mass emission rate for the tower for both benchmarking and regulatory purposes.

Three test runs were performed February 5, 6, and 7, 2008. The average drift emission rate as determined by the three test runs was 143 grams/sec of circulating water. The average concentration of dissolved solids during the three days of testing was 37,333 ppm. Based on this concentration and the measured drift emission, the emission rate of particulate matter is 5.3 grams/sec (42 lbm/hr). The particulate emission rate is lower than the permitted limit of 175 lbm/hr as indicated in the following table.

Parameter	Emission Rate (lbm/hr)
Permit Requirement	175
Test Result	42

The average drift rate for the three test runs was 0.00075 percent of the circulating water flow.

**EMISSION ATTACHMENT CR-EU11-I6**  
**Identification of Applicable Requirements**



## **APPLICABLE REQUIREMENTS LISTING - POWER PLANTS**

**EMISSION UNIT:**            Cooling Towers for Units 4 and 5

### **FDEP Rules:**

#### **Stationary Sources-General:**

- 62-210.700(1)            - All EU; Malfunction
- 62-210.700(4)            - All EUs; poor maintenance
- 62-210.700(6)            - All EUs; notification

#### **Stationary Sources-Emission Standards:**

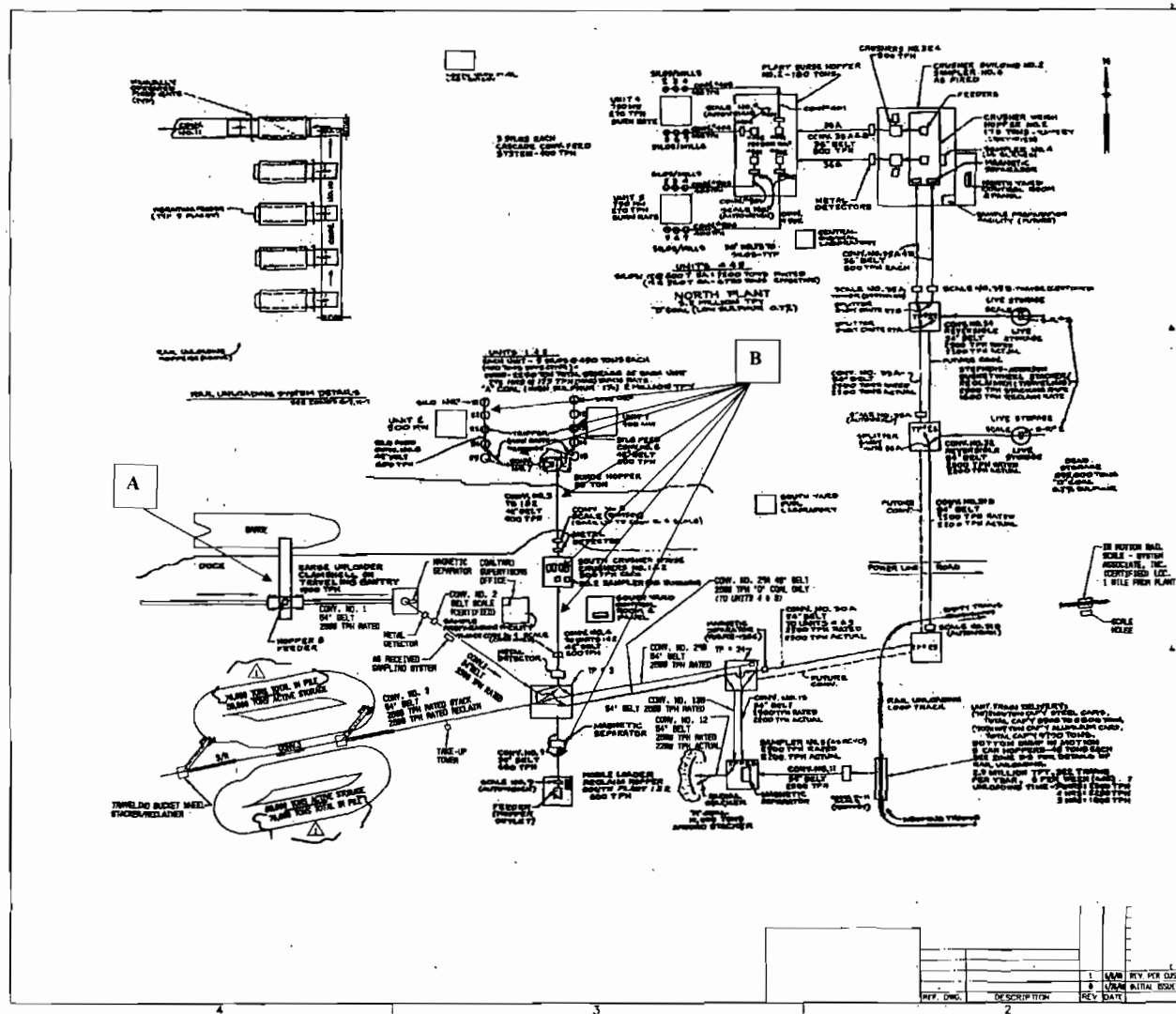
**Note:** General VE in Rule 62-296.320(4)(b) does not apply since VE determinations exclude uncombined water and an appropriate VE test cannot be performed.

#### **Stationary Sources-Emission Monitoring (where stack test is required):**

**Note:** Crystal River Units 4 and 5 cooling towers are required to test particulate matter using a sensitive paper method. These hyperbolic cooling towers are non traditional sources and tests facilities must be temporary in nature. The temporary facilities would meet the requirements of the sensitive paper method and the provisions of Rule 62-297 would not apply.

**EMISSION UNIT 016 (CR-EU12)**  
**Material Handling Activities**

**EMISSION UNIT 016 (CR-EU12-I1)**  
**Process Flow Diagram**



# **Coal Yard Proposed Revisions**

A - Replace existing 1,500 TPH barge unloading system with a new hydraulic 2,500 TPH crane with clamshell bucket on traveling gantry.

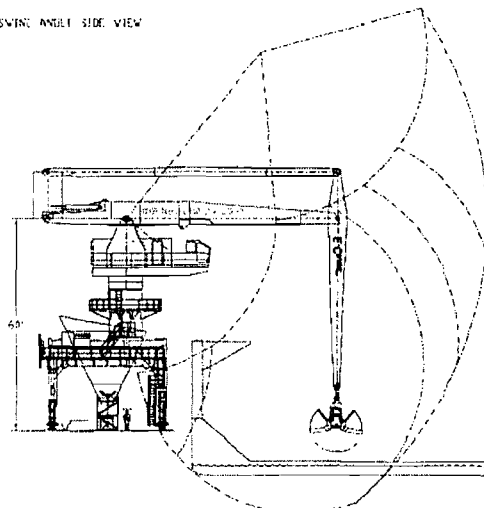
B - Increase coal capacity of coal crushers and conveyors C9, C4, C5, C6, C7, and C8.

NOTE:  
REPERMITS FROM PAUL MEIR CO  
ENG. 2631-12-4801 - FPC REV. 1

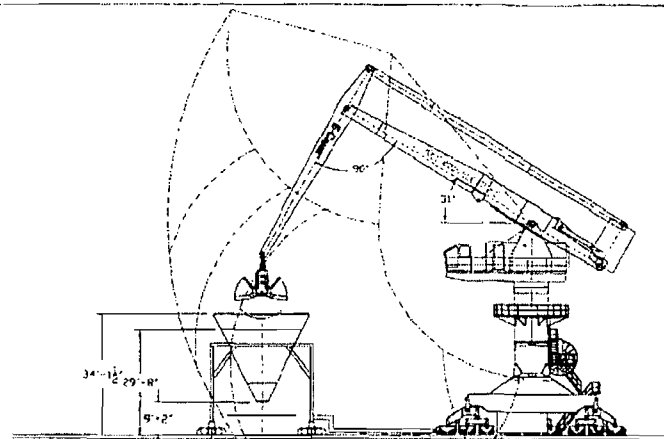
FLORIDA POWER CORPORATION CRYSTAL RIVER ENERGY COMPLEX COAL YARD REVISION PROJECT FPC PROJECT NUMBER C980-882 FPC SPECIFICATION NUMBER SP-6787 DATA CODE #82	
SYDALA SYDALA BULK MATERIALS HANDLING 4008 GRAND AVENUE PITTSBURGH, PA 15225	
FLORIDA POWER CORPORATION CRYSTAL RIVER PLANT CONVEYOR SYSTEM UPGRADE MODIFIED FPC PLANT FLOW DIAGRAM	
APPROVED I. R. RANSON DATE APR-27-88 CHK. LCF DATE NOV-1-88	FOR CONSTRUCTION DATE NOV-1-88 DATE NOV-1-88 DATE NOV-1-88
SCALE: 1" = 100'	DRAWING NO. 11127-2-889
REV. 1	REV. 1

45 DEG SWING ANGLE SIDE VIEW

VIEW C-C



SECTION A-A @ 45 DEG SWING

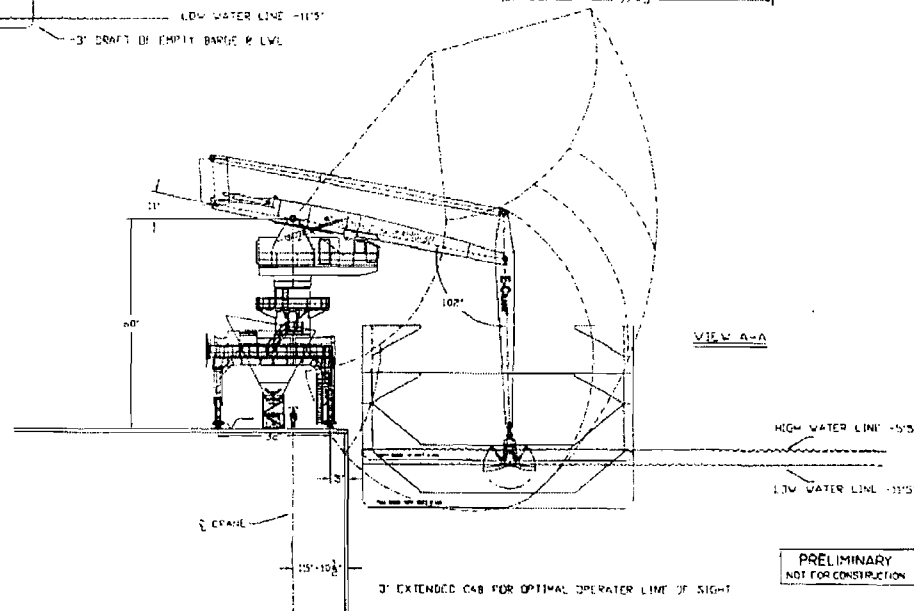
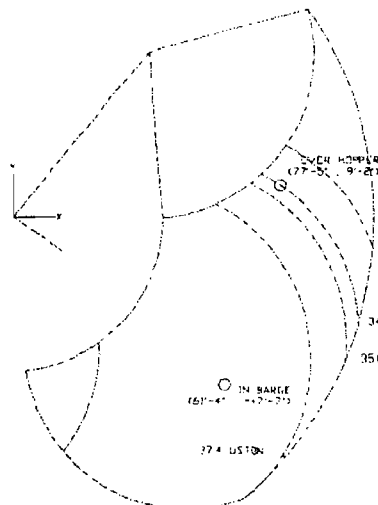


VIEW B-B

LOW WATER LINE -11'5"

-3' DRAFT OF EMPTY BARGE @ L.W.L.

MAXIMUM REACH OF CUTTING LINE TO END OF BARGE FLOOR



VIEW A-A

HIGH WATER LINE -5'5"

LOW WATER LINE -11'5"

PRELIMINARY  
NOT FOR CONSTRUCTION

F	
E	
D	
C	
B	
A	

REV.	DATE	DESCRIPTION
1	03-14-05	SCALE NTS
2		APPROVED

Notes:  
This drawing is property of E-Crane International USA, Inc. (E-Crane International USA, Inc. reserves its right to its drawing, its design, its name and its trademark and its copyright. This drawing is hereby subject to the agreement and conditions of sale of the subject matter and is not to be reproduced, in whole or in part, by any other person or entity without the express written permission of E-Crane International USA, Inc. Acceptance of this drawing is construed as acceptance of the foregoing conditions.

PROJECT

ACR RAIL CANTON  
3000 SERIES  
MODEL 28317

PROJECTS ENERGY



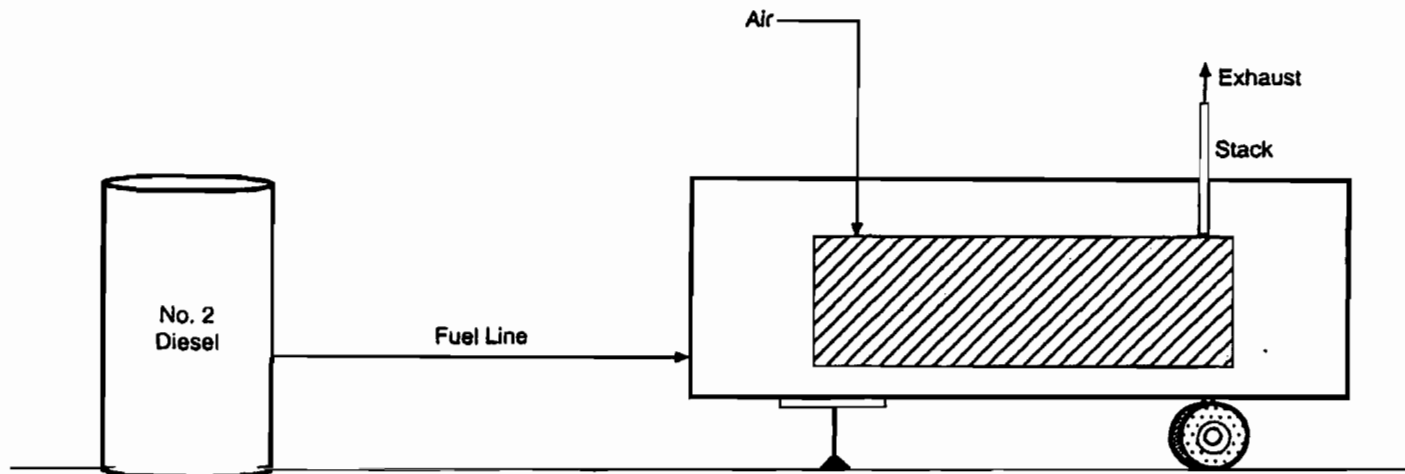
E-CRANE INTERNATIONAL USA, INC.  
235 S. SANDUSKY AVE.  
E-CRANE, OHIO, USA  
http://www.e-crane-usa.com  
ecr@e-crane-usa.com

JOB No. P30-25027  
SHEET 1 OF 3

**EMISSION UNIT 001 (7775047)**

**Relocatable Diesel Generator(s)**

**EMISSION ATTACHMENT CR-EU13-I1**  
**Process Flow Diagram**



Caterpillar Model 3508-DITA, 820 kW, 1220 hp at 1,800 rpm

CLIENT/PROJECT  
Progress Energy Florida, Inc



TAMPA, FLORIDA

TITLE  
**Process Flow Diagram  
Diesel Engine/Generator Set  
Crystal River Power Plant**

DRAWN

CHECKED

REVIEWED

DATE

4/20/2009

NOT TO  
SCALE

FILE NO.

Job No.

083-89614

DWG NO.

SUBTITLE

REV. NO.

CR-EU13-11



**EMISSION ATTACHMENT CR-EU13-I2**  
**Fuel Analysis**

**ATTACHMENT CR-EU13-I2  
FUEL ANALYSIS**

**No. 2 Fuel Oil**

<u>Parameter</u>	<u>Typical Value</u>	<u>Max</u>
API gravity @ 60 F	30 <sup>1</sup>	-
Relative density	7.1 lb/gal <sup>2</sup>	
Heat content	19,500 Btu / lb (HHV)	
% sulfur	0.04 <sup>2</sup>	0.5 <sup>3</sup>
% nitrogen	0.025 - 0.03	
% ash	negligible	0.1 <sup>1</sup>

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) FPC's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the PEF fuel procurement specification.

<sup>2</sup> Data from laboratory analysis.

<sup>3</sup> Data from current air permit.