TITLE V PERMIT REVISION APPLICATION

Request for BART Revisions
Crystal River South Power Plant
Facility ID No. 0170004

Submitted To: Air Quality Division
Department of Environmental Protection
2600 Blair Stone Road
MS 5000
Tallahassee, FL 32399

Submitted By: Golder Associates Inc.
5100 W. Lemon Street, Suite 208
Tampa, FL 33609 USA

Distribution: Florida Department of Environmental Protection
Duke Energy Florida
Golder Associates Inc.

December 2013 **1302630**

Golder Associates

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1.0 INTRODUCTION

Duke Energy Florida, Inc. (DEF) is submitting this application for a Title V (TV) permit revision for the Crystal River Energy Complex (CREC). Specifically, this application serves to incorporate the conditions of the air construction permits associated with the BART determinations for Crystal River Units 1 and 2 (Crystal River South or CRS) into a revised TV permit. In addition, this application required the development of a revised PM CAM Plan for Units 1 and 2 that reflects the revised PM emission limit and associated upgrades to the electrostatic precipitators.

DEF's CREC is located in Citrus County, Florida. Units 1 and 2 are fossil fuel-fired electric utility steam generators with dry bottom, tangentially-fired boilers rated at 440.5 megawatts (MW) and 523.8 MW, respectively. The heat input capacity is estimated at 3,750 MMBtu/hr and 4,795 MMBtu/hr for Units 1 and 2, respectively. The boilers are capable of burning bituminous coal, a bituminous coal and bituminous coal briquette mixture, and used oil. In addition, No. 2 oil can be used as a startup fuel. Air pollution control equipment includes low NOx burners and high efficiency electrostatic precipitators (ESPs). Flue gas exhausts through each stack at ~300 °F.

This application serves to incorporate the conditions of the air construction permits associated with the BART determinations for Crystal River Units 1 and 2 into a revised TV permit. In addition, this application requests incorporation of a revised PM CAM Plan for Units 1 and 2 that reflects the revised PM emission limit and associated upgrades to the electrostatic precipitators. The air permit application consists of the appropriate application form required by the FDEP, Form 62-210.900(1), effective 3/11/2010 (see Part II of this application package). This air application report is divided into the following major sections:

- Section 1.0 provides the Project background;
- Section 2.0 provides a description of the Project;
- Section 3.0 provides a background and summary of the proposed PM CAM Plan for Units 1 and 2;
- Appendix A -- PM CAM Plan Correlations; and
- Appendix B -- BART Compliance Test Reports.

2.0 PROJECT DESCRIPTION

The primary purpose of this application is to incorporate the conditions of the air construction permits associated with the BART determinations for Crystal River Units 1 and 2 into a revised TV permit. Air Construction Permit Nos. 0170004-017-AC, 0170004-036-AC and 0170004-038-AC address the BART requirements associated with emissions of PM, SO_2 and NOx, respectively, from Units 1 and 2.

DEF has complied with the requirements of Condition C.13 of Air Permit No. 017000-17-AC, which requires that initial compliance testing be conducted to demonstrate compliance with the new PM BART limits and that the test report be submitted before October 1, 2013. This testing was conducted May 14-16, 2013 for Unit 1 and April 9, 2013 for Unit 2. The results show that each of the individual units, separately, met the new BART PM limit of 0.04 pounds per million Btu heat input (lb/MMBtu) for normal conditions and 0.12 lb/MMBtu for soot blowing conditions; even though the new limit is based on a heat input weighted average of the two units combined. In addition, each unit demonstrated the ability to comply with the new BART opacity limits of 30 percent and 15 percent for Units 1 and 2, respectively. A summary of these test reports is included in Appendix B as an attachment to this TV revision application package.

Air Construction Permit No. 0170004-036-AC establishes an additional SO_2 emission standard for Units 1 and 2, authorizes installation of dry flue gas desulfurization (FGD) systems, and authorizes physical changes to the electrostatic precipitators and plant components or installation of baghouses to facilitate installation of the dry FGD systems. The project supplements permit No. 0170004-017-AC by providing additional options for complying with Florida's Regional Haze State Implementation Plan. Specifically, Air Construction Permit No. 0170004-036-AC establishes emissions standards of 95 percent SO_2 removal efficiency or 0.15 lb/MMBtu for Units 1 and 2, should the company decide by January 1, 2015 to continue to operate these units as coal-fired units beyond December 31, 2020. The emission standard will be achieved by the installation and operation of SO_2 control systems before January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later. Alternately, DEF could decide, by January 1, 2015, to discontinue operation of Units 1 and 2 as coal-fired units by December 31, 2020.

Air Construction Permit No. 0170004-038-AC establishes an additional NOx emission standard for Units 1 and 2, authorizes installation of selective catalytic reduction (SCR) systems, and authorizes physical changes to plant components, installation of storage tanks, and feed pumps to facilitate installation of the SCR systems. The project establishes a NOx emission standard of 0.09 lb NOx/MMBtu on a 30-boiler operating day rolling average basis for Crystal River Units 1 and 2, should the company decide by January 1, 2015 to continue to operate these units as coal-fired units beyond December 31, 2020. The emission standard will be achieved by the installation and operation of NOx control systems including

SCR systems before January 1, 2018, or within 5 years of EPA's final approval of Florida's final Regional Haze SIP, whichever is later. Alternately, DEF could decide, by January 1, 2015, to discontinue operation of Units 1 and 2 as coal-fired units by December 31, 2020.

The respective air construction permits refer to the option to discontinue the operation of Units 1 and 2 as coal-fired units by December 31, 2020 as Scenario A, and the option to continue the operation of these units, subject to the requirements of the permits, as Scenario B. By letter to the FDEP, dated April 30, 2013, DEF provided notification of its decision to pursue Scenario A and to cease burning coal in Units 1 and 2 by December 31, 2020. This decision renders Scenario B and its corresponding permit conditions obsolete.

Therefore, DEF requests that appropriate permit language be incorporated into this TV revision to reflect DEF's future plans with respect to SO_2 and NOx compliance (i.e., Permit Nos. 0170004-036-AC and 0170004-038-AC, respectively). Specifically, the revised permit language should reflect that DEF will discontinue the operation of Units 1 and 2 as coal-fired units by December 31, 2020.

3.0 PROPOSED REVISIONS TO PM CAM PLAN

As part of the Title V renewal/revision process, EPA, through regulations adopted in Title 40, Part 64 of the Code of Federal Regulations (40 CFR 64), requires 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.

The implications of BART required the development of a revised PM CAM Plan for Units 1 and 2 that reflects the revised PM emission limit and associated upgrades to the electrostatic precipitators. As required by Condition C.10 of Permit No. 017000-17-AC, information collected during the testing for PM and opacity, along with other necessary information, were used to re-establish the CAM parameter ranges to be monitored in the future. The revisions to the current CAM Plan are included in this TV operation permit revision application (Section 2, Condition 5 of the permit requires this to be submitted before December 31, 2013).

DEF has proposed that the revised PM CAM Plan be based on the use of opacity and ESP power levels as surrogates for PM compliance. Specifically, these data were used to conduct a statistical analysis and develop correlations/curves between PM emissions, opacity, and ESP power levels.

3.1 CAM Rule Applicability Definition

This Title V Operation Permit Revision application incorporates the provisions of Permit No. 0170004-017-AC and, therefore, requires changes to conditions of the current Title V Air Operation Permit No. 0170004-035-AV to incorporate these provisions. As a result of the permitted emission limit changes authorized under this construction permit, the development of a CAM Plan is required for emissions of particulate matter (PM). This section addresses DEF's PM CAM Plan for Crystal River Units 1 and 2.

The PM emissions control equipment includes high efficiency electrostatic precipitators installed on Units 1 and 2. In order to control the amount of PM that is exhausted through the stack, electric fields are established by applying a direct-current voltage across a pair of electrodes, a discharge electrode and a collection electrode. Particulate matter suspended in the gas stream is electrically charged by passing through the electric field around each discharge electrode (the negatively charged electrode). The negatively charged particles then migrate toward the positively charged collection electrodes. The

particulate matter is separated from the gas stream by retention on the collection electrode. Particulate is removed from the collection plates by shaking or rapping the plates.

3.2 Emissions Background

Compliance testing is required annually for particulates and for visible emissions (VE) for these two 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.

3.3 Emissions Units Correlations

To develop appropriate indicator ranges, opacity readings were compared with stack test results of PM emissions for each unit over the last 5 years. Additionally, ESP power levels over the past 2 years were compared with stack test results of PM emissions for each unit. PM emissions (lb/MMBtu) were plotted versus the average of the opacity readings and ESP power levels for each of the three 1-hour runs that comprise each annual stack test. Both of these correlations were considered in order to provide the greatest level of compliance assurance for the permitted PM limit. The purpose of this PM CAM Plan is to outline how the opacity readings and ESP power levels will be utilized to ensure continuous compliance with the permitted PM limit of 0.04 lb/MMBtu, based on a weighted average basis of total heat input for Units 1 and 2 combined.

3.4 Rationale for Selection of the Indicator Ranges

Compliance with the permitted PM limit of 0.04 lb/MMBtu is based on a weighted average basis of total heat input for Units 1 and 2 combined. Unit 1 has a permitted heat input of 3,750 MMBtu/hr and Unit 2 has a permitted heat input of 4,795 MMBtu/hr. As shown below, a PM average for Units 1 and 2 below the permitted limit of 0.04 lb/MMBtu can be achieved provided that emissions from Unit 1 are at or below 0.06 lb/MMBtu and emissions from Unit 2 are at or below 0.03 lb/MMBtu.

$$PM\ Avg\ (1\ \&\ 2) = \frac{0.06\frac{lb}{MMBtu} \times 3750\frac{MMBtu}{hr} + 0.03\frac{lb}{MMBtu} \times \frac{4795MMBtu}{hr}}{3750\frac{MMBtu}{hr} + 4795\frac{MMBtu}{hr}} = 0.04\frac{lb}{MMBtu}$$

Taking this into account, the indicator ranges were designed to be specific to each unit. Appendix A of this document contains the correlation curves for Units 1 and 2 for PM versus opacity and PM versus ESP power levels. The correlation coefficient R^2 was computed to assess the strength of each relationship. A

regression line was produced for each correlation curve, and then used to determine what opacity and ESP power levels for Units 1 and 2 would indicate an excursion. Tables 3-1 and 3-2 below present the statistical rationale for the selected indicator ranges. Appendix A contains the associated correlation curves for Units 1 and 2. Outliers were removed for statistical analysis.

Table 3-1: Correlation Analysis- Unit 1

Unit 1	**PM v. Opacity**	**PM v. ESP Power Level**
Equation of Line	*y = 9.2469ln(x) + 43.161*	*y = -86.1ln(x) - 146.32*
Type of Relationship	Logarithmic	Logarithmic
Correlation Coefficient (R^2)	0.853	0.678

Table 3-2: Correlation Analysis- Unit 2

Unit 2	**PM v. Opacity**	**PM v. ESP Power Level**
Equation of Line	*y = 197.31x + 5.3368*	*y = -56.41ln(x) + 466.45*
Type of Relationship	Linear	Logarithmic
Correlation Coefficient (R^2)	0.624	0.385

In order to determine what levels of opacity and ESP power levels may result in an excursion of the permit limit, the line equations were used to calculate indicator levels. As previously determined, Unit 1 was based on a PM value of less than or equal to 0.06 lb/MMBtu, and Unit 2 was based on a PM value of less than or equal to 0.03 lb/MMBtu. This ensures that the combined average, weighted by heat input, does not exceed the permitted limit of 0.04 lb/MMBtu. These predetermined PM values for each unit were then plugged into the line equation to obtain the preliminary indicator levels which were considered for this CAM plan.

$$Unit\ 1\ Opacity\ indicator\ level = 9.2469\ ln\left(0.06\frac{lb}{mmBtu}\right) + 43.161$$

$$Unit\ 1\ Opacity\ indicator\ level = 17\%$$

$$Unit\ 1\ ESP\ Power\ indicator\ level = -86.1ln(0.06\frac{lb}{mmBtu}) - 146.32$$

$$Unit\ 1\ ESP\ Power\ indicator\ level = 96\ KW$$

$$Unit\ 2\ Opacity\ indicator\ level = 197.31 * (0.03\frac{lb}{mmBtu}) + 5.3368$$

$$Unit\ 2\ Opacity\ indicator\ level = 12\%$$

$$Unit\ 2\ ESP\ Power\ indicator\ level = -56.41ln(0.03\frac{lb}{mmBtu}) + 466.45$$

$$Unit\ 2\ ESP\ Power\ indicator\ level = 664\ KW$$

The results of the statistical analysis show that if Unit 1 maintains opacity below 17 percent and ESP power levels above 96 kW, and Unit 2 maintains opacity below 12 percent and ESP power levels above 664 kW, then there is reasonable assurance provided that the PM emissions standards will be met. Therefore, this CAM Plan sets the following indicator levels:

An excursion will occur if:

Unit 1: Opacity >17 percent and ESP Power Level < 96 kW

Unit 2: Opacity >12 percent and ESP Power Level < 664 kW

For an excursion on either unit to occur, both the opacity and ESP power level must be outside of the acceptable range (abnormal). When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence, to determine the action required (if any) to correct the situation. All excursions will be documented. For both units, a CAM excursion is defined as any hourly period where both opacity and total ESP power are reading at abnormal levels. An excursion will trigger an investigation of the occurrence, corrective actions, and a reporting/documentation requirement. For the specific proposed CAM Plan language, refer to the draft CAM Plan, in Attachment CR-EU1-I2 to the application forms.

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APPENDIX A
PM CAM PLAN CORRELATIONS

Figure 1 – Particulate Matter *versus* Opacity – Unit 1

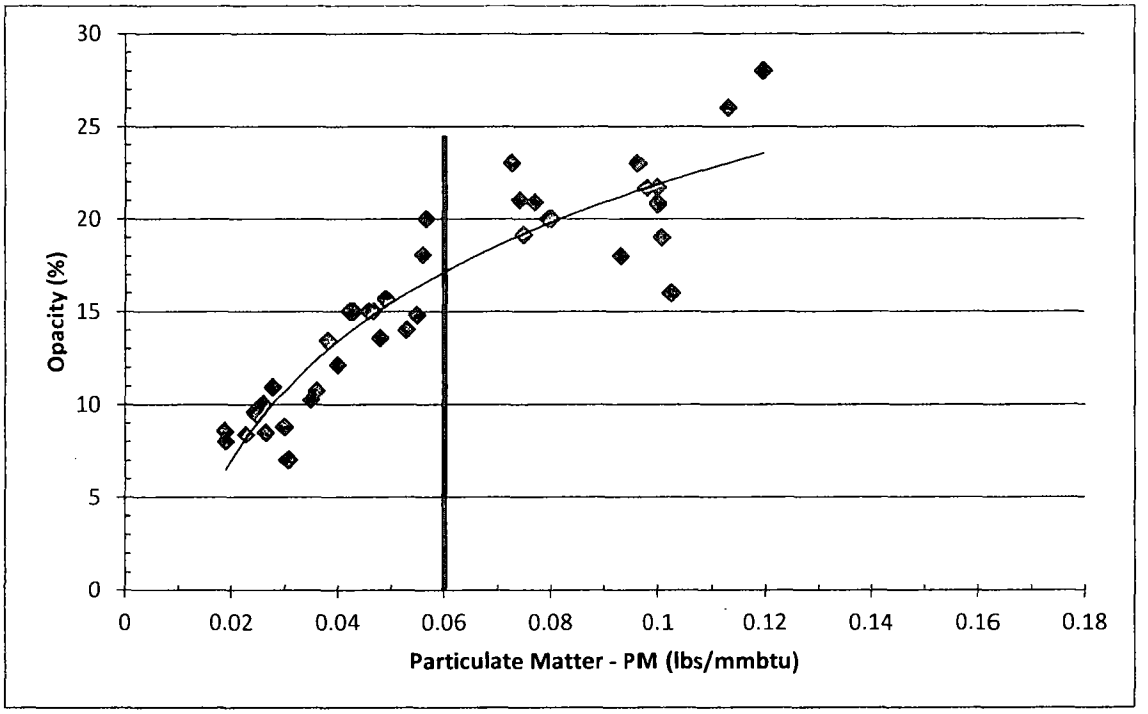


Figure 2 – Particulate Matter *versus* ESP Power Level – Unit 1

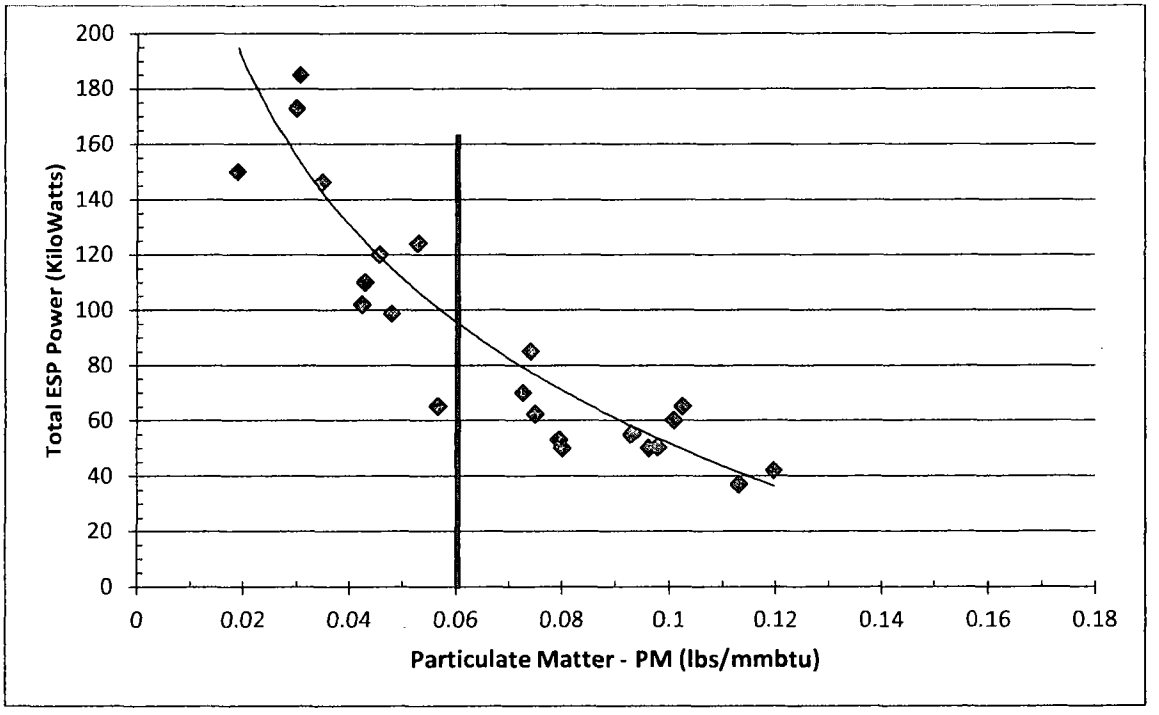


Figure 3 – Particulate Matter *versus* Opacity – Unit 2

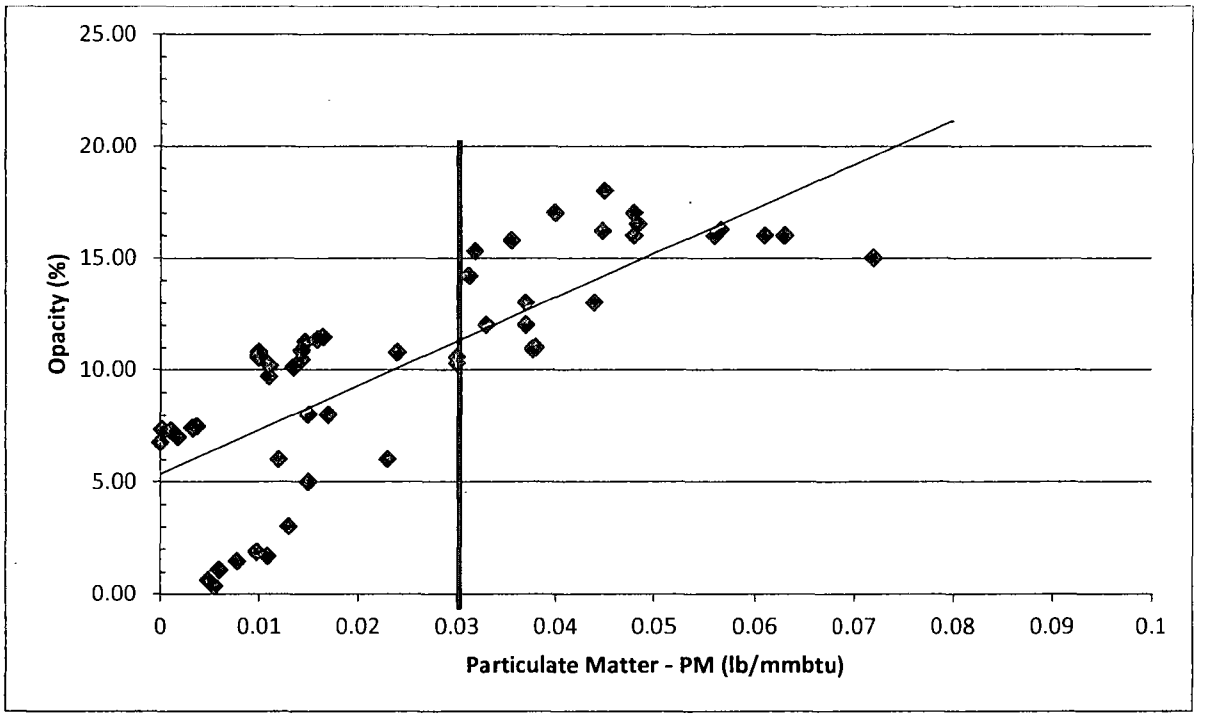
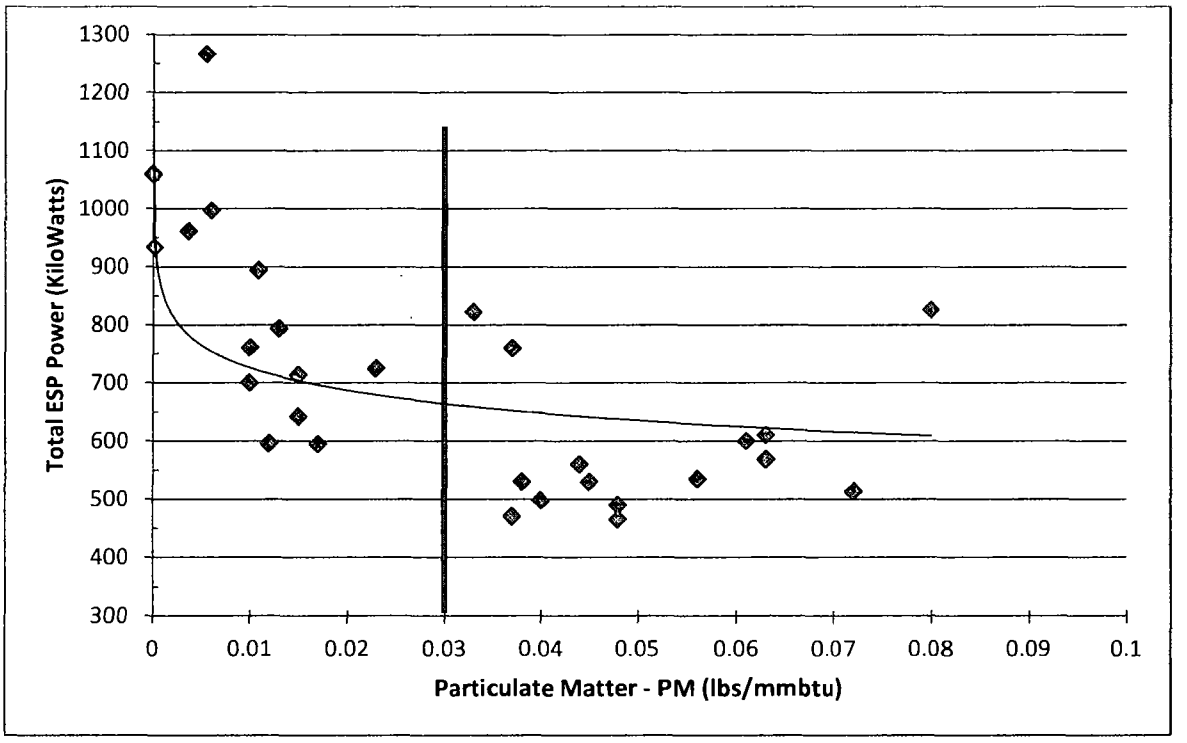


Figure 4 – Particulate Matter *versus* ESP Power Level – Unit 2



APPENDIX B
BART COMPLIANCE TEST REPORTS

DUKE ENERGY

Robby A. Odom
Station Manager, Crystal River
Fossil Plant & Fuel Operations

September 30, 2013

Submitted via email: SWD_AIR@dep.state.fl.us

Erin Anthony DiBacco
Compliance and Enforcement
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637

Dear Mr. DiBacco:

Re: Crystal River Units 1 & 2 (EU-001, EU-002)
Permit No.: 0170004-AV Condition C.13
BART Compliance Demonstration

Please be advised that Duke Energy Florida, Inc. (DEF) has complied with the requirements of Condition C.13 of Air Permit No. 017000-17-AC. This condition requires that during the 2012/2013 federal fiscal year that initial compliance testing to demonstrate the ability to meet the new PM BART limits contained in the noted permit be conducted and that the test report be submitted before October 1, 2013. This testing was conducted May 14-16, 2013 for Unit 1 and April 9, 2013 for Unit 2. Table 1, containing the summary of testing results, from each of the individual compliance test reports (which have been previously submitted to the Department) is attached for reference. The results show that each of the individual units, separately, met the new Bart PM limit of 0.04 lbs/MMBtu for normal conditions and 0.12 lbs/MMBtu for soot blowing conditions; even though, the new limit is based on a heat input weighted average of the two units combined. In addition, each unit demonstrated the ability to comply with the new BART opacity limit of 30% and 15%, for Units 1 and 2 respectively.

Per the requirements of Condition C.10 of the permit, information collected during the initial tests noted above, along with other necessary information, will be used to re-establish the CAM parameter ranges to be monitored in the future. The revisions to the current CAM Plan will be included in the Title V operation permit revision application that is required to be submitted on or before December 31, 2013 (as required by Section 2, Condition 5 of the permit).

Please contact Jamie Hunter at (727) 820-5764 or via email at Jamie.Hunter@Duke-Energy.com with any questions or concerns regarding this information.

I, the undersigned, am the responsible official as defined in Chapter 62-210.200, F.A.C., of the Title V source for which this document is being submitted. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

Sincerely,

Robby A. Odom
Station Manager/Responsible Official

Enclosures

Table 1: Compliance Test Results
Duke Energy Florida, Inc.
Crystal River Energy Complex
Unit 1

Pollutant	Unit Operating Mode	Reported Emissions Rate or Relative Accuracy	Permitted Emissions Rate	Compliance Test Status (Pass/Fail)
SO_2 ppm	High Load	0.7% RA, 1.000 BAF	RA ≤ 10%	Pass
NO_X-diluent	High Load	1.5% RA, 1.000 BAF	RA ≤ 10%	Pass
CO_2	High Load	0.1%	RA ≤ 10%	Pass
Flow	High Load	4.0% RA, 1.000 BAF	RA ≤ 10%	Pass
Flow	Low Load	4.3% RA, 1.000 BAF	RA ≤ 10%	Pass
PM	Normal	0.038 lb/mmBtu	0.1 lb/mmBtu	Pass
PM	Soot Blowing	0.044 lb/mmBtu	0.3 lb/mmBtu	Pass
VE	Normal	3.1 %	≤40 %	Pass
VE	Soot Blowing	3.8 %	≤60 %	Pass

Table 1: Compliance Test Results
Duke Energy Florida, Inc.
Crystal River Energy Complex
Unit 2

Pollutant	Unit Operating Mode	Reported Emissions Rate or Relative Accuracy	Permitted Emissions Rate	Compliance Test Status (Pass/Fail)
SO_2 ppm	High Load	1.05% RA, 1.000 BAF	RA ≤ 7.5%	Pass
NO_X-diluent	High Load	2.78% RA, 1.000 BAF	RA ≤ 7.5%	Pass
CO_2	High Load	0.1%	RA ≤ 7.5%	Pass
Flow	High Load	4.12% RA, 1.000 BAF	RA ≤ 7.5%	Pass
Flow	Low Load	5.73% RA, 1.036 BAF	RA ≤ 7.5%	Pass
PM	Normal	0.008 lb/mmBtu	0.1 lb/mmBtu	Pass
PM	Soot Blowing	0.008 lb/mmBtu	0.3 lb/mmBtu	Pass
VE	Normal	0.0 %	≤40 %	Pass
VE	Soot Blowing	0.6 %	≤60 %	Pass

PART II
FDEP APPLICATION FOR AIR PERMIT

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; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

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

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **DUKE ENERGY FLORIDA, INC.**	
2. Site Name: **CRYSTAL RIVER POWER PLANT**	
3. Facility Identification Number: **0170004**	
4. Facility Location... Street Address or Other Locator: **NORTH OF CRYSTAL RIVER, WEST OF U.S. 19** City: **CRYSTAL RIVER** County: **CITRUS** Zip Code: **34428**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **JAMIE HUNTER, LEAD ENVIRONMENTAL SPECIALIST**
2. Application Contact Mailing Address... Organization/Firm: **DUKE ENERGY FLORIDA, INC.** Street Address: **299 FIRST AVENUE, NORTH, FL 903** City: **ST. PETERSBURG** State: **FL** Zip Code: **33701**
3. Application Contact Telephone Numbers... Telephone: **(727) 820-5764** ext. Fax: **727) 820-5229**
4. Application Contact E-mail Address: **Jamie.Hunter@duke-energy.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 12-31-13	3. PSD Number (if applicable):
2. Project Number(s): 0170004-048-AV	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

Duke Energy Florida, Inc. is submitting this application to incorporate the conditions of the air construction permits associated with the BART determinations for Crystal River Units 1 and 2 into a revised TV permit. Air Construction Permit Nos. 0170004-017-AC, 0170004-036-AC and 0170004-038-AC address the BART requirements associated with emissions of PM, SO2 and NOx, respectively, from Units 1 and 2. Therefore, DEF requests that permit language should reflect that DEF will discontinue the operation of Units 1 and 2 as coal-fired units by December 31, 2020. Further, changes are requested to allowable particulate matter emissions and opacity (01740004-017-AC) for Crystal River Units 1 and 2. In addition, this application required the development of a revised PM CAM Plan for Units 1 and 2.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
001	Unit 1 Fossil Fuel Steam Generator	AV02	NA
002	Unit 2 Fossil Fuel Steam Generator	AV02	NA

Application Processing Fee

Check one: ☐ Attached - Amount:_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name :
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, 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.* _____ _____ 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: **Robby Odom, Station Manager-Crystal River Fossil Plant & Fuel Operations**

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

- ☒ 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.
- ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
- ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
- ☐ The designated representative at an Acid Rain source or CAIR source.

3. Application Responsible Official Mailing Address...
Organization/Firm: **DUKE ENERGY FLORIDA, INC**
Street Address: **299 FIRST AVENUE, NORTH, CN77**
City: **ST PETERSBURG** State: **FLORIDA** Zip Code: **33701**

4. Application Responsible Official Telephone Numbers...
Telephone: **(352) 501-5682** ext. Fax: **(352) 501-5787**

5. Application Responsible Official E-mail Address: **Robby.Odom@Duke-Energy.com**

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

Signature 12/26/13 Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Scott H. Osbourn**
   Registration Number: **57557**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.***
   Street Address: **5100 West Lemon St., Suite 208**
   City: **Tampa** State: **FL** Zip Code: **33609**
3. Professional Engineer Telephone Numbers...
   Telephone: **(813) 287-1717** ext. **53304** 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 Date 12/26/13

(seal)

SCOTT H. OSBOURN LICENSE No. 57557 STATE OF FLORIDA PROFESSIONAL ENGINEER

*** Board of Professional Engineers Certificate of Authorization # 00001670**

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **334.3** North (km) **3204.5**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **28/57/34** Longitude (DD/MM/SS) **82/42/01**	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **JAMIE HUNTER, LEAD ENVIRONMENTAL SPECIALIST**
2. Facility Contact Mailing Address... Organization/Firm: **DUKE ENERGY FLORIDA, INC** Street Address: **299 FIRST AVENUE, NORTH, PEF 903** City: **ST PETERSBURG** State: **FLORIDA** Zip Code: **33701**
3. Facility Contact Telephone Numbers: Telephone: **(727) 820-5764** ext. Fax:
4. Facility Contact E-mail Address: **Jamie.Hunter@duke-energy.com**

Facility Primary Responsible Official

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

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

Facility Regulatory Classifications

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

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

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
$PM/PM_{10}/PM_{2.5}$	**A**	**N**
CO	**A**	**N**
VOC	**A**	**N**
SO_2	**A**	**N**
NO_x	**A**	**N**
SAM	**A**	**N**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

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

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

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) ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **May 20, 2009**
2.	Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **May 20, 2009**
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) ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **May 20, 2009**

Additional Requirements for Air Construction Permit Applications- NA

1.	Area Map Showing Facility Location: ☐ Attached, Document ID:_____ ☐ Not Applicable (existing permitted facility)
2.	Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): ☐ Attached, Document ID: _____
3.	Rule Applicability Analysis: ☐ Attached, Document ID:_____
4.	List of Exempt Emissions Units: ☐ Attached, Document ID:_____ ☐ Not Applicable (no exempt units at facility)
5.	Fugitive Emissions Identification: ☐ Attached, Document ID:_____ ☐ Not Applicable
6.	Air Quality Analysis (Rule 62-212.400(7), F.A.C.): ☐ Attached, Document ID:_____ ☐ Not Applicable
7.	Source Impact Analysis (Rule 62-212.400(5), F.A.C.): ☐ Attached, Document ID:_____ ☐ Not Applicable
8.	Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): ☐ Attached, Document ID:_____ ☐ Not Applicable
9.	Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): ☐ Attached, Document ID:_____ ☐ Not Applicable
10.	Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): ☐ Attached, Document ID:_____ ☐ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications -NA

1. List of Exempt Emissions Units:
   ☐ Attached, Document ID:_____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities: (Required for initial/renewal applications only)
   ☐ Attached, Document ID:_____ ☒ Not Applicable (revision application)

2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)
   ☐ Attached, Document ID:**CR-1**
   ☐ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)--**NA**
   ☐ Attached, Document ID:____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities Onsite but Not Required to be Individually Listed
   ☒ Not Applicable

5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
   ☐ Attached, Document ID:_____ ☒ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ ☐ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

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

1. Acid Rain Program Forms:

   Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **May 20, 2009**
   ☐ Not Applicable (not an Acid Rain source)

   Phase II NO_X Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):
   ☐ Attached, Document ID:_____ ☒ Previously Submitted, Date: **May 20, 2009**
   ☐ Not Applicable

   New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **May 20, 2009**
   ☐ Not Applicable (not a CAIR source)

Additional Requirements Comment

EMISSIONS UNIT INFORMATION
Section [1] of [2]
FFFSG 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.)

[X] 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)

[X] 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:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
A		**01-Oct-1966**	**49**

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

[X] Acid Rain Unit

[X] CAIR 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 [2]
FFFSG Unit 1

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

2. 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 [2]
FFFSG 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: **3,750 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: **Maximum heat input rate based on heat rate tests at maximum operating load.**	

EMISSIONS UNIT INFORMATION
Section [1] of [2]
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: **EU1**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **499 feet**	7. Exit Diameter: **15 feet**
8. Exit Temperature: **291 °F**	9. Actual Volumetric Flow Rate: **1,407,923 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:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

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

Segment Description and Rate: Segment 2 of 3

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

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **On-speciation used oil**		
2. Source Classification Code (SCC): **101-013-02**	3. SCC Units: **1,000 Gallons Waste Oil Burned**	
4. Maximum Hourly Rate: **27.174**	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash: **0.9**	9. Million Btu per SCC Unit: **138**
10. Segment Comment: **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 & 5).**		

EMISSIONS UNIT INFORMATION
Section [1] of [2]
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

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

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control: **99**
3. Potential Emissions: **150** lb/hour **821** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.04 lb/MMBtu** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

0.04 lb/MMBtu x 3,750 MMBtu/hr = 150 lbs/hr.

3,750 MMBtu/hr x 0.05 lb/MMBtu x 8,760 hr/yr / 2,000 lb/ton = 821 TPY*

11. Potential, Fugitive, and Actual Emissions Comment:

***Emission factor of 0.05 lb/MMBtu based on 0.04 lb/MMBtu, 21 hours (steady-state); 0.12 lb/MMBtu, 3 hours (sootblowing).**

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.12 lbs/MMBtu**	4. Equivalent Allowable Emissions: **450** lb/hour **246** tons/year
5. Method of Compliance: **CAM Plan**	
6. Allowable Emissions Comment (Description of Operating Method): **Based on weighted average basis of total heat input for Units 1 and 2 combined.** **During 3-hours in any 24-hour period allowed for soot blowing and load change operations. TPY based on 1095 hrs/yr.**	

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

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.04 lbs/MMBtu**	4. Equivalent Allowable Emissions: **150** lb/hour **821** tons/year
5. Method of Compliance: **CAM Plan**	
6. Allowable Emissions Comment (Description of Operating Method): **Based on weighted average basis of total heat input for Units 1 and 2 combined.** **During normal operations while firing coal.**	

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: **SO2**	2. Total Percent Efficiency of Control: **99**
3. Potential Emissions: **7,875** lb/hour **34,493** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2.1 lb/MMBtu** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

2.1 lb/MMBtu x 3,750 MMBtu/hr = 7,875 lbs/hr.

7,875 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 34,492.5 = 34,493 tons/yr

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions **1 of 2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2.1 lbs/MMBtu**	4. Equivalent Allowable Emissions: **7,875** lb/hour **34,493** tons/year
5. Method of Compliance: **Fuel sampling and analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **While burning coal. Basis for allowable emissions: PPSC PA 77-09.**	

Allowable Emissions Allowable Emissions **2 of 2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.05-percent sulfur in fuel**	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): **When burning coal/briquette mixture; annual average**	

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: **NOx**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **2,160** lb/hour **9,461**tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **14.4 lb/ton** Reference: **AP-42**	7. Emissions Method Code: **3**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

3,750 MMBtu/hr x lb/12,500 Btu x ton/2,000 lb x 14.4 lb/ton = 2,160 lbs/hr.

2,160 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 9,461 tons/yr

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: **RULE**	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: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **75.0** lb/hour **328.5** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.5 lb/ton** Reference: **AP-42**	7. Emissions Method Code: **3**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

3,750 MMBtu/hr x lb/12,500 Btu x ton/2,000 lb x 0.5 lb/ton = 75.0 lbs/hr.

75.0 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 328.5 tons/yr

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):	

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

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **9.0** lb/hour **39.4** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.06 lb/ton** Reference: **AP-42**	7. Emissions Method Code: **3**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

3,750 MMBtu/hr x lb/12,500 Btu x ton/2,000 lb x 0.06 lb/ton = 9.0 lbs/hr.

9.0 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 39.4 tons/yr

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 [1] of [2]
FFFSG 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: **VE30**	2. Basis for Allowable Opacity: [x] Rule [ ] Other
3. Allowable Opacity: Normal Conditions: **30 %** Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: 6 min/hour	
4. Method of Compliance: **COMS**	
5. Visible Emissions Comment: **During normal operations.**	

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

1. Visible Emissions Subtype: **VE40**	2. Basis for Allowable Opacity: [x] Rule [ ] Other
3. Allowable Opacity: Normal Conditions: **40 %** Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **COMS**	
5. Visible Emissions Comment: **Based on 6-minute average. During the 3-hrs in any 24 hr period allowed for soot blowing and load change.**	

EMISSIONS UNIT INFORMATION
Section [1] of [2]
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: **VE (opacity)**	2. Pollutant(s): **PM**
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: **DURAG/ENVIROPLAN** Model Number: **DR290-AW**	Serial Number: **29641**
5. Installation Date: **22-FEB-07**	6. Performance Specification Test Date: **23-FEB-07**
7. Continuous Monitor Comment: **40 CFR 75**	

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

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

EMISSIONS UNIT INFORMATION
Section [1] of [2]
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: **EM**	2. Pollutant(s): **NOx**
3. CMS Requirement: ☐ Rule ☐ Other	
4. Monitor Information... Manufacturer: **TECO/Enviroplan** Model Number: **42** Serial Number: **42-45963-275K**	
5. Installation Date: **22-FEB-07**	6. Performance Specification Test Date: **06-APR-07**
7. Continuous Monitor Comment: **40 CFR 75**	

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

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

EMISSIONS UNIT INFORMATION
Section [1] of [2]
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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **5/21/2009**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **5/21/2009**

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **5/21/2009**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **5/21/2009**
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records:
   ☒ Attached, Document ID: **Appendix B of Report**
   Test Date(s)/Pollutant(s) Tested: **May 14-16, 2013 for Unit 1 and April 9, 2013 for Unit 2 for PM and VE**
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested:
   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ 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:
   ☐ Attached, Document ID: _____ ☒ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ 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-I1**
2. Compliance Assurance Monitoring: ☒ Attached, Document ID: **CR-EU1-I2** ☐ 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

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. S ome 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.

3. 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 [2]
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.)

[x] 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)

[x] 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:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
A		**01-Nov-1969**	**49**

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

[x] Acid Rain Unit

[x] CAIR 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 [2]
FFFSG 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 [2]
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: **4,795 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 [2] of [2]
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: **EU2**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **502 feet**	7. Exit Diameter: **16 feet**
8. Exit Temperature: **300 °F**	9. Actual Volumetric Flow Rate: **1,931,324 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 [2] of [2]
FFFSG Unit 2

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

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

Segment Description and Rate: Segment 2 of 3

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

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **On-speciation used oil**		
2. Source Classification Code (SCC): **101-013-02**	3. SCC Units: **1,000 Gallons Waste Oil Burned**	
4. Maximum Hourly Rate: **34.746**	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash: **0.9**	9. Million Btu per SCC Unit: **138**
10. Segment Comment: **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 & 5).**		

EMISSIONS UNIT INFORMATION

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

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

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **191.8** lb/hour **1,050** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.04 lb/MMBtu** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

0.04 lb/MMBtu x 4,795 MMBtu/hr = 191.8 lbs/hr.

4,795 MMBtu/hr x 0.05 lb/MMBtu x 8,760 hr/yr / 2,000 lb/ton = 1,050 TPY*

11. Potential, Fugitive, and Actual Emissions Comment:

***Emission factor 0.05 lb/MMBtu based on 0.04 lb/MMBtu, 21 hours (steady-state); 0.12 lb/MMBtu, 3 hours (soot-blowing).**

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.12 lbs/MMBtu**	4. Equivalent Allowable Emissions: **575.4** lb/hour **315** tons/year
5. Method of Compliance: **CAM Plan**	
6. Allowable Emissions Comment (Description of Operating Method): **Based on weighted average basis of total heat input for Units 1 and 2 combined.** **During the 3-hours in any 24-hour period allowed for boiler cleaning (soot blowing) and load change; TPY based on 1095 hrs/yr.**	

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

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.04 lbs/MMBtu**	4. Equivalent Allowable Emissions: **191.8** lb/hour **1,050** tons/year
5. Method of Compliance: **CAM Plan**	
6. Allowable Emissions Comment (Description of Operating Method): **Based on weighted average basis of total heat input for Units 1 and 2 combined.** **During normal operations while firing coal.**	

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: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **10,070** lb/hour **44,104** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2.1 lb/MMBtu** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

2.1 lb/MMBtu x 4,795 MMBtu/hr = 10,069.5 lbs/hr.

10,069.5 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 44,104 tons/yr

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions **1 of 2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2.1 lbs/MMBtu**	4. Equivalent Allowable Emissions: **10,070** lb/hour **44,104** tons/year
5. Method of Compliance: **Fuel sampling and analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **While burning coal. Basis for allowable emissions: PPSC PA 77-09.**	

Allowable Emissions Allowable Emissions **2 of 2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.05-percent sulfur in fuel**	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method): **When burning coal/briquette mixture; annual average.**	

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: **NOx**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **2,762** lb/hour **12,097**tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **14.4 lb/ton** Reference: **AP-42**	7. Emissions Method Code: **3**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

4,795 MMBtu/hr x lb/12,500 Btu x ton/2,000 lb x 14.4 lb/ton = 2,762 lbs/hr.

2,762 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 12,097 tons/yr.

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: **RULE**	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: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **95.9** lb/hour **420.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.5 lb/ton** Reference: **AP-42**	7. Emissions Method Code: **3**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

4,795 MMBtu/hr x lb/12,500 Btu x ton/2,000 lb x 0.5 lb/ton = 95.9 lbs/hr.

95.9 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 420.1 tons/yr.

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):	

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

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **11.5** lb/hour **50.4** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.06 lb/ton** Reference: **AP-42**	7. Emissions Method Code: **3**
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: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

4,795 MMBtu/hr x lb/12,500 Btu x ton/2,000 lb x 0.06 lb/ton = 11.5 lbs/hr.

11.5 lbs/hr x 8,760 hr/yr / 2,000 lb/ton = 50.4 tons/yr.

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 [2]
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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: **VE15**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Allowable Opacity: Normal Conditions: **15 %** Exceptional Conditions: **20%** Maximum Period of Excess Opacity Allowed: **6** min/hour	
4. Method of Compliance: **COMS**	
5. Visible Emissions Comment: **During normal operations.**	

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

1. Visible Emissions Subtype: **VE25**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Allowable Opacity: Normal Conditions: **25 %** Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **COMS**	
5. Visible Emissions Comment: **During the 3-hrs in any 24 hr period allowed for soot blowing and load change.**	

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

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

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

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: **EM**	2. Pollutant(s): **NOx**
3. CMS Requirement: ☐ Rule ☐ Other	
4. Monitor Information... Manufacturer: **TECO/Enviroplan** Model Number: **42** Serial Number: **42-45965-275**	
5. Installation Date: **01-NOV-06**	6. Performance Specification Test Date: **03-NOV-06**
7. Continuous Monitor Comment: **40 CFR 75**	

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

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

EMISSIONS UNIT INFORMATION
Section [2] of [2]
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)
   ☐ Attached, Document ID:_____ ☒ Previously Submitted, Date **5/21/2009**

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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **5/21/2009**

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID:_____ ☒ Previously Submitted, Date **5/21/2009**

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)
   ☐ Attached, Document ID:_____ ☒ Previously Submitted, Date **5/21/2009**
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records:
   ☒ Attached, Document ID: **Appendix B of Report**
   Test Date(s)/Pollutant(s) Tested: **May 14-16, 2013 for Unit 1 and April 9, 2013 for Unit 2 for PM and VE**
   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ 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:
   ☐ Attached, Document ID: _____ ☒ Not Applicable

EMISSIONS UNIT INFORMATION
Section [2] of [2]
FFFSG Unit 2

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ 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-1**
2. Compliance Assurance Monitoring: ☒ Attached, Document ID: **CR-EU1-I2** ☐ 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

ATTACHMENT CR-1
IDENTIFICATION OF APPLICABLE REQUIREMENTS

Regulation	EU Nos.
40 CFR 60, Subpart A, NSPS General Provisions	003, 004, 016
40 CFR 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971	003, 004
40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	029
40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	030
40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants	023
40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	028, 029, 030
40 CFR 63, Subpart Y, Standards of Performance for Coal Preparation Plants.	016
40 CFR 75 Acid Rain Monitoring Provisions	001, 002, 003, 004
Rule 62-296.405, F.A.C.	001, 002
Rule 62-210.370, F.A.C.	001, 002, 003, 004, 006, 008, 009, 010, 013, 014, 015, 016, 020
Rule 62-210.700, F.A.C.	001, 002, 003, 004, 006, 008, 009, 010, 013, 014, 015, 016, 020, 033
Rule 62-213.410, F.A.C.	001, 002, 003, 004, 006, 008, 009, 010, 013, 014, 015, 016, 020, 033
Rule 62-213.440, F.A.C.	001, 002, 003, 004, 006, 008, 009, 010, 013, 014, 015, 016, 020, 033
Rule 62-297.310, F.A.C.	001, 002, 003, 004, 006, 008, 009, 010, 013, 014, 015, 016, 020, 033

ATTACHMENT CR-EU1-I2
COMPLIANCE ASSURANCE MONITORING
PARTICULATE MATTER (PM)

COMPLIANCE ASSURANCE MONITORING PLAN
(CAM PLAN)
for

Particulate Matter (PM)

Duke Energy Florida
Crystal River Plant Units 1 and 2

December 2013

Pursuant to Rule 62-213.440(1)(b)1.a., F.A.C., the CAM plans that are included in this appendix contain the monitoring requirements necessary to satisfy 40 CFR 64. Conditions 1. – 17. are generic conditions applicable to all emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the attached tables, as submitted by the applicant and approved by the Department.

40 CFR 64.6 Approval of Monitoring.

1. The attached CAM plan(s), as submitted by the applicant, is/are approved for the purposes of satisfying the requirements of 40 CFR 64.3. [40 CFR 64.6(a)]
2. The attached CAM plan(s) include the following information:
   a. The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);
   b. The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and
   c. The performance requirements established to satisfy 40 CFR 64.3(b) or (d), as applicable.
   [40 CFR 64.6(c)(1)]
3. The attached CAM plan(s) describe the means by which the owner or operator will define an exceedance of the permitted limits or an excursion from the stated indicator ranges and averaging periods for purposes of responding to (see **CAM Conditions 5. - 9.**) and reporting exceedances or excursions (see **CAM Conditions 10. – 14.**). [40 CFR 64.6(c)(2)]
4. The permittee is required to conduct the monitoring specified in the attached CAM plan(s) and shall fulfill the obligations specified in the conditions below (see **CAM Conditions 5. - 17.**). [40 CFR 64.6(c)(3)]

40 CFR 64.7 Operation of Approved Monitoring.

5. Commencement of Operation. The owner or operator shall conduct the monitoring required under this appendix upon the effective date of this Title V permit. [40 CFR 64.7(a)]
6. Proper Maintenance. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. [40 CFR 64.7(b)]
7. Continued Operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 64.7(c)]
8. Response To Excursions or Exceedances.
   a. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions, if allowed by this permit). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to

return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

b. Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 CFR 64.7(d)(1) & (2)]

9. Documentation of Need for Improved Monitoring. If the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [40 CFR 64.7(e)]

40 CFR 64.8 Quality Improvement Plan (QIP) Requirements.

10. Based on the results of a determination made under **CAM Condition 8.a.**, above, the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with **CAM Condition 4.**, an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, may require the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices. [40 CFR 64.8(a)]

11. Elements of a QIP:
    a. The owner or operator shall maintain a written QIP, if required, and have it available for inspection.
    b. The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:
        (1) Improved preventive maintenance practices.
        (2) Process operation changes.
        (3) Appropriate improvements to control methods.
        (4) Other steps appropriate to correct control performance.
        (5) More frequent or improved monitoring (only in conjunction with one or more steps under **CAM Condition 11.b(i)** through **(iv)**, above).

    [40 CFR 64.8(b)]

12. If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the permitting authority if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined. [40 CFR 64.8(c)]

13. Following implementation of a QIP, upon any subsequent determination pursuant to **CAM Condition 8.b.**, the permitting authority may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:
    a. Failed to address the cause of the control device performance problems; or
    b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

    [40 CFR 64.8(d)]

14. Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. [40 CFR 64.8(e)]

40 CFR 64.9 Reporting And Recordkeeping Requirements.

15. General reporting requirements.

a. On and after the date specified in **CAM Condition 5.** by which the owner or operator must use monitoring that meets the requirements of this appendix, the owner or operator shall submit monitoring reports semi-annually to the permitting authority in accordance with Rule 62-213.440(1)(b)3.a., F.A.C.

b. A report for monitoring under this part shall include, at a minimum, the information required under Rule 62-213.440(1)(b)3.a., F.A.C., and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in **CAM Conditions 10.** through **14.** Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 CFR 64.9(a)]

16. General record keeping requirements.

a. The owner or operator shall comply with the recordkeeping requirements specified in Rule 62-213.440(1)(b)2., F.A.C. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to **CAM Conditions 10.** through **14.**, and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

[40 CFR 64.9(b)]

40 CFR 64.10 Savings Provisions.

17. It should be noted that nothing in this appendix shall:

a. Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this appendix shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to Title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under Title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.

b. Restrict or abrogate the authority of the Administrator or the permitting authority to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of

a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.

c. Restrict or abrogate the authority of the Administrator or permitting authority to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.

[40 CFR 64.10]

Emissions Units 001, 002 (Unit 1 and Unit 2)
Two tangentially fired coal units; Particulate Matter emissions controlled by Electrostatic Precipitators

Monitoring Approach

	Indicator No. 1	Indicator No. 2
I. Indicator	Stack Opacity	Total ESP Power (in kilowatts)
Measurement Approach	Continuous opacity monitoring system (COMS).	Secondary voltage and secondary milliamps for each transformer - rectifier (TR) set will be measured either manually or through remote monitoring. Note: Secondary voltage on Unit 1 TR sets cannot be read directly (they lack the necessary measurement components), however, it can be calculated using measured values of input voltage, input amperage, secondary milliamps, and a form factor for the TR sets. Total ESP Power will be calculated using the following formula: $P_t = \sum_{1}^{x} V_i I_i$ Where, P_t = Total ESP Power (Watts) (Summation of all associated TR sets.) V_i = TR Secondary Voltage (kV), for TR Set i I_i = TR Secondary Current (ma), for TR Set i

II. Indicator Range	For Unit 1, an abnormal reading is defined as any 1 hour of opacity greater than 17% (other than startup, shutdown, "load-changing" and sootblowing periods). For Units 2, an abnormal reading is defined as any 1 hour of opacity greater than 12% (other than startup, shutdown, "load-changing" and sootblowing periods). Load-changing 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.	For Unit 1, an abnormal reading is defined as any hourly average of the Total ESP Power less than 96 kilowatts. For Unit 2, an abnormal reading is defined as any hourly average of the Total ESP Power less than 664 kilowatts.
	For both Units, a CAM excursion is defined as any hourly period where both Opacity and Total ESP Power are reading at abnormal levels. An excursion will trigger an investigation of the occurrence, corrective actions, and a reporting/documentation requirement.	
III. Performance Criteria		
A. Data Representativeness	Based on available opacity data while stack testing, the representative stack opacity of Unit 1 is in the range of 5 to 20%. Based on available opacity data while stack testing, the representative stack opacity of Unit 2 is in the range of 2 to 12%.	Secondary voltage and secondary current data will be collected and recorded from each TR set at least four times per hour. This data will be used to determine Total ESP Power levels.
B. Verification of Operational Status	Annual testing during normal operation is used to verify particulate mass loading. The COMS system is audited quarterly.	Not applicable.

Compliance Assurance Monitoring Plan

C. QA/QC Practices and Criteria	Operate COMS according to 40 CFR Part 60 Appendix B, Performance Specification 1 and general provisions 60.13. 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 preventive maintenance items; replace filters, clean optics, etc., as prescribed by the manufacturer.	The volt and current meters associated with each TR set will be checked for calibration on a two year cycle.
D. Monitoring Frequency	Opacity is monitored continuously.	Total ESP Power will be calculated from secondary kilovolt and milliamp data collected at least four times per hour, approximately 15 minutes apart.
E. Data Collection Procedures	The COMS collects data that are reduced to 6-minute averages. Consecutive 6-minute averages are tracked through the Distributed Control System (DCS) and CEM software.	Secondary kilovolt and milliamp data will be collected from each TR set. The values for each TR set will be multiplied and then added together to determine Total ESP Power. Total ESP Power will be tracked through the Distributed Control System (DCS) and CEM software.
F. Averaging Period	One hour average comprised of ten consecutive 6-minute averages.	One hour average comprised of at least four values, approximately 15 minutes apart.

Emissions Units 004 & 003 (Unit 4 and Unit 5)
Two dry bottom wall-fired units; Particulate Matter emissions controlled by Electrostatic Precipitators
Monitoring Approach

	Indicator
I. Indicator	Opacity.
Measurement Approach	Continuous opacity monitoring system (COMS).
II. Indicator Range	For Units 4 and 5, an excursion is defined as any 1 hour of opacity greater than 15% (other than startup, shutdown, "load-changing" and sootblowing periods). Load-changing 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. An excursion will trigger an evaluation of operation of the boiler(s) and ESP(s). Corrective action will be taken as necessary. Any excursion will trigger recordkeeping and reporting requirements.
III. Performance Criteria	
A. Data Representativeness	Based on available opacity data while stack testing, the representative stack opacity of units 4 and 5 is in the range of 2 to 12%.
B. Verification of Operational Status	Annual testing during normal operation is used to verify particulate mass loading. The COMS system is audited quarterly.
C. QA/QC Practices and Criteria	Operate COMS according to 40 CFR Part 60 Appendix B, Performance Specification 1 and general provisions 60.13. 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 preventive maintenance items; replace filters, clean optics, etc., as prescribed by the
D. Monitoring Frequency	Opacity is monitored continuously.
E. Data Collection Procedures	The COMS collects data that are reduced to 6-minute averages. Consecutive 6-minute averages are tracked through the Distributed Control System (DAS)
F. Averaging Period	Ten consecutive 6-minute averages.

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Engineering Earth's Development, Preserving Earth's Integrity