

**CALPINE CONSTRUCTION FINANCE COMPANY, L.P.
OSPREY ENERGY CENTER**

**TITLE V OPERATION PERMIT
INITIAL APPLICATION**

Prepared for:



**CALPINE CORPORATION
Tampa, Florida**

Prepared by:

ECT

Environmental Consulting & Technology, Inc.

***3701 Northwest 98th Street
Gainesville, Florida 32606***

ECT No. 040767-0100

September 2004

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BUREAU OF AIR REGULATION

INTRODUCTION

Facility Overview

Calpine Construction Finance Company, L.P. (Calpine), recently constructed and placed in operation a nominal 527-megawatt (MW) combined cycle electrical generation facility located in Auburndale, Polk County, Florida. This facility, designated as the Osprey Energy Center (OEC), is located adjacent to the existing Auburndale Energy Center. The OEC is comprised of two nominal 170-MW natural gas-fired combustion turbines (CTs), two heat recovery steam generators (HRSGs) equipped with duct burners (DBs), and one common nominal 200-MW steam generator. The HRSG DBs are rated at 250 million British thermal units per hour (MMBtu/hr). Nitrogen oxide (NO_x) emissions are controlled by dry low NO_x (DLN) combustor and selective catalytic reduction (SCR) control technologies. The CTs and DBs are fired exclusively with pipeline natural gas. Each CT/HRSG unit is served by a separate exhaust stack.

The OEC also includes an eight-cell mechanical draft fresh water cooling tower equipped with highly efficient drift eliminators. Ancillary facility equipment includes one diesel-fired 1,250-kilowatt (kw) emergency generator, one 265-HP diesel fire-water pump, and aqueous ammonia storage. Each diesel engine qualifies as an *insignificant activity* pursuant to Rule 62-213.430(6), F.A.C. The OEC regulated and unregulated emission units are listed below:

Emission Unit ID

Regulated Emission Units

EU001	Nominal 170-MW gas combustion turbine electrical generator
EU002	Nominal 170-MW gas combustion turbine electrical generator
EU003	250-MMBtu/hr duct burner configured as supplementary fired HRSG
EU004	250-MMBtu/hr duct burner configured as supplementary fired HRSG

Emission Unit ID

Unregulated Emission Units

EU005	Cooling tower
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Current Permits and Initial Compliance

Operation of the OEC is currently authorized by Florida Department of Environmental Protection (FDEP) Prevention of Significant Deterioration (PSD) Permit PSD-FL-287. This permit expires on December 31, 2004. The OEC commenced operation in March 2004. Initial compliance testing, as required by PSD-FL-287, Section III, Specific Condition Nos. 28 and 29 (testing for NO_x, carbon monoxide [CO], volatile organic compounds [VOC], visible emissions [VE], particulate matter [PM], and ammonia slip [NH₃]), was conducted from May 5th through May 7th, 2004. The initial emissions performance tests demonstrated that CT/HRSG Unit 1 (EU001/EU003) and CT/HRSG-2 (EU002/EU004) were operating in compliance with all applicable permit emission limits. Reports of the initial performance testing were submitted to the FDEP's Southwest District Office on June 21, 2004.

Compliance Assurance Monitoring Applicability

The OEC includes two CT/HRSG combined-cycle units that are fired exclusively with natural gas. Each combined-cycle unit (CT/HRSG-1 and CT/HRSG-2) employs SCR to control NO_x emissions. Each CT/HRSG combined-cycle unit is subject to the Acid Rain Program and is equipped with a NO_x CEMS certified and operated in accordance with the requirements of 40 Code of Federal Register (CFR) Part 75, Continuous Emission Monitoring. CT/HRSG-1 and CT/HRSG-2 NO_x CEMS are used to determine compliance with all of the NO_x emission limits included in Air Permit No. PSD-FL-287; i.e., the NO_x CEMS serve as a *continuous compliance determination* method. Accordingly, CT/HRSG-1 and CT/HRSG-2 are exempt from CAM requirements with respect to NO_x pursuant to 40 CFR §64.2(b)(vi).

Request for Permit Application Shield

Calpine has made efforts to ensure that this permit application is administratively complete as filed and has submitted the application prior to the deadline stated in Rule 62-213.420(1)(a)2., F.A.C. Pursuant to Rule 62-213.420(1)(b)2., F.A.C., Calpine understands that operation of the OEC may continue under the terms of its existing PSD air permit pending issuance of the Title V operation permit; i.e., the application shield provision. If additional information is needed, please advise as soon as possible so that

the requested data may be provided. As stated in Rule 62-213.420(1(b)4., F.A.C., Calpine understands that it will have 90 days (unless additional time has been requested and approved) to respond to any FDEP requests for information to retain the application shield provision.

Request for Permit Shield

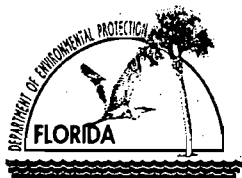
Pursuant to Rule 62-213.460., F.A.C., Calpine requests that the OEC Title V operation permit contain a condition stating that "compliance with the terms and conditions of a permit issued pursuant to this chapter shall be deemed compliance with any applicable requirements in effect as of the date of permit issuance, provided that the source included such applicable requirements in the permit application". Attachment A-5 of this permit application package provides a comprehensive list of the requirements that do and do not apply for permit shield purposes.

Title V Operation Permit Application Package

PSD-FL-287, Section II., Condition No. 10 requires the submittal of a Title V operating permit to the FDEP's Bureau of Air Regulation, with a copy to the Department's Southwest District. In accordance with Rule 62-213.420(1(a)2., F.A.C. an application for an initial Title V operation permit must be submitted at least ninety days prior to air construction permit expiration, but no later than 180 days after commencing operation. The OEC commenced operation on March 21, 2004. Accordingly, the regulatory deadline for submittal of the initial OEC Title V operation permit application is September 17, 2004; i.e., 180 days after commencing operation. This application package, consisting of FDEP's Application for Air Permit – Long Form and all required supplemental facility and emission unit information, constitutes Calpine's initial Title V permit application for the OEC and is submitted to satisfy the requirements of Chapter 62-213.400, FAC.

The following attachments are included as referenced in the permit application:

<u>Attachment</u>	<u>Description</u>
A-1	Facility Plot Plan
A-2	Process Flow Diagram
A-3	Precautions to Prevent Emissions of Unconfined Particulate Matter
A-4	List of Proposed Insignificant Activities
A-5	Regulatory Applicability Analysis
A-6	Compliance Report and Plan/Compliance Certification
A-7	Fuel Analysis or Specifications
A-8	Detailed Description of Control Equipment
A-9	Procedures for Startup and Shutdown
A-10	Alternate Methods of Operation
A-11	Certificate of Representation
A-12	Acid Rain Part



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

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BUREAU OF AIR REGULATION

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

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

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) –

Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: Calpine Construction Finance Company, L.P.	
2. Site Name: Osprey Energy Center	
3. Facility Identification Number: 1050334	
4. Facility Location Street Address or Other Locator: 1651 Derby Avenue City: Auburndale County: Polk Zip Code: 33823-3947	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Application Contact

1. Application Contact Name: Heidi M. Whidden	
2. Application Contact Mailing Address... Organization/Firm: Calpine Corporation Street Address: 2707 North Rocky Point Drive, Suite 1200 City: Tampa State: Florida Zip Code: 33607	
3. Application Contact Telephone Numbers... Telephone: (813) 637 - 7316 ext. Fax: (813) 637 - 7399	
4. Application Contact Email Address: hwhidden@calpine.com	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	9/17/04
2. Project Number(s):	1050334 - 004-AV
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

☐ Air construction permit.

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

Initial Title V air operations permit application for the Osprey Energy Center.

In earlier conversations with Calpine, FDEP has stated that the agency was evaluating the issue of whether or not the Title V permit for the Osprey Energy Center should be combined into a single permit with that of the adjacent Auburndale Power Partners, LP and Auburndale Peaker Energy Center LLC (Permit No. 1050221-007-AV). Calpine would prefer that the two facilities continue to have two separate permits. Calpine also recognizes that, under Title V, the department is required to make this determination based on criteria established in the Act.

Although the application has been structured as an application for an initial Title V permit coverage for a new facility, it is identical to the application that would be submitted for Title V modification of an existing permit except for making a different check in the box on Page 2. Based on this, Calpine believes that the application enclosed is complete for either determination.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
001	170-MW Combustion Turbine (CT-1)	N/A	N/A
002	170-MW Combustion Turbine (CT-2)	N/A	N/A
003	250 MMBtu/hr Duct Burner (DB) Heat Recovery Steam Generator (HRSG) System (HRSG-1)	N/A	N/A
004	250 MMBtu/hr Duct Burner (DB) Heat Recovery Steam Generator (HRSG) System (HRSG-2)	N/A	N/A
005	Cooling Tower	N/A	N/A

Application Processing Fee

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

A permit processing fee is not required for a Title V source operation permit pursuant to Rule 62-213.205(4), F.A.C.

APPLICATION INFORMATION

N/A

Owner/Authorized Representative Statement

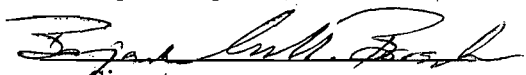
Complete if applying for an air construction permit or an initial FESOP.

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 Email Address:
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the facility 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 requirements identified in this application to which the facility 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.</i> _____ Signature _____ Date

APPLICATION INFORMATION

Application Responsible Official Certification

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

1. Application Responsible Official Name: Benjamin M. H. Borsch, P.E. Manager—Safety, Health & Environment
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. ** <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input checked="" type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address. Organization/Firm: Calpine Corporation Street Address: 2701 North Rocky Point Drive; Suite 1200 City: Tampa State: Florida Zip Code: 33607
4. Application Responsible Official Telephone Numbers. Telephone: (813) 637-7305 ext. Fax: (813) 637-7399
5. Application Responsible Official Email Address: <u>bborsch@calpine.com</u>
6. Application Responsible Official Certification: <p><i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i></p> <p> Signature</p> <p><u>9/14/04</u> Date</p>

**Designation letter is attached.

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Thomas W. Davis**

Registration Number: **36777**

2. Professional Engineer Mailing Address...

Organization/Firm: **Environmental Consulting & Technology, Inc.**

Street Address: **3701 Northwest 98th Street**

City: **Gainesville**

State: **Florida**

Zip Code: **32606-5004**

3. Professional Engineer Telephone Numbers...

Telephone: **(352) 332 - 0444** ext. Fax: **(352) 332 - 6722**

4. Professional Engineer Email Address: **tdavis@ectinc.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

9/14/04

*Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 421.0 North (km) 3103.2		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
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 : The Osprey Energy Center consists of two combined cycle units. Each combined cycle unit includes a nominal 170-MW natural gas-fired Siemens-Westinghouse 501FD CT with DLN combustion technology and SCR, and a 250 MMBtu/hr DB/HRSG system.			

Facility Contact

1. Facility Contact Name: William Sena, Plant Engineer
2. Facility Contact Mailing Address... Organization/Firm: Calpine Corporation Street Address: 1651 West Derby Avenue City: Auburndale State: Florida Zip Code: 33823
3. Facility Contact Telephone Numbers: Telephone: (863) 551 - 4662 ext. Fax: (863) 551 - 4666
4. Facility Contact Email Address: <u>wsena@calpine.com</u>

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: Robert Callery, General Manager
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Calpine Corporation Street Address: 1651 West Derby Avenue City: Auburndale State: Florida Zip Code: 33823
3. Facility Primary Responsible Official Telephone Numbers... Telephone: (863) 551 - 4665 ext. Fax: (863) 551 - 4666
4. Facility Primary Responsible Official Email Address: <u>rcallery@calpine.com</u>

FACILITY INFORMATION

Facility Regulatory Classifications

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

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: CTs are subject to New Source Performance Standard (NSPS) Subject GG. DBs are subject to NSPS Subpart Da.	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	N
VOC	B	N
SO2	B	N
NOX	A	N
CO	A	N
PM10	A	N
NH3	B	N

FACILITY INFORMATION

B. EMISSIONS CAPS

N/A

Facility-Wide or Multi-Unit Emissions Caps

[illegible]

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-1</u> <input type="checkbox"/> Previously Submitted, Date: _____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-2</u> <input type="checkbox"/> Previously Submitted, Date: _____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-3</u> <input type="checkbox"/> Previously Submitted, Date: _____

Additional Requirements for Air Construction Permit Applications NOT APPLICABLE

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification: <input type="checkbox"/> Attached, Document ID: _____
3. Rule Applicability Analysis: <input type="checkbox"/> Attached, Document ID: _____
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

EU. 001/003

EMISSIONS UNIT INFORMATION

Section [1] of [3]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

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

Emissions Unit Description and Status

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

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

2. Description of Emissions Unit Addressed in this Section:

Combined cycle unit comprised of one nominal 170-MW Siemens-Westinghouse 501FD combustion turbine (CT) and one heat recovery steam generator (HRSG) equipped with a 250 MMBtu/hr duct burner (DB). The CT and HRSG DB are both fired exclusively with pipeline quality natural gas.

3. Emissions Unit Identification Number: **001/003 (CT/HRSG Unit 1)**

4. Emissions Unit Status Code: A	5. Commence Construction Date: N/A	6. Initial Startup Date: 03/21/04	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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9. Package Unit:

Manufacturer: **Siemens-Westinghouse**

Model Number: **501FD**

10. Generator Nameplate Rating: **181 MW**

11. Emissions Unit Comment:

The Osprey Energy Center includes two, identical combined cycle units (CT/HRSG Unit 1 and CT/HRSG Unit 2) and one common steam turbine generator (STG).

EMISSIONS UNIT INFORMATION

Section [1] of [3]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Dry Low-NO_x (DLN) Combustion – CT
Low-NO_x Burners (LNB) – HRSG DB
Selective Catalytic Reduction (SCR) – CT/HRSG

2. Control Device or Method Code(s): **025 (DLN), 205 (LNB), 139 (SCR)**

Section [1] of [3]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	N/A	
2. Maximum Production Rate:	N/A	
3. Maximum Heat Input Rate:	1,669 million Btu/hr (LHV) – CT	
4. Maximum Incineration Rate:	pounds/hr	N/A
	tons/day	
5. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year
6. Operating Capacity/Schedule Comment:		
<p>Maximum CT heat input at ISO conditions and natural gas firing (LHV) without power augmentation. CT heat input will vary with ambient conditions and load. Maximum heat input for DBs is 250 MMBtu/hr (LHV).</p>		

EMISSIONS UNIT INFORMATION

Section [1] of [3]

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: CC-1		2. Emission Point Type Code: 2	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: N/A			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: EU 001, EU 003			
5. Discharge Type Code: V		6. Stack Height: 142 feet	
		7. Exit Diameter: 18.5 feet	
8. Exit Temperature: 200°F		9. Actual Volumetric Flow Rate: 1,021,100 acfm	
		10. Water Vapor: N/A %	
11. Maximum Dry Standard Flow Rate: N/A dscfm		12. Nonstack Emission Point Height: N/A feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) : Longitude (DD/MM/SS) :	
15. Emission Point Comment: Stack parameters are for ISO conditions firing natural gas. Field 9 represents 100-percent load, 59°F ambient temperature, with no DB firing or PA.			

EMISSIONS UNIT INFORMATION

Section [1] of [3]

D. SEGMENT (PROCESS/FUEL) INFORMATION**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type): Combustion turbine fired with pipeline-quality natural gas.		
2. Source Classification Code (SCC): 2-01-002-01		3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 1.926	5. Maximum Annual Rate: 15,892	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: 920 (LHV)
10. Segment Comment: Field 4 based on 100% load, 32°F. Field 5 based on 100% load, 59°F, and 8,760 hr/yr.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Duct burner fired with pipeline-quality natural gas.		
2. Source Classification Code (SCC): 1-01-006-01		3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 0.245	5. Maximum Annual Rate: 704.8	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: 920 (LHV)
10. Segment Comment: Field 5 based on 100% load and 2,880 hr/yr.		

EMISSIONS UNIT INFORMATION

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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
NO _x	25	139	EL
CO			EL
VOC			EL
SO ₂			EL
PM			EL
PM ₁₀			EL
NH ₃			EL

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**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: NO_x	2. Total Percent Efficiency of Control:
3. Potential Emissions: 31.4 lb/hour 126.6 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A	
6. Emission Factor: N/A Reference: Vendor Data	7. Emissions Method Code: 2
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 95°F ambient, DB & PA Potential Annual Emissions: 100% load, 59°F ambient, CT (5,880 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) $27.7 \frac{lb}{hr} \times 5,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 31.4 \frac{lb}{hr} \times 2,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} = 81.4 + 45.2 = 126.6 \frac{ton}{yr}$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

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POLLUTANT DETAIL INFORMATION

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

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III, No. 20	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 3.5 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: 31.4 lb/hour 126.6 tons/year
5. Method of Compliance: CEMS 24-hour block average	
6. Allowable Emissions Comment (Description of Operating Method): Field 3 limit applicable to CT/HRSG Unit 1 with or without DB and PA.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III, No. 20	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 27.5 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Method 7E or 20	
6. Allowable Emissions Comment (Description of Operating Method): Field 4 hourly limit (at 95°F ambient temperature) applicable to CT/HRSG Unit 1 with DB and PA.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III, No. 20	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 0.1 lb/MMBtu (DB only)	4. Equivalent Allowable Emissions: (DB) 25.0 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Method 7E	
6. Allowable Emissions Comment (Description of Operating Method): See allowable emissions above for additional NO_x limits during DB firing.	

EMISSIONS UNIT INFORMATION

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F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control: N/A
3. Potential Emissions: 152.0 lb/hour 399.5 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A	
6. Emission Factor: N/A Reference: Vendor Data	7. Emissions Method Code: 2
8. Calculation of Emissions: Potential Hourly Emissions: 60% load, 32°F ambient, CT Potential Annual Emissions: 100% load, 59°F ambient, CT (4,380 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) 60% load, 59°F ambient, CT (1,500 hr/yr) $43.0 \frac{lb}{hr} \times 4,380 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 136.0 \frac{lb}{hr} \times 2,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 146.0 \frac{lb}{hr} \times 1,500 \frac{hr}{yr} \times \frac{ton}{2,000 lb} =$ $(94.2 + 195.8 + 109.5) \frac{ton}{yr} = 399.5 \frac{ton}{yr}$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

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

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

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 21	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 10 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: 45.0 lb/hour N/A tons/year
5. Method of Compliance: CEMS 24-hour block average	
6. Allowable Emissions Comment (Description of Operating Method): Applicable for days when no valid hour includes duct burner firing, power augmentation, or CT loads between 60 – 70 percent.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 21	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 45.0 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Method 10 or RATA testing	
6. Allowable Emissions Comment (Description of Operating Method): Applicable for 100 percent CT load with no duct burner firing or power augmentation.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 21	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 17 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: N/A lb/hour N/A tons/year
5. Method of Compliance: CEMS 24-hour block average	
6. Allowable Emissions Comment (Description of Operating Method): Applicable for days when a valid hour includes duct burner firing, power augmentation, or CT loads between 60 – 70 percent.	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: VOC		2. Total Percent Efficiency of Control: N/A	
3. Potential Emissions: 11.7 lb/hour 33.9 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: N/A Reference: Vendor Data		7. Emissions Method Code: 2	
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 95°F ambient, DB & PA Potential Annual Emissions: 100% load, 59°F ambient, CT (4,380 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) 60% load, 59°F ambient, CT (1,500 hr/yr) $5.4 \frac{lb}{hr} \times 4,380 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 11.7 \frac{lb}{hr} \times 2,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 7.0 \frac{lb}{hr} \times 1,500 \frac{hr}{yr} \times \frac{ton}{2,000 lb} =$ $(11.8 + 16.8 + 5.3) \frac{ton}{yr} = 33.9 \frac{ton}{yr}$			
9. Pollutant Potential/Estimated Fugitive Emissions Comment:			

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

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 22	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 2.3 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: 5.8 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Methods 18, 25, and/or 25A	
6. Allowable Emissions Comment (Description of Operating Method): 100-percent load at ISO conditions with duct burner off.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 22	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 4.6 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: 12.4 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Methods 18, 25, and/or 25A	
6. Allowable Emissions Comment (Description of Operating Method): 100-percent load at ISO conditions with duct burner on and operating in the power augmentation mode.	

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/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: SO₂	2. Total Percent Efficiency of Control: N/A
3. Potential Emissions: 11.8 lb/hour 47.5 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A	
6. Emission Factor: N/A Reference: Vendor Data	7. Emissions Method Code: 2
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 95°F ambient, DB & PA Potential Annual Emissions: 100% load, 59°F ambient, CT (5,880 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) $1.814130 \times 10^6 \frac{cf}{hr} \times 5,880 \frac{hr}{yr} + 2.065363 \times 10^6 \frac{cf}{hr} \times 2,880 \frac{hr}{yr} = 16,615.3 \times 10^6 \frac{cf}{yr}$ $16,615.3 \times 10^6 \frac{cf}{yr} \times 2.0 \frac{gr\ S}{100\ cf} \times \frac{lb}{7,000\ gr} \times \frac{ton}{2,000\ lb} \times \frac{2\ SO_2}{1\ S} = 47.5 \frac{ton}{yr}$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

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

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 23	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 2.0 grains S / 100 scf natural gas	4. Equivalent Allowable Emissions: 11.8 lb/hour 47.5 tons/year
5. Method of Compliance: Custom fuel monitoring	
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/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: PM/PM₁₀		2. Total Percent Efficiency of Control: N/A	
3. Potential Emissions: 23.8 lb/hour 94.4 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: N/A Reference:		7. Emissions Method Code: 2	
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 59°F ambient, DB Potential Annual Emissions: 100% load, 59°F ambient, CT (5,880 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) $21.1 \frac{lb}{hr} \times 5,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 22.5 \frac{lb}{hr} \times 2,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} =$ $62.0 \frac{ton}{yr} + 32.4 \frac{ton}{yr} = 94.4 \frac{ton}{yr}$			
9. Pollutant Potential/Estimated Fugitive Emissions Comment:			

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F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 24	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 24.1 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Method 5	
6. Allowable Emissions Comment (Description of Operating Method): Hourly limit at 100-percent load with duct burner firing and operating in the power augmentation mode.	

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/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: NH₃	2. Total Percent Efficiency of Control: N/A
3. Potential Emissions: 30.4 lb/hour 118.2 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A	
6. Emission Factor: N/A Reference:	7. Emissions Method Code: 0
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 95°F ambient, DB & PA $(1.273 \text{ mmft}^3/\text{hr}) \times (9 \text{ ft}^3 \text{ NH}_3 / \text{mm ft}^3) \times (17 \text{ lb NH}_3 / \text{mole NH}_3) \times (1 \text{ mole NH}_3 / 385.3 \text{ ft}^3 \text{ NH}_3) \times (60 \text{ min} / \text{hr})$ $= 30.3 \text{ lb/hr NH}_3$ Potential Annual Emissions: 100% load, 59°F ambient, CT (5,880 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) $\{[(1.064 \text{ mmft}^3/\text{hr}) \times (9 \text{ ft}^3 \text{ NH}_3 / \text{mm ft}^3) \times (17 \text{ lb NH}_3 / \text{mole NH}_3) \times (1 \text{ mole NH}_3 / 385.3 \text{ ft}^3 \text{ NH}_3) \times (60 \text{ min} / \text{hr}) \times (5,880 \text{ hr/yr})] + [(1.273 \text{ mmft}^3/\text{hr}) \times (9 \text{ ft}^3 \text{ NH}_3 / \text{mm ft}^3) \times (17 \text{ lb NH}_3 / \text{mole NH}_3) \times (1 \text{ mole NH}_3 / 385.3 \text{ ft}^3 \text{ NH}_3) \times (60 \text{ min} / \text{hr}) \times (2,880 \text{ hr/yr})]\} \times (1 \text{ ton} / 2,000 \text{ lb}) = 118.2 \text{ ton/yr NH}_3$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

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

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 20	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 9.0 ppmvd @ 15% O₂	4. Equivalent Allowable Emissions: 30.4 lb/hour 118.2 tons/year
5. Method of Compliance: EPA Reference Method 26A and Draft Method 206	
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

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G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE 10	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: N/A % Maximum Period of Excess Opacity Allowed: N/A min/hour	
4. Method of Compliance: EPA Reference Method 9	
5. Visible Emissions Comment: PSD-FL-287 Permit Condition Section III No. 24	

Visible Emissions Limitation: Visible Emissions Limitation ___ of ___

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

FACILITY INFORMATION

EMISSIONS UNIT INFORMATION

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H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 4

1. Parameter Code: EM	2. Pollutant(s): CO
3. CMS Requirement: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Rosemount Analytical Model Number: MLT Serial Number: 101-CEM-AN-001	
5. Installation Date: 03/21/04	6. Performance Specification Test Date: 06/10/04
7. Continuous Monitor Comment: PSD-FL-287 Permit Condition No. 30.	

Continuous Monitoring System: Continuous Monitor 2 of 4

1. Parameter Code: O₂	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Rosemount Analytical Model Number: MLT Serial Number: 30082674393	
5. Installation Date: 03/21/04	6. Performance Specification Test Date: 06/10/04
7. Continuous Monitor Comment: NO_x diluent CEM requirements of 40 CFR 75	

FACILITY INFORMATION**EMISSIONS UNIT INFORMATION**

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H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

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

Continuous Monitoring System: Continuous Monitor 3 of 4

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Rosemount Analytical Model Number: NGA-CLD Serial Number: U1006517	
5. Installation Date: 03/21/04	6. Performance Specification Test Date: 06/10/04
7. Continuous Monitor Comment: NO_x CEMS requirements of 40 CFR 75	

Continuous Monitoring System: Continuous Monitor 4 of 4

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Rosemount Analytical Model Number: NGA-CLD Serial Number: U10006486	
5. Installation Date: 03/21/04	6. Performance Specification Test Date: 05/06/04
7. Continuous Monitor Comment: SCR Inlet—NO_x CEMS requirements of PSD –FL-287, Section III, Condition No. 46.	

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I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-2</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-7</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-8</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-9</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>06/21/04</u> Test Date(s)/Pollutant(s) Tested: <u>May 5th – 7th, 2004 / NO_x, VOC, CO, PM, VE, NH₃, and fuel sulfur content.</u> <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

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EMISSIONS UNIT INFORMATION

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Additional Requirements for Air Construction Permit Applications NOT APPLICABLE

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements <input checked="" type="checkbox"/> Attached, Document ID: <u>A-5</u>
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input checked="" type="checkbox"/> Attached, Document ID: <u>A-10</u> <input type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

FACILITY INFORMATION

5. Acid Rain Part Application

- ☒ Certificate of Representation (EPA Form No. 7610-1)
☒ Copy Attached, Document ID: A-11
- ☒ Acid Rain Part (Form No. 62-210.900(1)(a))
☒ Attached, Document ID: A-12
☐ Previously Submitted, Date: _____
- ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
☐ Attached, Document ID: _____
☐ Previously Submitted, Date: _____
- ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
☐ Attached, Document ID: _____
☐ Previously Submitted, Date: _____
- ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
☐ Attached, Document ID: _____
☐ Previously Submitted, Date: _____
- ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
☐ Attached, Document ID: _____
☐ Previously Submitted, Date: _____
- ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
☐ Attached, Document ID: _____
☐ Previously Submitted, Date: _____
- ☐ Not Applicable

Additional Requirements Comment

E.U. 002/004

EMISSIONS UNIT INFORMATION

Section [2] of [3]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

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

Emissions Unit Description and Status

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

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

2. Description of Emissions Unit Addressed in this Section:

Combined cycle unit comprised of one nominal 170-MW Siemens-Westinghouse 501FD combustion turbine (CT) and one heat recovery steam generator (HRSG) equipped with a 250 MMBtu/hr duct burner (DB). The CT and HRSG DB are both fired exclusively with pipeline quality natural gas.

3. Emissions Unit Identification Number: 002/004 (CT/HRSG Unit 2)

4. Emissions Unit Status Code:
A

5. Commence Construction Date:
N/A

6. Initial Startup Date:
03/23/04

7. Emissions Unit Major Group SIC Code:
49

8. Acid Rain Unit?
☒ Yes
☐ No

9. Package Unit:

Manufacturer: Siemens-Westinghouse

Model Number: 501FD

10. Generator Nameplate Rating: 181 MW

11. Emissions Unit Comment:

The Osprey Energy Center includes two, identical combined cycle units (CT/HRSG Unit 1 and CT/HRSG Unit 2) and one common steam turbine generator (STG).

EMISSIONS UNIT INFORMATION

Section [2] of [3]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Dry Low-NO_x (DLN) Combustion – CT
Low-NO_x Burners (LNB) – HRSG DB
Selective Catalytic Reduction (SCR) – CT/HRSG

2. Control Device or Method Code(s): **025 (DLN), 205 (LNB), 139 (SCR)**

EMISSIONS UNIT INFORMATION

Section [2] of [3]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: N/A
2. Maximum Production Rate: N/A
3. Maximum Heat Input Rate: 1,669 million Btu/hr (LHV) – CT
4. Maximum Incineration Rate: pounds/hr N/A tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 8,760 hours/year
6. Operating Capacity/Schedule Comment: Maximum CT heat input at ISO conditions and natural gas firing (LHV) without power augmentation. CT heat input will vary with ambient conditions and load. Maximum heat input for DBs is 250 MMBtu/hr (LHV).

EMISSIONS UNIT INFORMATION

Section [2] of [3]

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: CC-2		2. Emission Point Type Code: 2	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: N/A			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: EU 002, EU 004			
5. Discharge Type Code: V		6. Stack Height: 142 feet	
7. Exit Diameter: 18.5 feet		8. Exit Temperature: 200°F	
9. Actual Volumetric Flow Rate: 1,021,100 acfm		10. Water Vapor: N/A %	
11. Maximum Dry Standard Flow Rate: N/A dscfm		12. Nonstack Emission Point Height: N/A feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) : Longitude (DD/MM/SS) :	
15. Emission Point Comment: Stack parameters are for ISO conditions firing natural gas. Field 9 represents 100-percent load, 59°F ambient temperature, with no DB firing or PA.			

EMISSIONS UNIT INFORMATION

Section [2] of [3]

D. SEGMENT (PROCESS/FUEL) INFORMATION**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type): Combustion turbine fired with pipeline-quality natural gas.		
2. Source Classification Code (SCC): 2-01-002-01		3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 1.926	5. Maximum Annual Rate: 15,892	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: 920 (LHV)
10. Segment Comment: Field 4 based on 100% load, 32°F. Field 5 based on 100% load, 59°F, and 8,760 hr/yr.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Duct burner fired with pipeline-quality natural gas.		
2. Source Classification Code (SCC): 1-01-006-01		3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: 0.245	5. Maximum Annual Rate: 704.8	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: 920 (LHV)
10. Segment Comment: Field 5 based on 100% load and 2,880 hr/yr.		

EMISSIONS UNIT INFORMATION

Section [2] of [3]

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NO _x	25	139	EL
CO			EL
VOC			EL
SO ₂			EL
PM			EL
PM ₁₀			EL
NH ₃			EL

EMISSIONS UNIT INFORMATION

Section [2] of [3]

POLLUTANT DETAIL INFORMATION

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**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 31.4 lb/hour 126.6 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: N/A Reference: Vendor Data		7. Emissions Method Code: 2	
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 95°F ambient, DB & PA Potential Annual Emissions: 100% load, 59°F ambient, CT (5,880 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) $27.7 \frac{lb}{hr} \times 5,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 31.4 \frac{lb}{hr} \times 2,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} = 81.4 + 45.2 = 126.6 \frac{ton}{yr}$			
9. Pollutant Potential/Estimated Fugitive Emissions Comment:			

EMISSIONS UNIT INFORMATION

Section [2] of [3]

POLLUTANT DETAIL INFORMATION

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F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -

ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III, No. 20	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 3.5 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: 31.4 lb/hour 126.6 tons/year
5. Method of Compliance: CEMS 24-hour block average	
6. Allowable Emissions Comment (Description of Operating Method): Field 3 limit applicable to CT/HRSG Unit 1 with or without DB and PA.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III, No. 20	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 27.5 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Method 7E or 20	
6. Allowable Emissions Comment (Description of Operating Method): Field 4 hourly limit (at 95°F ambient temperature) applicable to CT/HRSG Unit 1 with DB and PA.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III, No. 20	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 0.1 lb/MMBtu (DB only)	4. Equivalent Allowable Emissions: (DB) 25.0 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Method 7E	
6. Allowable Emissions Comment (Description of Operating Method): See allowable emissions above for additional NO_x limits during DB firing.	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control: N/A	
3. Potential Emissions: 152.0 lb/hour 399.5 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: N/A Reference: Vendor Data		7. Emissions Method Code: 2	
8. Calculation of Emissions: Potential Hourly Emissions: 60% load, 32°F ambient, CT Potential Annual Emissions: 100% load, 59°F ambient, CT (4,380 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) 60% load, 59°F ambient, CT (1,500 hr/yr) $43.0 \frac{lb}{hr} \times 4,380 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 136.0 \frac{lb}{hr} \times 2,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 146.0 \frac{lb}{hr} \times 1,500 \frac{hr}{yr} \times \frac{ton}{2,000 lb} =$ $(94.2 + 195.8 + 109.5) \frac{ton}{yr} = 399.5 \frac{ton}{yr}$			
9. Pollutant Potential/Estimated Fugitive Emissions Comment:			

EMISSIONS UNIT INFORMATION

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POLLUTANT DETAIL INFORMATION

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F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 21	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 10 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: 45.0 lb/hour N/A tons/year
5. Method of Compliance: CEMS 24-hour block average	
6. Allowable Emissions Comment (Description of Operating Method): Applicable for days when no valid hour includes duct burner firing, power augmentation, or CT loads between 60 – 70 percent.	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 21	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 45.0 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Method 10 or RATA testing	
6. Allowable Emissions Comment (Description of Operating Method): Applicable for 100 percent CT load with no duct burner firing or power augmentation.	

Allowable Emissions Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 21	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 17 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: N/A lb/hour N/A tons/year
5. Method of Compliance: CEMS 24-hour block average	
6. Allowable Emissions Comment (Description of Operating Method): Applicable for days when a valid hour includes duct burner firing, power augmentation, or CT loads between 60 – 70 percent.	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control: N/A
3. Potential Emissions: 11.7 lb/hour 33.9 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A	
6. Emission Factor: N/A Reference: Vendor Data	7. Emissions Method Code: 2
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 95°F ambient, DB & PA Potential Annual Emissions: 100% load, 59°F ambient, CT (4,380 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) 60% load, 59°F ambient, CT (1,500 hr/yr) $5.4 \frac{lb}{hr} \times 4,380 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 11.7 \frac{lb}{hr} \times 2,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 7.0 \frac{lb}{hr} \times 1,500 \frac{hr}{yr} \times \frac{ton}{2,000 lb} =$ $(11.8 + 16.8 + 5.3) \frac{ton}{yr} = 33.9 \frac{ton}{yr}$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

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POLLUTANT DETAIL INFORMATION

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

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 22	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 2.3 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: 5.8 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Methods 18, 25, and/or 25A	
6. Allowable Emissions Comment (Description of Operating Method): 100-percent load at ISO conditions with duct burner off.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 22	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 4.6 ppmvd @ 15-percent oxygen	4. Equivalent Allowable Emissions: 12.4 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Methods 18, 25, and/or 25A	
6. Allowable Emissions Comment (Description of Operating Method): 100-percent load at ISO conditions with duct burner on and operating in the power augmentation mode.	

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/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: SO₂	2. Total Percent Efficiency of Control: N/A
3. Potential Emissions: 11.8 lb/hour 47.5 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A	
6. Emission Factor: N/A Reference: Vendor Data	7. Emissions Method Code: 2
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 95°F ambient, DB & PA Potential Annual Emissions: 100% load, 59°F ambient, CT (5,880 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) $1.814130 \times 10^6 \frac{cf}{hr} \times 5,880 \frac{hr}{yr} + 2.065363 \times 10^6 \frac{cf}{hr} \times 2,880 \frac{hr}{yr} = 16,615.3 \times 10^6 \frac{cf}{yr}$ $16,615.3 \times 10^6 \frac{cf}{yr} \times 2.0 \frac{gr\ S}{100\ cf} \times \frac{lb}{7,000\ gr} \times \frac{ton}{2,000\ lb} \times \frac{2\ SO_2}{1\ S} = 47.5 \frac{ton}{yr}$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

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POLLUTANT DETAIL INFORMATION

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

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 23	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 2.0 grains S / 100 scf natural gas	4. Equivalent Allowable Emissions: 11.8 lb/hour 47.5 tons/year
5. Method of Compliance: Custom fuel monitoring	
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 [3]

POLLUTANT DETAIL INFORMATION

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**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: PM/PM₁₀	2. Total Percent Efficiency of Control: N/A
3. Potential Emissions: 23.8 lb/hour 94.4 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A	
6. Emission Factor: N/A Reference:	7. Emissions Method Code: 2
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 59°F ambient, DB Potential Annual Emissions: 100% load, 59°F ambient, CT (5,880 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) $21.1 \frac{lb}{hr} \times 5,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} + 22.5 \frac{lb}{hr} \times 2,880 \frac{hr}{yr} \times \frac{ton}{2,000 lb} =$ $62.0 \frac{ton}{yr} + 32.4 \frac{ton}{yr} = 94.4 \frac{ton}{yr}$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

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POLLUTANT DETAIL INFORMATION

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F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 24	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 24.1 lb/hour N/A tons/year
5. Method of Compliance: EPA Reference Method 5	
6. Allowable Emissions Comment (Description of Operating Method): Hourly limit at 100-percent load with duct burner firing and operating in the power augmentation mode.	

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/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: NH₃	2. Total Percent Efficiency of Control: N/A
3. Potential Emissions: 30.4 lb/hour 118.2 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A	
6. Emission Factor: N/A Reference:	7. Emissions Method Code: 0
8. Calculation of Emissions: Potential Hourly Emissions: 100% load, 95°F ambient, DB & PA $(1.273 \text{ mmft}^3/\text{hr}) \times (9 \text{ ft}^3 \text{ NH}_3 / \text{mm ft}^3) \times (17 \text{ lb NH}_3 / \text{mole NH}_3) \times (1 \text{ mole NH}_3 / 385.3 \text{ ft}^3 \text{ NH}_3) \times (60 \text{ min} / \text{hr})$ $= 30.3 \text{ lb/hr NH}_3$ Potential Annual Emissions: 100% load, 59°F ambient, CT (5,880 hr/yr) 100% load, 95°F ambient, DB & PA (2,880 hr/yr) $\{[(1.064 \text{ mmft}^3/\text{hr}) \times (9 \text{ ft}^3 \text{ NH}_3 / \text{mm ft}^3) \times (17 \text{ lb NH}_3 / \text{mole NH}_3) \times (1 \text{ mole NH}_3 / 385.3 \text{ ft}^3 \text{ NH}_3) \times (60 \text{ min} / \text{hr}) \times (5,880 \text{ hr/yr})] + [(1.273 \text{ mmft}^3/\text{hr}) \times (9 \text{ ft}^3 \text{ NH}_3 / \text{mm ft}^3) \times (17 \text{ lb NH}_3 / \text{mole NH}_3) \times (1 \text{ mole NH}_3 / 385.3 \text{ ft}^3 \text{ NH}_3) \times (60 \text{ min} / \text{hr}) \times (2,880 \text{ hr/yr})]\} \times (1 \text{ ton} / 2,000 \text{ lb}) = 118.2 \text{ ton/yr NH}_3$	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

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POLLUTANT DETAIL INFORMATION

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

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: PSD-FL-287, Permit Condition Section III No. 20	2. Future Effective Date of Allowable Emissions: N/A
3. Allowable Emissions and Units: 9.0 ppmvd @ 15% O₂	4. Equivalent Allowable Emissions: 30.4 lb/hour 118.2 tons/year
5. Method of Compliance: EPA Reference Method 26A and Draft Method 206	
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 [3]

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE 10	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: N/A % Maximum Period of Excess Opacity Allowed: N/A min/hour	
4. Method of Compliance: EPA Reference Method 9	
5. Visible Emissions Comment: PSD-FL-287 Permit Condition Section III No. 24	

Visible Emissions Limitation: Visible Emissions Limitation ___ of ___

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

EMISSIONS UNIT INFORMATION

Section [2] of [3]

H. CONTINUOUS MONITOR INFORMATION**Complete if this emissions unit is or would be subject to continuous monitoring.****Continuous Monitoring System:** Continuous Monitor 1 of 3

1. Parameter Code: EM	2. Pollutant(s): CO
3. CMS Requirement: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Rosemount Analytical Model Number: MLT Serial Number: 102-CEM-AN-001	
5. Installation Date: 03/23/04	6. Performance Specification Test Date: 06/10/04
7. Continuous Monitor Comment: PSD-FL-287 Permit Condition No. 30.	

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: O₂	2. Pollutant(s):
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Rosemount Analytical Model Number: MLT Serial Number: 30082674392	
5. Installation Date: 03/23/04	6. Performance Specification Test Date: 06/10/04
7. Continuous Monitor Comment: NO_x diluent CEM requirements of 40 CFR 75	

EMISSIONS UNIT INFORMATION

Section [2] of [3]

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

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

Continuous Monitoring System: Continuous Monitor 3 of 3

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Rosemount Analytical Model Number: NGA-CLD Serial Number: U1006821	
5. Installation Date: 03/23/04	6. Performance Specification Test Date: 05/06/04
7. Continuous Monitor Comment: NO_x CEMS requirements of 40 CFR 75	

Continuous Monitoring System: Continuous Monitor 4 of 4

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other	
4. Monitor Information... Manufacturer: Rosemount Analytical Model Number: NGA-CLD Serial Number: U1006519	
5. Installation Date: 03/23/04	6. Performance Specification Test Date: 05/06/04
7. Continuous Monitor Comment: SCR Inlet—NO_x CEMS requirements of PSD-FL-287, Section III, Condition No. 46.	

EMISSIONS UNIT INFORMATION

Section [2] of [3]

I. EMISSIONS UNIT ADDITIONAL INFORMATION**Additional Requirements for All Applications, Except as Otherwise Stated**

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-2</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-7</u> <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-8</u> <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-9</u> <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>06/21/04</u> Test Date(s)/Pollutant(s) Tested: <u>May 5th – 7th, 2004 / NO_x, VOC, CO, PM, VE, NH₃, and fuel sulfur content.</u> <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [2] of [3]

Additional Requirements for Air Construction Permit Applications NOT APPLICABLE

1. Control Technology Review and Analysis (Rules 62-212.400(6) 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 (Rule 62-212.400(5)(h)6., F.A.C., and Rule 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: A-5

2. Compliance Assurance Monitoring

☐ Attached, Document ID: _____ ☒ Not Applicable

3. Alternative Methods of Operation

☒ Attached, Document ID: A-10 ☐ Not Applicable

4. Alternative Modes of Operation (Emissions Trading)

☐ Attached, Document ID: _____ ☒ Not Applicable

5. Acid Rain Part Application

☒ Certificate of Representation (EPA Form No. 7610-1)

☒ Copy Attached, Document ID: A-11

☒ Acid Rain Part (Form No. 62-210.900(1)(a))

☒ Attached, Document ID: A-12

☐ Previously Submitted, Date: _____

☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)

☐ Attached, Document ID: _____

☐ Previously Submitted, Date: _____

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

☐ Attached, Document ID: _____

☐ Previously Submitted, Date: _____

☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

☐ Attached, Document ID: _____

☐ Previously Submitted, Date: _____

☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)

☐ Attached, Document ID: _____

☐ Previously Submitted, Date: _____

☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)

☐ Attached, Document ID: _____

☐ Previously Submitted, Date: _____

☐ Not Applicable

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

Section [3] of [3]

E.U. 005

A. GENERAL EMISSIONS UNIT INFORMATION**Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- ☐ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☒ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

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

2. Description of Emissions Unit Addressed in this Section:

Fresh Water Cooling Tower

3. Emissions Unit Identification Number: **EU 005**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: 3/21/04	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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9. Package Unit:
Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment:

EMISSIONS UNIT INFORMATION

Section [3] of [3]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Low velocity mist (drift) eliminators

2. Control Device or Method Code(s): **015**

Section [3] of [3]

(Optional for unregulated emissions units.)

1. Maximum Process or Throughput Rate:	140,000 gal/min	
2. Maximum Production Rate:	N/A	
3. Maximum Heat Input Rate:	_____ million Btu/hr	
4. Maximum Incineration Rate:	pounds/hr	N/A
	tons/day	
5. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year
6. Operating Capacity/Schedule Comment:		
Maximum process rate (Field 3) is cooling tower water recirculation rate		

EMISSIONS UNIT INFORMATION

Section [3] of [3]

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Cooling Tower		2. Emission Point Type Code: 3	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Cooling tower consists of 8 cells			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: N/A			
5. Discharge Type Code: V	6. Stack Height: 55 feet	7. Exit Diameter: 28 feet	
8. Exit Temperature: °F	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: N/A %	
11. Maximum Dry Standard Flow Rate: N/A dscfm		12. Nonstack Emission Point Height: N/A 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: Cooling tower consists of 8 cells with individual exhaust fans. Stack height and diameter are provided in Fields 6 and 7 for each cell exhaust. Exhaust volume and temperatures vary with ambient temperatures.			

EMISSIONS UNIT INFORMATION

Section [3] of [3]

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

1. Segment Description (Process/Fuel Type): Cooling Tower - process cooling, mechanical draft		
2. Source Classification Code (SCC): 3-85-001-01		3. SCC Units: Thousand gallons transferred
4. Maximum Hourly Rate: 8,400	5. Maximum Annual Rate: 73,584,000	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Fields 4 and 5 are fresh water cooling tower recirculation water flow rates.		

Segment Description and Rate: Segment __ of __

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

EMISSIONS UNIT INFORMATION

Section [3] of [3]

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

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	015		NS
PM ₁₀	015		NS

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 1.96 lb/hour 8.6 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: Reference: AP-42, Section 13.4		7. Emissions Method Code: 3	
8. Calculation of Emissions: Potential Hourly Emissions: $\left(140,000 \frac{\text{gal}}{\text{min}}\right) \times \left(\frac{0.002}{100}\right) \times \left(\frac{1,400 \text{ lb PM}}{1,000,000 \text{ lb}}\right) \times \left(8.345 \frac{\text{lb}}{\text{gal}} \text{ water}\right) \times \left(60 \frac{\text{min}}{\text{hr}}\right) = 1.96 \frac{\text{lb}}{\text{hr}} \text{ PM}$ Potential Annual Emissions : $\left(1.96 \frac{\text{lb}}{\text{hr}}\right) \times \left(8,760 \frac{\text{hr}}{\text{yr}}\right) \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = 8.6 \frac{\text{ton}}{\text{yr}} \text{ PM}$			
9. Pollutant Potential/Estimated Fugitive Emissions Comment:			

EMISSIONS UNIT INFORMATION

Section [3] of [3]

POLLUTANT DETAIL INFORMATION

Page [2] of [4]

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Other	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.002-percent drift loss	4. Equivalent Allowable Emissions: 1.96 lb/hour 8.6 tons/year
5. Method of Compliance: Cooling tower vendor design data	
6. Allowable Emissions Comment (Description of Operating Method): Condition 19 of Section III of PSD-FL-287 Permit specifies that the draft eliminators shall meet 0.002 gal/100 gal of recirculation water flow rate	

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/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: PM10		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 1.96 lb/hour 8.6 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: Reference: AP-42, Section 13.4		7. Emissions Method Code: 3	
8. Calculation of Emissions: Potential Hourly Emissions: $\left(140,000 \frac{\text{gal}}{\text{min}}\right) \times \left(\frac{0.002}{100}\right) \times \left(\frac{1,400 \text{ lb PM}}{1,000,000 \text{ lb}}\right) \times \left(8.345 \frac{\text{lb}}{\text{gal}} \text{ water}\right) \times \left(60 \frac{\text{min}}{\text{hr}}\right) = 1.96 \frac{\text{lb}}{\text{hr}} \text{ PM}_{10}$ Potential Annual Emissions : $\left(1.96 \frac{\text{lb}}{\text{hr}}\right) \times \left(8,760 \frac{\text{hr}}{\text{yr}}\right) \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}}\right) = 8.6 \frac{\text{ton}}{\text{yr}} \text{ PM}_{10}$			
9. Pollutant Potential/Estimated Fugitive Emissions Comment:			

EMISSIONS UNIT INFORMATION

Section [3] of [3]

POLLUTANT DETAIL INFORMATION

Page [4] of [4]

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Other	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.002-percent drift loss	4. Equivalent Allowable Emissions: 1.96 lb/hour 8.6 tons/year
5. Method of Compliance: Cooling tower vendor design data	
6. Allowable Emissions Comment (Description of Operating Method): Condition 19 of Section III of PSD-FL-287 Permit specifies that the draft eliminators shall meet 0.002 gal/100 gal of recirculation water flow rate	

Allowable Emissions Allowable Emissions of

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

Allowable Emissions Allowable Emissions of

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

EMISSIONS UNIT INFORMATION

Section [3] of [3]

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE 20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Reference Method 9	
5. Visible Emissions Comment: Rule 62-296.320(4)(b)1, F.A.C.	

Visible Emissions Limitation: Visible Emissions Limitation ___ of ___

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

EMISSIONS UNIT INFORMATION

Section [3] of [3]

N/A

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

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

Continuous Monitoring System: Continuous Monitor ___ of ___

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

EMISSIONS UNIT INFORMATION

Section [3] of [3]

I. EMISSIONS UNIT ADDITIONAL INFORMATION**Additional Requirements for All Applications, Except as Otherwise Stated**

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-2</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [3] of [3]

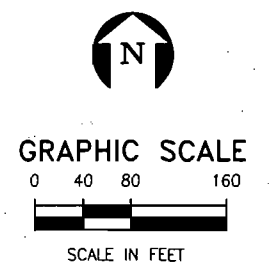
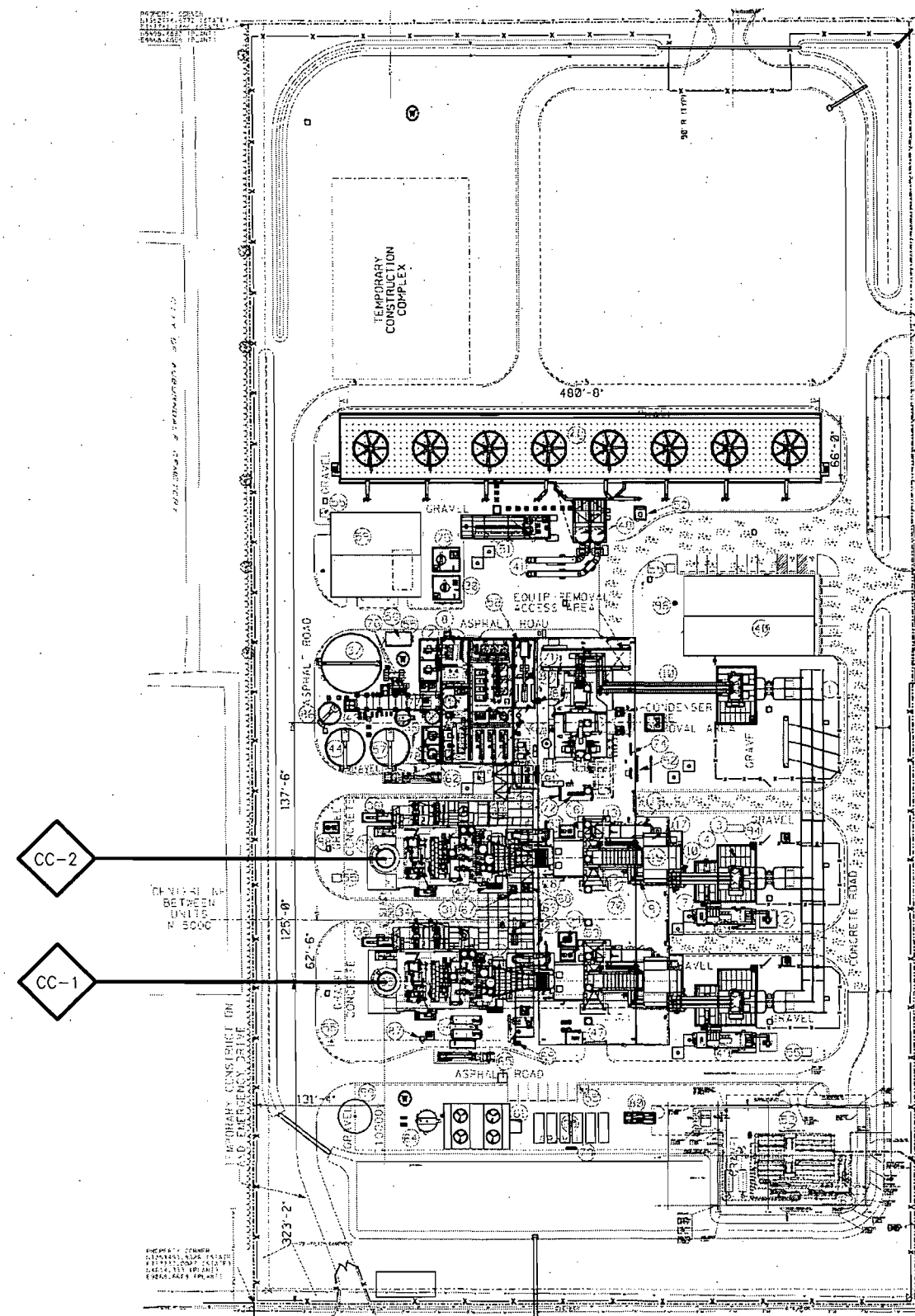
Additional Requirements for Air Construction Permit Applications NOT APPLICABLE

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements <input checked="" type="checkbox"/> Attached, Document ID: <u>A-5</u>
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
5. Acid Rain Part Application <input type="checkbox"/> Certificate of Representation (EPA Form No. 7610-1) <input type="checkbox"/> Copy Attached, Document ID: _____ <input type="checkbox"/> Acid Rain Part (Form No. 62-210.900(1)(a)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment



- LEGEND**
1. ELECTRICAL SUBSTATION AREA
 2. TRANSFORMER
 3. GENERATOR STEP-UP TRANSFORMER
 4. UNIT AUX. TRANSFORMER
 5. EXCITATION TRANSFORMER
 6. EXCITATION SKID
 7. EXCITATION LOW VOLT BREAKER
 8. EXCITATION SWITCHGEAR ROOM
 9. GENERATOR & SURGE BUSICLE
 10. 1500 PHASE BUS DUCT
 11. ELECTRICAL EQUIPMENT PACKAGE
 12. GENERATOR
 13. MECHANICAL PACKAGE
 14. AMMONIA STORAGE TANK
 15. COMBUSTION TURBINE AIR INLET FILTER (ABOVE)
 16. HYDRAULIC SKID
 17. CONDENSATE WATER WASH SKID
 18. COMBUSTION TURBINE TGT
 19. ST GENERATOR
 20. OIL MIST EXHAUSTOR
 21. LAKE CONTROL VLV MODULE SKID
 22. STAND. STEAM CONDENSER
 23. STEAM TURBINE (S)
 24. CONDENSATE PUMPS
 25. CONDENSATE PUMPS
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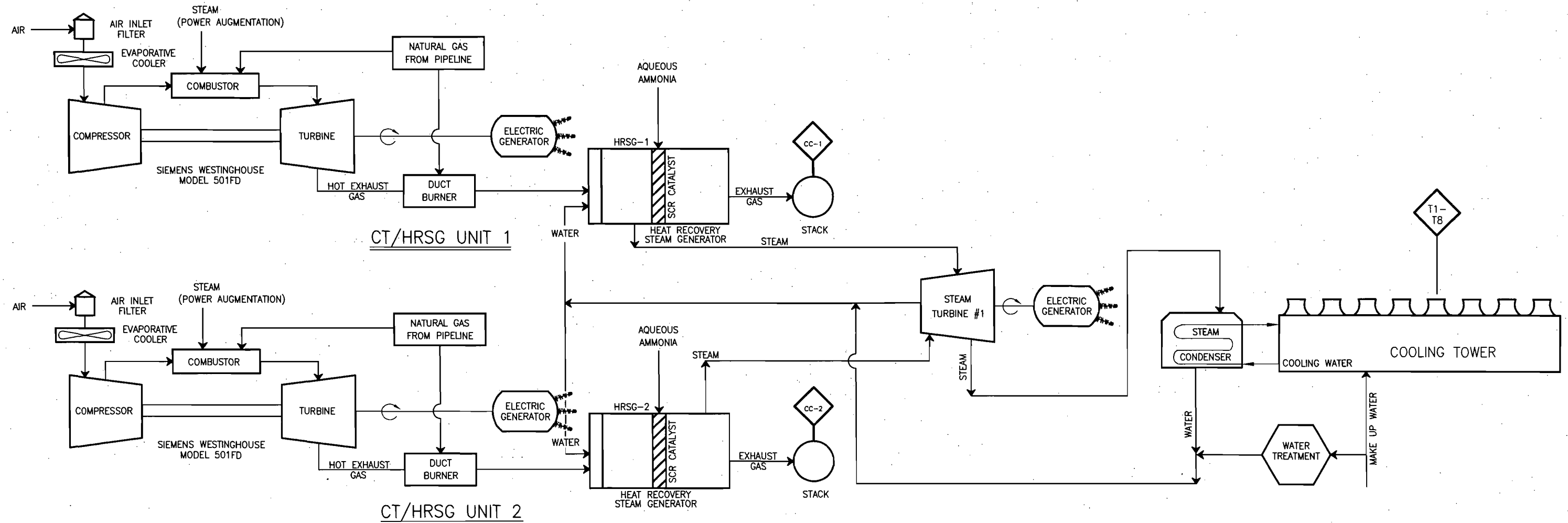
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ATTACHMENT A-1.
FACILITY PLOT PLAN

Source: ECT, 2004.



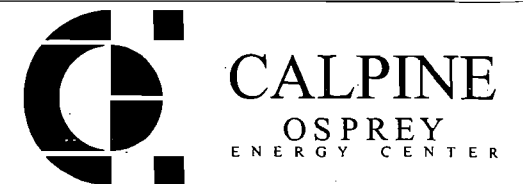


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CC-1 EMISSION POINT

ATTACHMENT A-2.
PROCESS FLOW DIAGRAM

Source: ECT, 2004.



ATTACHMENT A-3

OSPREY ENERGY CENTER

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Unconfined particulate matter emissions that may result from Osprey Energy Center operations include:

- Vehicular traffic on paved roads.
- Wind-blown dust from yard areas.
- Periodic abrasive blasting.

The following techniques may be used to control unconfined particulate matter emissions on an as needed basis:

- Chemical or water application to unpaved yard areas
- Paving and maintenance of roads, parking areas and yards.
- Landscaping or planting of vegetation.
- Confining abrasive blasting where possible.
- Other techniques, as necessary.

ATTACHMENT A-4

OSPREY ENERGY CENTER

LIST OF INSIGNIFICANT ACTIVITIES

1. Internal combustion engines in vehicles used for transportation of passengers or freight.
2. Vacuum pumps in laboratory operations.
3. Equipment used for steam cleaning.
4. Belt or drum sanders having a total sanding surface of five square feet or less and other equipment used exclusively on wood or plastics or their products having a density of 20 pounds per cubic foot or more.
5. Equipment used exclusively for space heating, other than boilers.
6. Laboratory equipment used exclusively for chemical or physical analyses, including fume hoods and vents.
7. Brazing, soldering or welding equipment.
8. One or more emergency generators located within a single facility provided:
 - a. None of the emergency generators is subject to the Federal Acid Rain Program; and
 - b. Total fuel consumption by all such emergency generators within the facility is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used.
9. One or more heating units, general purpose internal combustion engines, or other combustion devices, all of which are located within a single facility, are not listed elsewhere in Rule 62-210.300(3)(a), F.A.C., and are not pollution control devices, provided:
 - a. None of the heating units, general purpose internal combustion engines, or other combustion devices that would be exempted is subject to the Federal Acid Rain Program;
 - b. Total fuel consumption by all such heating units, general purpose internal combustion engines, and other combustion devices that would be exempted is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic

ATTACHMENT A-4

OSPREY ENERGY CENTER

LIST OF INSIGNIFICANT ACTIVITIES

feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used; and

- c. Fuel for the heating units, general purpose internal combustion engines, and other combustion devices that would be exempted is limited to natural gas, diesel fuel, gasoline and propane.
- 10. Fire and safety equipment.
 - 11. Surface coating operations within a single facility if the total quantity of coatings containing greater than 5.0 percent VOCs, by volume, used is 6.0 gallons per day or less, averaged monthly, provided:
 - a. Such operations are not subject to a volatile organic compound Reasonably Available Control Technology (RACT) requirement of Chapter 62-296, F.A.C.; and
 - b. The amount of coatings used shall include any solvents and thinners used in the process including those used for cleanup.
 - 12. Surface coating operations utilizing only coatings containing 5.0 percent or less VOCs, by volume.
 - 13. Degreasing units using heavier-than-air vapors exclusively, except any such unit using or emitting any substance classified as a hazardous air pollutant.
 - 14. Petroleum lubrication systems.
 - 15. Application of fungicide, herbicide, or pesticide.
 - 16. Non-halogenated solvent storage and cleaning operations, provided the solvents contain none of the hazardous air pollutants listed at Rule 62-210.200, F.A.C.
 - 17. Vehicle refueling operations and associated fuel storage.
 - 18. Storage tanks less than 250 gallons.
 - 19. General plant maintenance activities including, but not limited to, welding, grinding, and general vehicle repair (excluding air-conditioning systems).
 - 20. Water and wastewater treatment equipment

ATTACHMENT A-4

OSPREY ENERGY CENTER

LIST OF INSIGNIFICANT ACTIVITIES

21. Any emission unit or activity that would:
 - a. Not be subject to any unit-specific applicable requirement.
 - b. Neither emit nor have the potential to emit:
 - (i) 500 pounds per year or more of lead and lead compounds expressed as lead;
 - (ii) 1,000 pounds per year or more of any hazardous air pollutant;
 - (iii) 2,500 pounds per year or more of total hazardous air pollutants; or
 - (iv) 5.0 tons per year or more of any other regulated pollutant.
22. One, 265 HP fire water pump diesel engine
23. One, 1,250 KW emergency generator diesel engine
24. Oil/water separators
25. Lube oil tank vents associated with rotating equipment
26. Architectural (equipment) maintenance painting
27. Vehicular traffic on plant roadways and grounds.
28. Sand blasting and abrasive grit blasting where temporary total enclosures are used to contain particulate matter emissions.
29. Wet surface air coolers
30. Turbine vapor extractor
31. Comfort heating with a gross maximum heat input of less than one million Btu per hour.
32. Lube oil tank vents

Table A5-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Page 1 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
40 CFR Part 60 - Standards of Performance for New Stationary Sources				
<i>40 CFR Part 60 Subpart A - General Provisions</i>				
Notification and Recordkeeping	60.7(a)		CT/HRSG-1 CT/HRSG-2	Notification requirements.
	60.7(b) - (h)		CT/HRSG-1 CT/HRSG-2	General recordkeeping and reporting requirements.
Performance Tests	60.8		CT/HRSG-1 CT/HRSG-2	Conduct initial performance tests as required by EPA.
Compliance with Standards	60.11(a) thru (f)		CT/HRSG-1 CT/HRSG-2	General compliance requirements. Addresses requirements for visible emissions tests.
Circumvention	60.12		CT/HRSG-1 CT/HRSG-2	Cannot conceal an emission that would otherwise constitute a violation of an applicable standard.
Monitoring Requirements	60.13		CT/HRSG-1 CT/HRSG-2	Requirements for CEMS and monitoring devices.
Modification	60.14		CT/HRSG-1 CT/HRSG-2	General requirements regarding modifications (potential future requirement).
Reconstruction	60.15		CT/HRSG-1 CT/HRSG-2	General requirements regarding reconstructions (potential future requirement).
Incorporation by Reference	60.17		CT/HRSG-1 CT/HRSG-2	Specifies ASTM Methods for collecting and analyzing fuel samples.
General Notification and Reporting Requirements	60.19		CT/HRSG-1 CT/HRSG-2	General procedures regarding reporting deadlines.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 2 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
<i>40 CFR Part 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978</i>				
Standard for Particulate Matter	60.42a(a)(1)		HRSG-1 (DB) HRSG-2 (DB)	Particulate matter shall not exceed 0.03 lb/MMBtu heat input from the combustion of solid, liquid, or gaseous fuel.
	60.42a(b)		HRSG-1 (DB) HRSG-2 (DB)	Opacity shall not exceed 20% (6 minute average) except for one 6-minute period per hour of not more than 27% opacity.
Standard for Sulfur Dioxide	60.43a(b)(1) and (2)		HRSG-1 (DB) HRSG-2 (DB)	Sulfur dioxide emissions shall not exceed 0.80 lb/MMBtu heat input and 10 percent of the potential combustion concentration (90 percent reduction) or 100 percent of the potential combustion concentration (0 percent reduction) when emissions are less than 0.20 lb/MMBtu for gaseous fossil fuels.
Standard for Nitrogen Oxides	60.44a(d)(1)		HRSG-1 (DB) HRSG-2 (DB)	Nitrogen oxide emissions shall not exceed 1.6 lb/MW-hr.
Compliance Provisions, PM	60.46a(a)		HRSG-1 (DB) HRSG-2 (DB)	Compliance with the 0.03 lb/MMBtu particulate matter standard constitutes compliance with the percent reduction requirement.
Compliance Provisions, PM and NO _x	60.46a(c)		HRSG-1 (DB) HRSG-2 (DB)	The particulate matter and nitrogen oxides standards apply at all times except during periods of startup, shutdown, and malfunction. The sulfur dioxide standards apply at all times except during periods of startup, shutdown, or when both emergency conditions exist and the procedures of 60.46a(d) are implemented.
Compliance Provisions, SO ₂ and NO _x	60.46a(e)		HRSG-1 (DB) HRSG-2 (DB)	After initial performance tests, compliance with the sulfur dioxide and nitrogen oxides emission limits and percentage reduction requirements is based on the average emission rates for 30 successive boiler days.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 3 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
Compliance Provisions, SO ₂ and NO _x	60.46a(g)		HRSG-1 (DB) HRSG-2 (DB)	Compliance is determined by calculating the arithmetic average of all hourly emission rates for SO ₂ and NO _x for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction (NO _x only), or emergency conditions (SO ₂ only). Compliance with the percentage reduction requirement for SO ₂ is determined based on the average inlet and average outlet SO ₂ emission rates for the 30 successive boiler operating days.
Compliance Provisions	60.46a(h)		HRSG-1 (DB) HRSG-2 (DB)	Requirements pertaining to compliance procedures if the minimum quantity of emissions monitoring data required by 60.47a is not obtained.
Duct Burner Compliance Provisions, NO _x	60.46a(k)		HRSG-1 (DB) HRSG-2 (DB)	Compliance provisions for the with the 1.6 lb/MW-hr NO _x standard..
Emissions Monitoring	60.47a		HRSG-1 (DB) HRSG-2 (DB)	Requirements for continuous nitrogen oxides, oxygen or carbon dioxide monitoring systems.
Compliance Determination Procedures and Methods	60.48a(a) – (e)		HRSG-1 (DB) HRSG-2 (DB)	Requirements for compliance determination procedures.
Reporting Requirements, CEMS Evaluations	60.49a(a)		HRSG-1 (DB) HRSG-2 (DB)	Requires submittal of continuous monitor performance evaluations to EPA.
Reporting Requirements	60.49a(b)-(j)		HRSG-1 (DB) HRSG-2 (DB)	Reporting requirements.
<i>40 CFR Part 60 Subpart GG - Standards of Performance for Stationary Gas Turbines</i>				
Standard for Nitrogen Oxides	60.332		CT-1 CT-2	Specifies formula for allowable nitrogen oxide emission limit of 75 ppmv at 15% oxygen (with corrections for heat rate and fuel bound nitrogen) for electric utility stationary gas turbines with peak heat input greater than 100 MMBtu/hr.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 4 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
Standard for Sulfur Dioxide	60.333		CT-1 CT-2	Establishes exhaust gas SO ₂ limit of 0.015 % by volume (at 15% O ₂ , dry) and maximum fuel sulfur content of 0.8 % by weight.
Monitoring Requirements	60.334(c)		CT-1 CT-2	CT-1 and CT-2 use nitrogen oxide CEMS in lieu of continuous monitoring of fuel consumption and the ratio of water to fuel combusted for excess emissions monitoring.
Natural Gas Nitrogen Content Monitoring	60.334(h)(2)		CT-1 CT-2	An allowance for fuel bound nitrogen (FBN) is not claimed. Therefore no monitoring of natural gas nitrogen content is required.
Natural Gas Sulfur Content Monitoring	60.334(h)(3)		CT-1 CT-2	Gaseous fuel used at the Osprey Energy Center meets the definition of natural gas. Therefore no monitoring of natural gas sulfur content is required.
Excess Emissions Monitoring Requirements	60.334(j)(iii)		CT-1 CT-2	Excess emissions monitoring requirements for turbines using NO _x and diluent CEMS.
Test Methods and Procedures	60.335(a), (b), (c)		CT-1 CT-2	Specifies test methods and monitoring procedures.
40 CFR Part 60 - Subparts B, C, Cb, Cc, Cd, Ce, Db, Dc, E, Ea, Eb, Ec, F, G, H, I, J, K, Ka, Kb, L, M, N, Na, O, P, Q, R, S, T, U, V, W, X, Z, AA, AAa, BB, CC, DD, EE, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX, AAA, BBB, DDD, FFF, GGG, HHH, III, JJJ, KKK, LLL, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, VVV, and WWW.		X		None of the listed NSPS' contain requirements that are applicable to the Osprey Energy Center.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 5 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants for Source Categories: Subparts B, C, D, E, F, H, I, J, L, M, N, O, Q, R, T, V, W, Y, BB, and FF.		X		None of the listed NESHAPS' contain requirements that are applicable to the Osprey Energy Center.
40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines: Subpart YYYYY.		X		The Osprey Energy Center combustion turbines (CT-1 and CT-2) commenced construction prior to 1/14/2003 and therefore are <i>existing</i> turbines as defined by Subpart YYYYY. Subpart YYYYY does not apply to existing turbines.
40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines: Subpart ZZZZ.		X		The Osprey Energy Center does not contain any internal combustion engines that are subject to Subpart ZZZZ.
40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories: Subparts A, B, C, D, E, F, G, H, I, J, L, M, N, N, O, Q, R, S, T, U, W, X, Y, AA, BB, CC, DD, EE, FF, HH, II, JJ, KK, LL, MM, OO, PP, QQ, RR, SS, TT, UU, VV, WW, YY, CCC, DDD, EEE, GGG, HHH, III, JJJ, LLL, MMM, NNN, OOO, PPP, QQQ, RRR, TTT, UUU, VVV, XXX, AAAA, CCCC, DDDD, EEEE, FFFF, GGGG, HHHH, IIII, JJJJ, KKKK, MMMM, NNNN, OOOO, PPPP, QQQQ, RRRR, SSSS, TTTT, UUUU, VVVV, XXXX, YYYYY, ZZZZ, AAAAA, BBBB, CCCC, DDDDD, EEEEE, FFFFF, GGGGG, HHHHH, IIII, JJJJJ, KKKKK, LLLLL, MMMMM, NNNNN, PPPPP, QQQQQ, RRRRR, SSSSS, TTTTT, and WWWWW.		X		None of the listed NESHAPS' contain requirements that are applicable to the Osprey Energy Center.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 6 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
40 CFR Part 72 - Acid Rain Program Permits				
<i>40 CFR Part 72 Subpart A - Acid Rain Program General Provisions</i>				
Standard Requirements	72.9		CT/HRSG-1 CT/HRSG-2	General acid rain requirements.
<i>40 CFR Part 72 Subpart B - Designated Representative</i>				
Designated Representative	72.20 - 72.24		CT/HRSG-1 CT/HRSG-2	General requirements pertaining to the designated representative.
<i>40 CFR Part 72 Subpart C - Acid Rain Application</i>				
Requirements to Apply	72.30(a)		CT/HRSG-1 CT/HRSG-2	Requirements to submit a complete Acid Rain permit by the applicable deadline.
	72.30(b)(2) (i) and (ii)		CT/HRSG-1 CT/HRSG-2	Deadline to submit a complete Acid Rain permit application.
Requirements to Apply	72.30(c)		CT/HRSG-1 CT/HRSG-2	Duty to reapply - The designated representative shall submit a complete Acid Rain permit application for each source with an affected unit at least six months prior to the expiration of an existing Acid Rain permit governing the unit during Phase II or such longer time as may be approved under Part 70 of this chapter that ensures that the term of the existing permit will not expire before the effective date of the permit for which the application is submitted.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 7 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
Requirements to Apply	72.30(d)		CT/HRSG-1 CT/HRSG-2	Requirements to submit an original and three copies of all Phase II permit applications to the State permitting authority where the administrator is not the permitting authority.
Information for Acid Rain Permit Applications	72.31		CT/HRSG-1 CT/HRSG-2	General permit application requirements.
Permit Application Shield	72.32		CT/HRSG-1 CT/HRSG-2	Permit application shield provisions for timely and complete Acid Rain permit applications. Application is binding pending issuance of Acid Rain Permit.
<i>40 CFR Part 72 Subpart D – Acid Rain Compliance Plan and Compliance Options</i>				
General	72.40(a)(1)		CT/HRSG-1 CT/HRSG-2	General Compliance Plan Requirements for SO ₂ .
<i>40 CFR Part 72 Subpart E - Acid Rain Permit Contents</i>				
Permit Shield	72.51		CT/HRSG-1 CT/HRSG-2	Permit shield provisions. Units operating in compliance with an Acid Rain Permit are deemed to be operating in compliance with the Acid Rain Program.
<i>40 CFR Part 72 Subpart H - Permit Revisions</i>				
General, Additional Information	72.80(g)		CT/HRSG-1 CT/HRSG-2	Requirement to submit supplementary or corrected information upon becoming aware of a failure to submit relevant information or a prior incorrect submittal (potential future requirement).
Fast-Track Modifications	72.82(a) and (c)		CT/HRSG-1 CT/HRSG-2	Procedures for fast-track modifications to Acid Rain Permits (potential future requirement).

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 8 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
<i>40 CFR Part 72 Subpart I - Compliance Certification</i>				
Annual Compliance Certification Report	72.90		CT/HRSG-1 CT/HRSG-2	Requirement to submit an annual compliance report.
40 CFR Part 75 - Continuous Emission Monitoring				
<i>40 CFR Part 75 Subpart A - General</i>				
Compliance Dates	75.4 (a)(3) and (b)(2)		CT/HRSG-1 CT/HRSG-2	Requirement to complete all certification tests for CEMS and COMS.
Prohibitions	75.5		CT/HRSG-1 CT/HRSG-2	General monitoring prohibitions.
<i>40 CFR Part 75 Subpart B - Monitoring Provisions</i>				
General Operating Requirements	75.10		CT/HRSG-1 CT/HRSG-2	General acid rain monitoring requirements.
Specific Provisions for Monitoring SO ₂ Emissions	75.11(d)(2)		CT/HRSG-1 CT/HRSG-2	SO ₂ continuous monitoring requirements for gas and oil fired units using Appendix D.
Specific Provisions for Monitoring NO _x Emissions	75.12(a) and (c)		CT/HRSG-1 CT/HRSG-2	NO _x continuous monitoring requirements.
Specific Provisions for Monitoring Opacity	75.14(c)		CT/HRSG-1 CT/HRSG-2	Opacity continuous monitoring exemption for gas-fired units.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 9 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
<i>40 CFR Part 75 Subpart C - Operation and Maintenance Requirements</i>				
Recertification Requirements	75.20(b)		CT/HRSG-1 CT/HRSG-2	Requires that monitoring systems meet recertification requirements by the deadlines stipulated in 75.4. (potential future requirement)
	75.20(a)(1)		CT/HRSG-1 CT/HRSG-2	Requires notification of recertification and revised test dates at least 45 days prior to certification testing. (potential future requirement)
	75.20(a)(2)		CT/HRSG-1 CT/HRSG-2	Requires submittal of recertification applications in accordance with 75.60. (potential future requirement)
	75.20(a)(5)		CT/HRSG-1 CT/HRSG-2	Procedures to be used in the event that the agency issues a disapproval of certification application or certification status. (potential future requirement)
	75.20(c)(1), (3), (10), and (19)		CT/HRSG-1 CT/HRSG-2	Recertification procedure requirements. (potential future requirement)
	75.20(g)		CT/HRSG-1 CT/HRSG-2	Recertification procedure requirements for excepted monitoring systems under Appendices D and E.. (potential future requirement)
Quality Assurance and Quality Control Requirements	75.21(a), c), (d), and (e)		CT/HRSG-1 CT/HRSG-2	General QA/QC requirements (excluding COMS).
Reference Test Methods	75.22		CT/HRSG-1 CT/HRSG-2	Specifies required test methods to be used for certification or recertification testing.
Out-Of-Control Periods and Adjustment for System Bias	75.24 except 75.24(e)		CT/HRSG-1 CT/HRSG-2	Specifies out-of-control periods and the required actions to be taken when they occur (excluding COMS).

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 10 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
<i>40 CFR Part 75 Subpart D - Missing Data Substitution Procedures</i>				
General Provisions	75.30		CT/HRSG-1 CT/HRSG-2	General missing data requirements.
Determination of Monitor Data Availability for Standard Missing Data Procedures	75.32		CT/HRSG-1 CT/HRSG-2	Monitor data availability procedure requirements after the first 720 and 2,160 quality-assured monitor operating hours for SO ₂ and CO ₂ pollutant concentration monitor and flow monitor/NO _x CEMS, respectively.
Standard Missing Data Procedures for SO _x , NO _x , and Flow Rate	75.33		CT/HRSG-1 CT/HRSG-2	Missing data substitution procedure requirements after the first 720 and 2,160 quality-assured monitor operating hours for SO ₂ pollutant concentration monitor and flow monitor/NO _x CEMS, respectively.
<i>Appendix D to Part 75 - Optional SO₂ Emissions Data Protocol for Gas-Fired and Oil-Fired Units</i>				
Missing Data Procedures	Appendix D 2.4		CT/HRSG-1 CT/HRSG-2	Missing data substitution requirements for units using Appendix D – Optional SO ₂ Emissions Data Protocol for Gas-Fired and Oil-Fired Units.
<i>Appendix G to Part 75 – Determination of CO₂ Emissions</i>				
Missing Data Procedures	Appendix G 5		CT/HRSG-1 CT/HRSG-2	Missing data substitution requirements for units using Appendix G – Determination of CO ₂ Emissions.
<i>40 CFR Part 75 Subpart E - Alternative Monitoring Systems</i>				
Alternative Monitoring Systems	75.40 - 75.48	X		Optional requirements for alternative monitoring systems.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 11 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
<i>40 CFR Part 75 Subpart F - Recordkeeping Requirements</i>				
Monitoring Plan	75.53(a), (b), (e), and (f)		CT/HRSG-1 CT/HRSG-2	Requirement to prepare and maintain a Monitoring Plan
General Recordkeeping Provisions	75.57		CT/HRSG-1 CT/HRSG-2	General recordkeeping provisions.
General Recordkeeping Provisions for Specific Situations	75.58(c)		CT/HRSG-1 CT/HRSG-2	SO ₂ recordkeeping provisions for gas-fired or oil-fired units using Appendix D.
Certification, Quality Assurance, and Quality Control Record Provisions	75.59(a) and (b)		CT/HRSG-1 CT/HRSG-2	General QA/QC recordkeeping requirements.
<i>40 CFR Part 75 Subpart G - Reporting Requirements</i>				
General Provisions	75.60		CT/HRSG-1 CT/HRSG-2	General reporting requirements.
Notification of Certification and Recertification Test Dates	75.61		CT/HRSG-1 CT/HRSG-2	Requires written submittal of certification tests, recertification test, and revised test dates for CEMS. Notice of certification testing shall be submitted at least 45 days prior to the first day of certification for recertification testing. Notification of any proposed adjustment to certification testing dates must be provided at least 7 business days prior to the proposed date change.
Monitoring Plan	75.62		CT/HRSG-1 CT/HRSG-2	Monitoring Plan required to be submitted no later than 45 days prior to the certification test.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 12 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
Certification or Recertification Application	75.63		CT/HRSG-1 CT/HRSG-2	Requires submittal of a certification application within 30 days after completing the certification test.
Quarterly Reports	75.64(a)(1) - (5)		CT/HRSG-1 CT/HRSG-2	Requirement to submit quarterly data report.
	75.64(b), (c), (d)		CT/HRSG-1 CT/HRSG-2	Requirement to submit compliance certification in support of each quarterly data report. Requirement to submit quarterly reports in an electronic format to be specified by EPA.
40 CFR Part 77 - Excess Emissions				
Offset Plans for Excess Emissions of Sulfur Dioxide	77.3		DH-1 DH-2 DHCT-3	Requirement to submit offset plans for excess SO ₂ emissions not later than 60 days after the end of any calendar year during which an affected unit has excess SO ₂ emissions. Required contents of offset plans are specified (potential future requirement).
Offset Plans for Excess Emissions of Sulfur Dioxide	77.5(b)		DH-1 DH-2 DHCT-3	Requirement for the Designated Representative to hold enough allowances in the appropriate compliance subaccount to cover deductions to be made by EPA if a timely and complete offset plan is not submitted or if EPA disapproves a proposed offset plan (potential future requirement).
Penalties for Excess Emissions of Sulfur Dioxide and Nitrogen Oxides	77.6		DH-1 DH-2 DHCT-3	Requirement to pay a penalty if excess emissions of SO ₂ or NO _x occur at any affected unit during any year (potential future requirement).

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 13 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
40 CFR Part 78 - Appeal Procedures for Acid Rain Program				
Appeal Procedures	78.1 - 78.20		DH-1 DH-2 DHCT-3	Optional appeal procedures for EPA Acid Rain program decisions (optional future requirement).
40 CFR Part 82 - Protection of Stratospheric Ozone				
Production and Consumption Controls	Subpart A	X		Osprey Energy Center does not produce or consume ozone depleting substances.
Servicing of Motor Vehicle Air Conditioners	Subpart B	X		Osprey Energy Center does not perform servicing of motor vehicles which involves refrigerant in the motor vehicle air conditioner. All such servicing is conducted off-site by persons who comply with Subpart B requirements.
Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances	Subpart C	X		Osprey Energy Center does not sell or distribute any banned nonessential substances.
The Labeling of Products Using Ozone-Depleting Substances	Subpart E	X		Osprey Energy Center does not produce any products containing ozone depleting substances.
<i>Subpart F - Recycling and Emissions Reduction</i>				
Prohibitions	82.154	X		Osprey Energy Center personnel do not maintain, service, repair, or dispose of any appliances. All such activities will be performed by independent parties in compliance with 82.154.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 14 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
Required Practices	82.156 except 82.156(i)(5), (6), (9), (10), and (11)		Appliances as defined by 82.152—any device which contains and uses a Class I or II substance as a refrigerant and which is used for household or commercial purposes including any air conditioner, refrigerator, chiller, or freezer.	Contractors will maintain, service, repair, and dispose of any appliances in compliance with 82.156 required practices.
Technician Certification	82.161	X		Osprey Energy Center Personnel do not maintain, service, repair, or dispose of any appliances and therefore are not subject to technician certification requirements.
Certification By Owners of Recovery and Recycling Equipment	82.162	X		Osprey Energy Center Personnel do not maintain, service, repair, or dispose of any appliances and therefore do not use recovery and recycling equipment.
Reporting and Recordkeeping Requirements	82.166(k), (m), and (n)		Appliances as defined by 82.152.	Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep servicing records documenting the date and type of service, as well as the quantity of refrigerant added.

Table 5A-1. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements (Continued, Page 15 of 15)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable Emissions Units	Applicable Requirement or Nonapplicability Rationale
40 CFR Part 50 - National Primary and Secondary Ambient Air Quality Standards Requirements		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 51 - Preparation, Adoption, and Submittal of Implementation Plans		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 52 - Approval and Promulgation of Implementation Plans		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 62 - Approval and Promulgation of State Plans for Designated Facilities and Pollutants		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 70 - State Operating Permit Programs		X		State agency requirements - not applicable to individual emission sources.
40 CFR Parts 53, 54, 55, 56, 58, 62, 66, 67, 68, 69, 71, 74, 77, 79, 80, 81, 85, 86, 87, 88, 89, and 90		X		The listed regulations do not contain any requirements that are applicable to the Osprey Energy Center.

Source: ECT, 2004.

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 1 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Chapter 62-4, F.A.C. - Permits: Part I General					
Scope of Part I	62-4.001, F.A.C.	X			Contains no applicable requirements.
Definitions	62-4.020, .021, F.A.C.	X			Contains no applicable requirements.
General Prohibition	62-4.030, F.A.C		X		All stationary air pollution sources must be permitted, unless otherwise exempted.
Exemptions	62-4.040(1)(a) and (b), F.A.C		X		Certain structural changes exempt from permitting. Other stationary sources exempt from permitting upon FDEP insignificance determination.
Procedures to Obtain Permits	62-4.050(1), (2), and (3), F.A.C.		X		General permitting procedures including filing in quadruplicate and PE certification.
Air Pollution Permit Processing Fees	62-4.050(4)(a)1., 4., 5., F.A.C.		X		Processing fees for air pollution permits. Permit processing fees are not required for operating permits or non-PSD construction permits for sources holding a Title V permit. (potential future requirement)
Permit Processing, Response to Requests for Additional Information	62-4.055(1), F.A.C.		X		If additional information is requested by FDEP, applicants have 90 days to submit the additional information. Upon request, FDEP will grant an additional 90 period to provided the requested information. Further extensions may be granted if the applicant shows good cause. (potential future requirement)

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 2 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Permit Processing, Option to Request a Hearing	62-4.055(2), F.A.C.		X		If a FDEP request for additional information is not considered authorized by law or rule, the applicant may request a hearing. (optional future requirement)
Permit Processing, Option to Request Department Permit Processing	62-4.055(4), F.A.C.		X		If a FDEP request for additional information is not considered authorized by law or rule, the applicant may request that FDEP process the permit application without the requested information. (optional future requirement)
Permit Processing	62-4.055(3), (5), and (6) F.A.C.	X			FDEP permit processing procedures. Contains no applicable requirements.
Consultation	62-4.060, F.A.C.	X			Consultation with FDEP is encouraged, not required.
Standards for Issuing or Denying Permits; Issuance; Denial	62-4.070, F.A.C	X			Establishes FDEP standard permitting procedures. Contains no applicable requirements.
Modification of Permit Conditions	62-4.080(1) F.A.C.		X		For good cause, permittee may be required to conform to new or additional conditions. (potential future requirement)
Modification of Permit Conditions	62-4.080(2) and (3) F.A.C		X		Permittee may request a permit modification or permit extension. (optional future requirement)

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 3 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Renewals	62-4.090, F.A.C.		X		Establishes permit criteria. Requests for renewal of a Title V operating permit are due prior to 180 days before permit expiration. Applications submitted prior to the due date are considered timely and sufficient. For timely and sufficient applications, the existing permit shall remain in effect until the renewal application has been finally acted upon by FDEP. Additional criteria are cited at 62-213.430(3), F.A.C. (future requirement)
Suspension and Revocation	62-4.100, F.A.C.	X			Establishes FDEP permit suspension and revocation criteria. Contains no applicable requirements.
Financial Responsibility	62-4.110, F.A.C.	X			FDEP has not required proof of financial responsibility or posting of a bond for the Osprey Energy Center.
Transfer of Permits	62-4.120, F.A.C.	X			A sale or legal transfer of a permitted facility is not being requested for the Osprey Energy Center.
Plant Operation - Problems	62-4.130, F.A.C.		X		Immediate notification is required whenever the permittee is temporarily unable to comply with any permit condition. Notification content is specified. (potential future requirement)
Permit Review	62-4.150, F.A.C.		X		Failure to request a hearing within 14 days of proposed or final Agency action on a permit application shall be deemed a waiver to the right to an administrative hearing. (optional future requirement)

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 4 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Permit Conditions	62-4.160, F.A.C.	X			Lists general conditions that FDEP must include in permits. Contains no applicable requirements.
Chapter 62-4, F.A.C. - Part II Specific Permits; Requirements					
Construction Permits	62-4.210, F.A.C.		X		General requirements for construction permits. (potential future requirement)
Operation Permits for New Sources	62-4.220, F.A.C.		X		General requirements for new source operation permits. (potential future requirement)
Chapter 62-4, F.A.C. - Part III Procedures for General Permits	62-4.510 thru 62-4.540, F.A.C.	X			Not applicable to the Osprey Energy Center.
Chapter 62-204, F.A.C. - Air Pollution Control - General Provisions					
State Implementation Plan	62-204.100, .200, .220(1)-(3), .240, .260, .320, .340, .360, .400, and .500, F.A.C.	X			Contains no applicable requirements.
Ambient Air Quality Protection	62-204.220(4), F.A.C.		X		Assessments of ambient air pollutant impacts must be made using applicable air quality models, data bases, and other requirements approved by FDEP and specified in 40 CFR Part 51, Appendix W. Air quality modeling is not required for Title V permit applications. (potential future requirement)

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 5 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Federal Regulations Adopted by Reference	62-204.800(8)(a), (b)1., (b)31., and (b)39., (c), (d), and (e), F.A.C.			CT/HRSG-1 CT/HRSG-2	All Federal Regulations cited in the rules by the Department are adopted and incorporated by reference. Specifically, the new source performance standards contained in 40 CFR 60 Subpart A (CT/HRSG-1, CT/HRSG-2), Subpart Da (HRSG-1, HRSG-2) and Subpart GG (CT-1, CT-2) are applicable to the Osprey Energy Center.
Federal Regulations Adopted by Reference	62-204.800(15), F.A.C.		X		State (FDEP) Part 70 (Title V Permit) Program requirements; see Table A5-1 for detailed federal regulatory citations. Contains no applicable requirements.
Federal Regulations Adopted by Reference	62-204.800(16), (17), (18), (20), and (21), F.A.C.			CT/HRSG-1 CT/HRSG-2	Acid Rain Program; see Table A5-1 for detailed federal regulatory citations.
Federal Regulations Adopted by Reference	62-204.800 (19), F.A.C.	X			Acid Rain NO _x Emission Reduction Program; see Table A5-1 for detailed federal regulatory citations.
Federal Regulations Adopted by Reference	62-204.800(23)(e), F.A.C.		X		Protection of Stratospheric Ozone; see Table A5-1 for detailed federal regulatory citations.
Chapter 62-210, F.A.C. - Stationary Sources - General Requirements					
Purpose and Scope	62-210.100, F.A.C.	X			Contains no applicable requirements.
Definitions	62-210.200, F.A.C.	X			Contains no applicable requirements.

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 6 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Permits Required, Air Construction	62-210.300(1), F.A.C.		X		Requirements for air construction permits. (potential future requirement).
Permits Required, Air Operation	62-210.300(2)(a), F.A.C.		X		Air operation permits required, including permits.
Permits Required, Exemptions	62-210.300(3), F.A.C.		X		Permit exemptions for certain facilities and sources.
Emission Unit Startup, Reclassification, and Transfer of Air Permits	62-210.300(5), (6), and (7) F.A.C.		X		Startup notification required if a permitted source has been shut down for more than 1 year. Emission unit reclassification and air permit transfer procedures. (potential future requirements).
Public Notice and Comment	62-210.350(1), F.A.C.		X		All permit applicants, including those for renewals and revisions, are required to publish notice of proposed agency action.
Additional Notice Requirements for Sources Subject to Prevention of Significant Deterioration or Nonattainment Area New Source Review	62-210.350(2), F.A.C.		X		PSD permit application notice requirements. (potential future requirements).
Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources	62-210.350(3), F.A.C.		X		Notice requirements for Title V operating permits, renewals, and revisions.
Administrative Permit Corrections	62-210.360(1), F.A.C.		X		Facility owner shall notify the FDEP by letter of minor corrections to information contained in a permit. (potential future requirements).

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 7 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Annual Operating Report for Air Pollutant Emitting Facility	62-210.370(3)(a)1. and (c), F.A.C.		X		Title V sources are required to submit an annual operating report.
Stack Height Policy	62-210.550, F.A.C.		X		Limits credit in air dispersion studies to good engineering practice (GEP) stack heights.
Circumvention	62-210.650, F.A.C.		X		An applicable air pollution control device cannot be circumvented and must be operated whenever the emission unit is operating.
Excess Emissions	62-210.700(1), (4), (5), and (6) F.A.C.			CT/HRSG-1 CT/HRSG-2	Excess emissions due to startup, shutdown, and malfunction are permitted. Excess emissions due to malfunction must be reported. Excess emissions due to certain other causes are prohibited. (potential future requirement)
Excess Emissions	62-210.700(1), (4), and (5) F.A.C.		X		Excess emissions due to startup, shutdown, and malfunction are permitted. Excess emissions due to malfunction must be reported. Excess emissions due to certain other causes are prohibited. (potential future requirement)
Forms and Instructions	62-210.900, F.A.C.		X		List required FDEP forms for stationary sources.
Notification Forms for Air General Permits	62-210.920, F.A.C.	X			Contains no applicable requirements.
Chapter 62-212, F.A.C. - Stationary Sources - Preconstruction Review					
Purpose and Scope	62-212.100, F.A.C.	X			Contains no applicable requirements.

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 8 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
General Preconstruction Review Requirements	62-212.300, F.A.C.		X		Air construction permit requirements. Not applicable to Title V operating permit applications. (potential future requirement)
Prevention of Significant Deterioration	62-212.400, F.A.C.		X		PSD permit requirements. Not applicable to Title V operating permit applications. (potential future requirement)
Prevention of Significant Deterioration	62-212.400(7)(b), F.A.C.			CT/HRSG-1 CT/HRSG-2	The operation permit shall contain all operating conditions and provisions required under 62-212.400(7)(a) and set forth in the original or amended construction permit.
New Source Review for Nonattainment Areas	62-212.500, F.A.C.	X			The Osprey Energy Center is not located in any nonattainment area or nonattainment area of influence.
Sulfur Storage and Handling Facilities	62-212.600, F.A.C.	X			Applicable only to sulfur storage and handling facilities.
Air Emissions Bubble	62-212.710(2), (3), (5), and (6) F.A.C.		X		Applicant requirements for an air emissions bubble including permit applications, ambient impact analysis, monitoring, and recordkeeping. (optional future requirement)
Chapter 62-213, F.A.C. - Operation Permits for Major Sources of Air Pollution					
Purpose and Scope	62-213.100, F.A.C.	X			Contains no applicable requirements.
Responsible Official	62-213.202, F.A.C.		X		Title V sources must designate a responsible official.

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 9 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Annual Emissions Fee	62-213.205, F.A.C.		X		Title V sources must pay an annual emissions fee.
Title V Air General Permits	62-213.300, F.A.C.	X			Not applicable to the Osprey Energy Center.
Permits Required	62-213.400(1), F.A.C.		X		Title V sources must operate in compliance with Chapter 62-213.
Permit Revisions Required	62-213.400(2), F.A.C.		X		Lists changes for which a permit revision is required. (potential future requirement) .
Concurrent Processing of Permit Applications	62-213.405, F.A.C.		X		Applicant may request concurrent processing of a construction permit and Title V permit revision or renewal. (optional future requirement) .
Changes Without Permit Revision	62-213.410, F.A.C.		X		Certain changes may be made if specific notice and recordkeeping requirements are met. (potential future requirement)
Immediate Implementation Pending Revision Process	62-213.412, F.A.C.		X		Certain modifications can be implemented pending permit revision if specific criteria are met. (potential future requirement)
Fast-Track Revisions of Acid Rain Parts	62-213.413, F.A.C.			CT/HRSG-1 CT/HRSG-2	Optional provisions for Acid Rain permit revisions. (optional future requirement)
Trading of Emissions within a Source	62-213.415, F.A.C.		X		Defines the conditions under which emissions trading is allowable. (optional future requirement)
Permit Applications, Timely	62-213.420(1)(a)3., F.A.C.		X		Title V operating permit application is timely if submitted in accordance with Rule 62-4.090,

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 10 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Submittal					F.A.C. (Prior to 180 days before permit expiration)
Permit Applications, New or Modified Emission Units	62-213.420(1)(a)4., F.A.C.		X		A Title V source that contains an emissions unit that commences operation or is modified after 10/25/95 is required to submit an application for Title V permit revision at least 90 days prior to the unit's air construction permit expiration , but no later than 180 days after the unit commences operation.
Permit Applications, Standard Information Required	62-213.420(1)(b)1., (3) and (4), F.A.C.		X		Title V operating permit application must contain all the information specified by 62-213.420(3), F.A.C. and be certified by the responsible official.
Permit Applications, Additional Time to Provide Requested Information	62-213.420(1)(b)6., F.A.C.		X		If requested in writing by the applicant prior to the initial due date, FDEP will grant up to 60 additional days to respond to requests for additional information. FDEP may grant additional time beyond 60 days for good cause. (optional future requirement)
Permit Applications, Certification by Responsible Official	62-213.420(4), F.A.C.		X		Requires submittal of a Responsible Official (RO) certification for any application form, report, compliance statement, compliance plan, and compliance schedule.
Permit Applications, Acid Rain Part	62-213.420(5), F.A.C.		X		Applicants may request separate processing of the Title V permit and Acid Rain Part. (optional future requirement)

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 11 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Permit Issuance, Renewal, and Revision	62-213.430(3), F.A.C.		X		Permits being renewed are subject to the same requirements that apply to permit issuance. Permit applications shall contain the information specified in 62-210.900(1) and 62-213.420(3), F.A.C.
Permit Issuance, Renewal, and Revision – Insignificant Emission Units and Activities	62-213.430(6), F.A.C.		X		Specifies criteria for insignificant emissions units and activities. Applicants may request FDEP determinations of insignificant emission units or activities. Such requests will be processed in conjunction with a permit or revision application. Insignificant emission units added after issuance of a Title V permit shall be incorporated into the permit at its next renewal.
Permit Content	62-213.440, F.A.C.	X			FDEP standard permit requirements. Contains no applicable requirements.
Permit Review by EPA and Affected States	62-213.450, F.A.C.	X			Contains no applicable requirements.
Permit Shield	62-213.460, F.A.C.		X		Provides permit shield for facilities in compliance with permit terms and conditions.
Forms and Instructions	62-213.900(1), (7), and (8), F.A.C.		X		Lists applicable forms including "Major Air Pollution Source Annual Emissions Fee," "Statement of Compliance," and "Responsible Official Notification" forms.

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 12 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Chapter 62-214 F.A.C. - Requirements for Sources Subject to the Federal Acid Rain Program					
Purpose and Scope	62-214.100, F.A.C.	X			Contains no applicable requirements.
Applicability	62-214.300, F.A.C.			CT/HRSG-1 CT/HRSG-2	Osprey Energy Center includes Acid Rain units. Therefore, facility compliance with 62-213 and 62-214, F.A.C., is required.
Applications, Renewals	62-214.320(1)(i), F.A.C.			CT/HRSG-1 CT/HRSG-2	Requires Title V sources having Acid Rain unit(s) to submit an Acid Rain Renewal Application to FDEP. Operation without a Title V permit that includes an Acid Rain Part is prohibited.
Applications, Information Requirements	62-214.320(2), F.A.C.			CT/HRSG-1 CT/HRSG-2	Specifies required contents of Acid Rain Part applications.
Acid Rain Compliance Plan and Compliance Options, SO ₂	62-214.330(1)(a), F.A.C.			CT/HRSG-1 CT/HRSG-2	Acid rain compliance plan requirements for sulfur dioxide emissions.
Acid Rain Compliance Plan and Compliance Options, NO _x	62-214.330(1)(b), F.A.C.	X			Acid rain compliance plan requirements for nitrogen oxides emissions.
Exemptions	62-214.340(2), F.A.C.			CT/HRSG-1 CT/HRSG-2	Notice may be submitted for retired exemptions (potential future requirement).

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 13 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Certification	62-214.350(2), (3), (5), (6), F.A.C.			CT/HRSG-1 CT/HRSG-2	Submittal of a copy of the Certificate of Representation form to FDEP is required. Specifies required Designated Representative (DR) certifications.
Department Action on Applications	62-214.360, F.A.C.	X			FDEP application processing procedures. Contains no applicable requirements.
Revisions and Administrative Corrections	62-214.370(1), (3), (4), F.A.C.			CT/HRSG-1 CT/HRSG-2	Specifies applicant permit revision requirements. (potential future requirement) .
Revisions and Administrative Corrections, Agency Procedures	62-214.370(2), (5), (6), and (7) F.A.C.	X			FDEP application processing procedures. Contains no applicable requirements.
Acid Rain Part Content	62-214.420, F.A.C.	X			FDEP requirements - defines content of Acid Rain Part. Contains no applicable requirements.
Implementation and Termination of Compliance Options	62-214.430, F.A.C.			CT/HRSG-1 CT/HRSG-2	Defines permit activation and termination procedures. Presently not applicable to the Osprey Energy Center. (potential future requirement) .
Chapter 62-252 - Gasoline Vapor Control					
Rules for gasoline vapor control equipment	62-252, F.A.C.	X			The Osprey Energy Center is not located in an ozone nonattainment area or an air quality maintenance area for ozone.
Chapter 62-256, F.A.C. - Open Burning and Frost Protection Fires					

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 14 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Declaration and Intent	62-256.100, F.A.C.	X			Contains no applicable requirements.
Definitions	62-256.200, F.A.C.	X			Contains no applicable requirements.
Prohibitions	62-256.300, F.A.C. ¹		X		Prohibits certain types of open burning.
Agricultural and Silvicultural Fires	62-256.400, F.A.C. [Transferred to Division of Forestry, Chapter 51-2]	X			Contains no applicable requirements.
Burning for Cold and Frost Protection	62-256.450, F.A.C.	X			Limited to agricultural protection.
Land Clearing	62-256.500, F.A.C. ¹		X		Defines allowed open burning for non-rural land clearing and structure demolition.
Industrial, Commercial, Municipal, and Research Open Burning	62-256.600, F.A.C. ¹		X		Prohibits industrial open burning
Open Burning allowed	62-256.700(3), (5), and (6) F.A.C.		X		Defines allowed open burning. For recreational and training purposes.
Effective Date	62-256.800, F.A.C.	X			Contains no applicable requirements.
Chapter 62-257 - Asbestos Program		X			
Chapter 62-281 - Motor Vehicle Air Conditioning Refrigerant					

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 15 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Recovery and Recycling					
Establishes installation and proper use of motor vehicle refrigerant recycling equipment.	62-281.100, F.A.C.	X			Requirements for the installation and proper use of motor vehicle refrigerant recycling equipment. Adopts definitions of 40 CFR Part 82 with some exceptions. No vehicle maintenance involving air conditioning systems is conducted at the Osprey Energy Center.
Chapter 62-296 - Stationary Sources - Emission Standards					
Purpose and Scope	62-296.100, F.A.C.	X			Contains no applicable requirements
General Pollutant Emission Limiting Standard, Volatile Organic Compounds Emissions	62-296.320(1), F.A.C.		X		Known and existing vapor control devices must be applied as required by the Department.
General Pollutant Emission Limiting Standard, Objectionable Odor Prohibited	62-296.320(2), F.A.C. ¹		X		Objectionable odor release is prohibited.
General Pollutant Emission Limiting Standard, Industrial, Commercial, and Municipal Open Burning Prohibited	62-296.320(3), F.A.C. ¹		X		Open burning in connection with industrial, commercial, or municipal operations is prohibited. (potential future requirement)
General Particulate Emission Limiting Standard, Process Weight Table	62-296.320(4)(a), F.A.C.	X			Osprey Energy Center does not have any applicable emission units. Combustion emission units are exempt per 62-296.320(4)(a)1a.

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 16 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
General Particulate Emission Limiting Standard, General Visible Emission Standard	62-296.320(4)(b), F.A.C.		X		Opacity limited to 20 percent, unless otherwise permitted. Test methods specified.
General Particulate Emission Limiting Standard, Unconfined Emission of Particulate Matter	62-296.320(4)(c), F.A.C.		X		Reasonable precautions must be taken to prevent unconfined particulate matter emission.
New Fossil Fuel Fired Steam Generators with More Than 250 MMBtu/hr Heat Input	62-296.405(2), F.A.C.			HRSG-1 HRSG-2	Required to meet applicable New Source Performance Standards (Subpart Da). See Table A5-1 for details.
Specific Emission Limiting and Performance Standards	62-296.401 through 62-296.404 and 62-296.406 through 62-296.417, F.A.C.	X			Not applicable to the Osprey Energy Center emission units.
Reasonably Available Control Technology (RACT) Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO _x) Emitting Facilities	62-296.500 through 62-296.516, F.A.C.	X			The Osprey Energy Center is not located in an ozone nonattainment area or an ozone air quality maintenance area.
Reasonably Available Control Technology (RACT) - Requirements for Major VOC- and NO _x -Emitting Facilities	62-296.570, F.A.C.	X			The Osprey Energy Center is not located in a specified ozone nonattainment area or a specified ozone air quality maintenance area (Broward, Dade and Palm Beach Counties).
Reasonably Available Control Technology (RACT) - Lead	62-296.600 through 62-296.605, F.A.C.	X			The Osprey Energy Center is not located in a lead nonattainment area or a lead air quality maintenance area.

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 17 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Reasonably Available Control Technology (RACT)—Particulate Matter	62-296.700 through 62-296.712, F.A.C.	X			The Osprey Energy Center is not located in a PM nonattainment area or a PM air quality maintenance area.
Chapter 62-297, Stationary Sources - Emissions Monitoring					
Purpose and Scope	62-297.100, F.A.C.	X			Contains no applicable requirements.
General Test Requirements	62-297.310, F.A.C.			CT/HRSG-1 CT/HRSG-2	Specifies general compliance test requirements including the number of runs, operating rates, emission rate calculation, applicable test procedures, determination of process variables, required stack sampling facilities, frequency of tests, and content of test reports.
Standards for Visible Emissions Observations	62-297.320(1), F.A.C.			CT/HRSG-1 CT/HRSG-2	Specifies training and certification requirements for persons conducting the opacity of visible emissions.
Compliance Test Methods	62-297.401, F.A.C.		X		List methods to be used for compliance testing.
Supplementary Test Procedures	62-297.440, F.A.C.		X		Contains other test procedures adopted by reference.
EPA VOC Capture Efficiency Test Procedures	62-297.450, F.A.C.	X			Not applicable to the Osprey Energy Center.

Table A5-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 18 of 17)
Osprey Energy Center

Regulation	Citation	Not Applicable	Applicable: Facility- Wide	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
EPA CEMS Performance Specifications	62-297.520(1), (2), and (3) F.A.C.			CT/HRSG-1 CT/HRSG-2	Contains 40 CFR Part 60 performance specifications for NO _x and O ₂ continuous emissions monitoring. CEMS meeting 40 CFR Part 75 requirements may be used in lieu of 40 CFR Part 60 requirements.
Exceptions and Approval of Alternate Procedures and Requirements	62-297.620, F.A.C.			CT/HRSG-1 CT/HRSG-2	Exceptions or alternate testing procedures may be requested. (optional future requirement).
Chapter 5I-2, Open Burning Rule					
Definitions	5I-2.003, F.A.C.	X			Contains no applicable requirements.
Open Burning Not Allowed	5I-2.004, F.A.C.		X		Prohibits certain types of open burning.
Open Burning Allowed	5I-2.006, F.A.C.		X		Requirements for agricultural, silvicultural, and rural land clearing open burning.

¹ State requirement only; not federally enforceable.

Source: ECT, 2004.

PERMITTEE:

Calpine Construction Finance Company, LP (Calpine)
The Pilot House, 2nd floor, Lewis Wharf
Boston, MA 02110

File No.	PSD-FL-287 (PA00-41)
FID No.	1050334
SIC No.	4911
Expires:	December 31, 2003

Authorized Representative:

Mr. Robert K. Alff, Senior Vice President

PROJECT AND LOCATION:

Permit pursuant to the requirements for the Prevention of Significant Deterioration of Air Quality (PSD Permit) for the construction of a nominal 527 megawatt (MW) Combined Cycle plant consisting of: two nominal 170 MW gas-fired, stationary combustion turbine-electrical generators fired solely on natural gas; two supplementally-fired heat recovery steam generators (HRSGs); a nominal 200 MW steam electrical generator; two stacks; an emergency (gas-fired) generator; a diesel fire pump; two selective catalytic reduction units including ancillary equipment and ammonia storage. The combined cycle plant will achieve approximately 585 megawatts in combined cycle operation during extreme winter peaking conditions. The facility is designated as Osprey Energy Center and will be situated adjacent to the Auburndale Power Partners facility, which is located at 1501 Derby Avenue, Auburndale, Polk County. UTM coordinates are: Zone 17; 421.0 km E; 3103.2 km N.

STATEMENT OF BASIS:

This PSD permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and 40CFR52.21. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

The attached Appendix is made a part of this permit:

Appendix GC

Construction Permit General Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287

SECTION I - FACILITY INFORMATION

FACILITY DESCRIPTION

The proposed Osprey Energy center is a nominal 527 MW combined cycle plant. It will include: two nominal 170 MW gas-fired, stationary combustion turbine-electrical generators fired solely on natural gas; two supplementally-fired heat recovery steam generators (HRSGs); a nominal 200 MW steam electrical generator; two stacks; an emergency (gas-fired) generator; a diesel fire pump; two selective catalytic reduction units including ancillary equipment and ammonia storage. New major support facilities include a cooling tower, water and wastewater facilities and a transmission line.

Emissions from Osprey Energy Center will be controlled by Dry Low NO_x (DLN) combustors and selective catalytic reduction (SCR). Pipeline quality natural gas and good combustion practices will be employed to control all pollutants.

EMISSIONS UNITS

This permit addresses the following emissions units:

EMISSIONS UNIT	SYSTEM	Emission Unit Description
001	Power Generation	One nominal 170 Megawatt Gas Combustion Turbine-Electrical Generator
002	Power Generation	One nominal 170 Megawatt Gas Combustion Turbine-Electrical Generator
003	Steam Generation	One 250 MMBtu/hr Duct Burner configured as a Supplementally Fired Heat Recovery Steam Generator
004	Steam Generation	One 250 MMBtu/hr Duct Burner configured as a Supplementally Fired Heat Recovery Steam Generator
005	Water Cooling	Cooling Tower
xxx	Miscellaneous	Emergency Generator and Diesel Fire Pump

REGULATORY CLASSIFICATION

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287

SECTION I - FACILITY INFORMATION

This facility is within an industry (fossil fuel-fired steam electric plant) included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). Pursuant to Table 62-212.400-2, this facility modification results in emissions increases greater than 40 TPY of SO₂ and NO_x, 25/15 TPY of PM/PM₁₀, 100 TPY of CO and 40 TPY of VOC's. These pollutants require review per the PSD rules and a determination for Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.

This project is subject to the applicable requirements of Chapter 403, Part II, F.S., Electric Power Plant and Transmission Line Siting because the steam electric generating capacity of this facility is greater than 75 MW. [Chapter 403.503 (12), F.S., Definitions]

This facility is also subject to certain Acid Rain provisions of Title IV of the Clean Air Act.

PERMIT SCHEDULE

- xx/xx/00 PSD Permit Issued
- xx/xx/00 Site Certification Issued
- xx/xx/00 Notice of Intent to Issue PSD Permit published in xxxxxxxxxxxxxx
- xx/xx/00 Distributed Revised Intent to Issue PSD Permit
- 04/28/00 Distributed Intent to Issue Permit
- 03/30/00 Received PSD Application

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but are not incorporated into this permit. These documents are on file with the Department.

- Application received on March 30, 2000.
- Department's Intent to Issue and Public Notice Package dated May 10, 2000.
- Department's Draft Permit and Draft BACT determination dated May 10, 2000.
- Letters from EPA Region IV dated February 2 and November 8, 1999.
- Letter from Fish & Wildlife Service dated April 17, 2000.
- Site Certification for the Osprey Energy Center dated xx/xx/00.
- Department's Final Determination and Best Available Control Technology Determination issued concurrently with this Final Permit.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287

SECTION II - ADMINISTRATIVE REQUIREMENTS

GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), at 2600 Blairstone Road, Tallahassee, Florida 32399-2400 and phone number (850)488-0114. All documents related to reports, tests, and notifications should be submitted to the DEP Southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-8218 and phone number 813/744-6100.
2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. Forms and Application Procedures: The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]
5. Modifications: The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change. [Chapters 62-210 and 62-212, F.A.C.]
6. Expiration: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21(r)(2)]
7. BACT Determination: In accordance with paragraph (4) of 40 CFR 52.21 (j) and 40 CFR 51.166(j), the Best Available Control Technology (BACT) determination shall be reviewed and modified as appropriate in the event of a plant conversion. This paragraph states: "For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source." This reassessment will also be conducted for this project if there are any increases in heat input limits, hours of operation, oil firing, low or baseload operation, short-term or annual emission limits, annual fuel heat input limits or similar changes. [40 CFR 52.21(j), 40 CFR 51.166(j) and Rule 62-4.070 F.A.C.]
8. Permit Extension: The permittee, for good cause, may request that this PSD permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. In conjunction with extension of the 18-month periods to commence or continue construction, or extension of the December 31, 2003 permit expiration date, the permittee may be required to demonstrate the adequacy of any previous determination of best available control technology for the source. [Rule 62-4.080, F.A.C.]

Calpine Construction & Finance Company, LP
Osprey Energy Center

Permit No. PSD-FL-287
Facility No. 1050334

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287

SECTION II - ADMINISTRATIVE REQUIREMENTS

9. Application for Title IV Permit: An application for a Title IV Acid Rain Permit, must be submitted to the U.S. Environmental Protection Agency Region IV office in Atlanta, Georgia and a copy to the DEP's Bureau of Air Regulation in Tallahassee 24 months before the date on which the new unit begins serving an electrical generator (greater than 25 MW). [40 CFR 72]
10. Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213, F.A.C., must be submitted to the DEP's Bureau of Air Regulation, and a copy to the Department's Southwest District Office. [Chapter 62-213, F.A.C.]
11. New or Additional Conditions: Pursuant to Rule 62-4.080, F.A.C., for good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
12. Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the DEP's Southwest District Office by March 1st of each year.
13. Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
14. Quarterly Reports: Quarterly excess emission reports, in accordance with 40 CFR 60.7(a)(7)(c) (1998 version), shall be submitted to the DEP's Southwest District Office.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

APPLICABLE STANDARDS AND REGULATIONS

1. Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-17, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297; and the applicable requirements of the Code of Federal Regulations Section 40, Parts 52, 60, 72, 73, and 75.
2. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]
3. These emission units shall comply with all applicable requirements of 40CFR60, Subpart A, General Provisions including:
 - 40CFR60.7, Notification and Recordkeeping
 - 40CFR60.8, Performance Tests
 - 40CFR60.11, Compliance with Standards and Maintenance Requirements
 - 40CFR60.12, Circumvention
 - 40CFR60.13, Monitoring Requirements
 - 40CFR60.19, General Notification and Reporting requirements
4. ARMS Emissions Units 001 and 002. Direct Power Generation, each consisting of a nominal 170 megawatt combustion turbine-electrical generator, shall comply with all applicable provisions of 40CFR60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not used for compliance determinations with the BACT standard(s).
5. ARMS Emissions Units 003 and 004. Steam Power Generation, each consisting of a supplementally-fired heat recovery steam generator equipped with a natural gas fired 250 MMBTU/hr duct burner (HHV) and combined with a 200-MW steam electrical generator shall comply with all applicable provisions of 40CFR60, Subpart Da, Standards of Performance for Electric Utility Steam Generating Units Which Construction is Commenced After September 18, 1978, adopted by reference in Rule 62-204.800(7), F.A.C.
6. ARMS Emission Unit 005. Cooling Tower, is an unregulated emission unit. The Cooling Tower is not subject to a NESHAP because chromium-based chemical treatment is not used.
7. All notifications and reports required by the above specific conditions shall be submitted to the DEP's Southwest District Office.

GENERAL OPERATION REQUIREMENTS

8. Fuels: Only pipeline natural gas shall be fired in these units. [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
9. Combustion Turbine Capacity: The maximum heat input rates, based on the lower heating value (LHV) of the fuel to this Unit at ISO conditions shall not exceed 1,669 million Btu per hour (mmBtu/hr) when firing natural gas without power augmentation. This maximum heat input rate will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other ambient conditions shall be

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287
SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

- provided to the Department of Environmental Protection (DEP) within 45 days of completing the initial compliance testing. [Design, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
10. Heat Recovery Steam Generator equipped with Duct Burner. The maximum heat input rate of the natural gas fired duct burner shall not exceed 250 MMBtu/hour (LHV). [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
 11. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary.
 12. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the DEP Southwest District office as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]
 13. Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.]
 14. Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rules 62-210.650, F.A.C.]
 15. Maximum allowable hours of operation for the 527 MW Combined Cycle Plant are 8760 hours per year while firing natural gas. Fuel oil firing of the combustion turbine is not permitted. [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
 16. Simple Cycle Operation: The plant may not be operated without the use of the SCR system except during periods of startup and shutdown.

CONTROL TECHNOLOGY

17. Dry Low NO_x (DLN) combustors shall be installed on each stationary combustion turbine and the permittee shall install a selective catalytic reduction system to comply with the NO_x and ammonia limits listed in Specific Condition 20. [Design, Rules 62-4.070 and 62-212.400, F.A.C.]
18. The permittee shall design these units to accommodate adequate testing and sampling locations for compliance with the applicable emission limits (per each unit) listed in Specific Conditions No. 20 through 24. [Rule 62-4.070, Rule 62-204.800, F.A.C., and 40 CFR 60.40a(b)]
19. Drift eliminators shall be installed on the cooling tower to reduce PM/PM₁₀ emissions. A certification following installation (and prior to startup) shall be submitted that the drift eliminators were installed and that the installation is capable of meeting 0.002 gallons/100 gallons recirculation water flowrate.

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SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

EMISSION LIMITS AND STANDARDS

20. Nitrogen Oxides (NO_x) Emissions:

- The concentration of NO_x in the stack exhaust gas, with the combustion turbine operating, the duct burner on or off, shall not exceed 3.5 ppmvd @15% O₂ on a 24-hr block average. This limit shall apply whether or not the unit is operating with duct burner on and/or in power augmentation mode. Compliance shall be determined by the continuous emission monitor (CEMS). [BACT Determination]
- The emissions of NO_x shall not exceed 27.5 lb/hr (at 95°F ambient temperature) while operating in the power augmentation mode with the duct burner on, to be demonstrated by annual stack test. [BACT Determination]
- Emissions of NO_x from the duct burner shall not exceed 0.1 lb/MMBtu, which is more stringent than the NSPS (see Specific Condition 29). [Applicant Request, Rule 62-4.070 and 62-204.800(7), F.A.C.]
- The concentration of ammonia in the exhaust gas from each CT/HRSG shall not exceed 9.0 ppmvd @15% O₂. The compliance procedures are described in Specific Conditions 29 and 46. [BACT, Rules 62-212.400 and 62-4.070, F.A.C.]
- When NO_x monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate any specified average time.

21. Carbon Monoxide (CO) Emissions: Emissions of CO in the stack exhaust gas (at ISO conditions) with the combustion turbine operating on gas shall exceed neither 10 ppmvd @15% O₂ on a 24-hr block average to be demonstrated by CEMS for those days when no valid hour includes the use of duct burner firing, power augmentation or 60-70% operation (otherwise, the limit is 17 ppmvd @15% O₂ on a 24-hr block average to be demonstrated by CEMS); and neither 10 ppmvd @15% O₂ nor 45 lb/hr per unit at 100% output with the duct burner off and no power augmentation to be demonstrated by annual stack test using EPA Method 10 or through annual RATA testing. [BACT, Rule 62-212.400, F.A.C.]

22. Volatile Organic Compounds (VOC) Emissions: Emissions of VOC in the stack exhaust gas (baseload at ISO conditions) with the combustion turbine operating on gas shall exceed neither 2.3 ppmvd @15% O₂ nor 5.8 lb/hr per unit with the duct burner off and neither 4.6 ppmvd @15% O₂ nor 12.4 lb/hr per unit with the duct burner on and operating in the power augmentation mode to be demonstrated by initial stack test using EPA Method 18, 25 or 25A. [BACT, Rule 62-212.400, F.A.C.]

23. Sulfur Dioxide (SO₂) emissions: SO₂ emissions shall be limited by firing pipeline natural gas (sulfur content not greater than 2 grains per 100 standard cubic foot). Compliance with this requirement in conjunction with implementation of the Custom Fuel Monitoring Schedule in Specific Condition 43 will demonstrate compliance with the applicable NSPS SO₂ emissions limitations from the duct burner or the combustion turbine. Note: This will effectively limit the combined SO₂ emissions for EU-001 and EU-002 at 95.4 tons per year. [BACT, 40CFR60 Subpart GG and Rules 62-4.070, 62-212.400, and 62-204.800(7), F.A.C.]

24. PM/PM₁₀ and Visible emissions (VE): VE emissions shall not exceed 10 percent opacity from the stack in use. PM/PM₁₀ emissions from each combustion turbine and HRSG train shall not exceed 24.1

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

lb/hr at 100% output with the duct burner on and operating in the power augmentation mode to be demonstrated by initial stack test using EPA Method 5. [BACT, Rules 62-4.070, 62-212.400, and 62-204.800(7), F.A.C.]

EXCESS EMISSIONS

25. Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24-hour period except during both "cold start-up" to and shutdowns from combined cycle plant operation. During cold start-up to combined cycle operation, up to four hours of excess emissions are allowed. During shutdowns from combined cycle operation, up to three hours of excess emissions are allowed. Cold start-up is defined as a startup to combined cycle operation following a complete shutdown lasting at least 48 hours. Operation below 60% output per turbine shall otherwise be limited to 2 hours in any 24-hour period. [Rule 62-210.700, F.A.C.].
26. Excess emissions entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction, shall be prohibited pursuant to Rule 62-210.700, F.A.C. These emissions shall be included in the 24-hr average for NO_x and the 24-hr average for CO.
27. Excess Emissions Report: If excess emissions occur for more than two hours due to malfunction, the owner or operator shall notify DEP's Southwest District office within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, all excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. Following this format, 40 CFR 60.7, and using the monitoring methods listed in Specific Conditions 40 through 46, periods of startup, shutdown, malfunction, shall be monitored, recorded, and reported as excess emissions when emission levels exceed the permitted standards listed in Specific Condition No. 20 through 24. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C., and 40 CFR 60.7 (1998 version)].

COMPLIANCE DETERMINATION

28. Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate, but not later than 180 days of initial operation of the unit, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1998 version), and adopted by reference in Chapter 62-204.800, F.A.C.
29. Initial (I) performance tests shall be performed by the deadlines in Specific Condition 28. Initial tests shall also be conducted after any replacement of the major components of the air pollution control equipment (and shake down period not to exceed 100 days after re-starting the CT), such as replacement of SCR catalyst or change of combustors, if specifically requested by the DEP on a case-by-case basis. Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.310(7), F.A.C., on these units as indicated. The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing. Where initial tests only are indicated, these tests shall be repeated prior to renewal of each operation permit.

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SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

- EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources" (I, A).
- EPA reference Method 5, "Determination of Particulate Emissions from Stationary Sources." Initial test only.
- EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources" (I, A).
- EPA Reference Method 20, "Determination of Oxides of Nitrogen Oxide, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines" (EPA reference Method 7E, "Determination of Nitrogen Oxides Emissions from Stationary Sources" or RATA test data may be used to demonstrate compliance for annual test requirement); Initial test for compliance with 40CFR60 Subpart GG; Initial (only) NO_x compliance test for the duct burners (Subpart Da) shall be accomplished via testing with duct burners "on" as compared to "off" and computing the difference.
- EPA Reference Method 18, 25 and/or 25A, "Determination of Volatile Organic Concentrations." Initial test only.
- EPA Method 26A (modified) for ammonia sample collection (I, A).
- EPA Draft Method 206 for ion chromatographic analysis for ammonia (I, A).

The applicant shall calculate and report the ppmvd ammonia slip (@ 15% O₂) at the measured lb/hr NO_x emission rate as a means of compliance with the BACT standard. The applicant shall also be capable of calculating ammonia slip at the Department's request, according to Specific Condition 46.

30. Continuous compliance with the CO and NO_x emission limits: Continuous compliance with the CO and NO_x emission limits shall be demonstrated by the CEM system on the specified hour average basis. Based on CEMS data, a separate compliance determination is conducted at the end of each period and a new average emission rate is calculated from the arithmetic average of all valid hourly emission rates from the previous period. Valid hourly emission rates shall not include periods of start up or shutdown unless prohibited by 62-210.700 F.A.C. A valid hourly emission rate shall be calculated for each hour in which at least two measurements are obtained at least 15 minutes apart. Excess emissions periods shall be reported as required in Condition 27. [Rules 62-4.070 F.A.C., 62-210.700, F.A.C., 40 CFR 75 and BACT]
31. Compliance with the SO₂ and PM/PM₁₀ emission limits: For the purposes of demonstrating compliance with the 40 CFR 60.333 SO₂ standard, ASTM methods D4084-82 or D3246-81 (or equivalent) for sulfur content of gaseous fuel shall be utilized in accordance with the EPA-approved custom fuel monitoring schedule or natural gas supplier data may be submitted or the natural gas sulfur content referenced in 40 CFR 75 Appendix D may be utilized. However, the applicant is responsible for ensuring that the procedures in 40 CFR 60.335 or 40 CFR 75 are used when determination of fuel sulfur content is made. Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335(e) (1998 version).
32. Compliance with CO emission limit: An initial and annual test for CO shall be conducted at 100% capacity with the duct burners off. The NO_x and CO test results shall be the average of three valid

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

one-hour runs. Annual RATA testing for the CO and NO_x CEMS shall be required pursuant to 40 CFR 75.

33. Compliance with the VOC emission limit: An initial test is required to demonstrate compliance with the VOC emission limit. Thereafter, the CO emission limit will be employed as a surrogate and no annual testing is required.
34. Testing procedures: Unless otherwise specified, testing of emissions shall be conducted with the combustion turbine operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit, corrected for the average ambient air temperature during the test (with 100 percent represented by a curve depicting heat input vs. ambient temperature). Procedures for these tests shall meet all applicable requirements (i.e., testing time frequency, minimum compliance duration, etc.) of Chapters 62-204 and 62-297, F.A.C.
35. Test Notification: The DEP's Southwest District office shall be notified, in writing, at least 30 days prior to the initial performance tests and at least 15 days before annual compliance tests.
36. Special Compliance Tests: The DEP may request a special compliance test pursuant to Rule 62-297.310(7), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission standard is being violated.
37. Test Results: Compliance test results shall be submitted to the DEP's Southwest District office no later than 45 days after completion of the last test run. [Rule 62-297.310(8), F.A.C.].

NOTIFICATION, REPORTING, AND RECORDKEEPING

38. Records: All measurements, records, and other data required to be maintained by Calpine shall be recorded in a permanent form and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These records shall be made available to DEP representatives upon request.
39. Compliance Test Reports: The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.

MONITORING REQUIREMENTS

40. Continuous Monitoring System: The permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides and carbon monoxide from these units. Periods when emissions (ppmvd @ 15% oxygen) are above the permitted limits, listed in Specific Conditions No. 20 and 21 shall be reported to the DEP Southwest District Office in accordance with the requirements of Specific Condition 27. [Rules 62-204.800, 62-210.700, 62-4.130, 62-4.160(8), F.A.C and 40 CFR 60.7 (1998 version)].
41. CEMS for reporting excess emissions: The CEMS shall be used in lieu of the requirement for reporting excess emissions in accordance with 40 CFR 60.334(c)(1), Subpart GG (1998 version). Upon request from DEP, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards listed within this permit and established in 40 CFR 60.332.

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42. Continuous Monitoring System Reports: The monitoring devices shall comply with the certification and quality assurance, and any other applicable requirements of Rule 62-297.520, F.A.C., 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) or 40 CFR Part 75. Quality assurance procedures must conform to all applicable sections of 40 CFR 60, Appendix F or 40CFR75. The monitoring plan, consisting of data on CEM equipment specifications, manufacturer, type, calibration and maintenance needs, and its proposed location shall be provided to the DEP Bureau of Ambient Monitoring & Mobile Sources (BAMMS) as well as the EPA for review no later than 45 days prior to the first scheduled certification test pursuant to 40 CFR 75.62.
43. Natural Gas Monitoring Schedule: A custom fuel monitoring schedule pursuant to 40 CFR 75 Appendix D for natural gas may be used in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2) provided the following requirements are met:
- The permittee shall apply for an Acid Rain permit within the deadlines specified in 40 CFR 72.30.
 - The permittee shall submit a monitoring plan, certified by signature of the Designated Representative, that commits to the sole use of pipeline supplied natural gas (sulfur content less than 20 gr/100 scf pursuant to 40 CFR 75.11(d)(2)) for the CT's.
 - Each unit shall be monitored for SO₂ emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.
44. Determination of Process Variables:
- The permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards. No later than 90 days prior to operation, the permittee shall submit for the Department's approval a list of process variables that will be measured to comply with this permit condition.
 - Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value [Rule 62-297.310(5), F.A.C.]
45. Subpart Da Monitoring and Recordkeeping Requirements: The permittee shall comply with all applicable requirements of this Subpart [40CFR60, Subpart Da].
46. Selective Catalytic Reduction System (SCR) Compliance Procedures:
- An annual stack emission test for nitrogen oxides and ammonia from the CT/HRSG pair shall be simultaneously conducted while operating in the power augmentation mode with the duct burner on as defined in Specific Condition 20. The ammonia injection rate necessary to comply with the NO_x standard shall be established and reported during the each performance test.
 - The SCR shall operate at all times that the turbine is operating, except during turbine start-up and shutdown periods, as dictated by manufacturer's guidelines and in accordance with this permit.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-287

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

- The permittee shall install and operate an ammonia flow meter to measure and record the ammonia injection rate to the SCR system of the CT/HRSG set. It shall be maintained and calibrated according to the manufacturer's specifications.
- During the stack test, the permittee (at each tested load condition) shall determine and report the ammonia flow rate required to meet the emissions limitations. During NO_x CEM downtimes or malfunctions, the permittee shall operate at the ammonia flow rate, which was established during the last stack test.
- Ammonia emissions shall be calculated continuously using inlet and outlet NO_x concentrations from the SCR system and ammonia flow supplied to the SCR system. The calculation procedure shall be provided with the CEM monitoring plan required by 40CFR Part 75. The following calculation represents one means by which the permittee may demonstrate compliance with this condition:

Ammonia slip @ 15%O₂ = (A - (B x C / 1,000,000)) x (1,000,000 / B) x D, where:

A = ammonia injection rate (lb/hr) / 17 (lb/lb.mol)

B = dry gas exhaust flow rate (lb/hr) / 29 (lb/lb.mol)

C = change in measured NO_x (ppmv@15%O₂) across catalyst

D = correction factor, derived annually during compliance testing by comparing actual to tested ammonia slip

The calculation along with each newly determined correction factor shall be submitted with each annual compliance test. Calibration data ("as found" and "as left") shall be provided for each measurement device utilized to make the ammonia emission measurement and submitted with each annual compliance test.

- The permittee shall notify the Department within 2 business days if the calculated ammonia emissions exceed 9.0 ppmvd corrected to 15% O₂ over a 3-hour block average. The notification shall include a corrective action plan to reduce ammonia emissions below 9 ppmvd corrected to 15% O₂ over a 3-hour block average.
- Upon specific request by the Department, a special re-test shall occur as described in the previous conditions concerning annual test requirements, in order to demonstrate that all NO_x and ammonia slip related permit limits can be complied with.

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

Calpine Construction & Finance Company, LP

Osprey Energy Center
527 Megawatt Combined Cycle Facility

Auburndale, Polk County

PSD-FL-287, PA00-41

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

May 10, 2000

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. APPLICATION INFORMATION

1.1 Applicant Name and Address

Calpine Construction Finance Company, LP
The Pilot House, 2nd floor, Lewis Wharf
Boston, MA 02110

Authorized Representative: Mr. Robert K. Alff, Senior Vice President

1.2 Reviewing and Process Schedule

03-30-00: Date of Receipt of Application
05-10-00: Intent to Issue PSD Permit

2. FACILITY INFORMATION

2.1 Facility Location

The Osprey Energy Center is located adjacent to the existing Auburndale Power Partners facility, Auburndale, Polk County. This site is approximately 102 kilometers from the Chassahowitzka National Wilderness Area, a Class I PSD Area. The UTM coordinates of this facility are Zone 17; 421.0 km E; 3103.2 km N. See Figures 1 and 2 below.



FIGURE 1

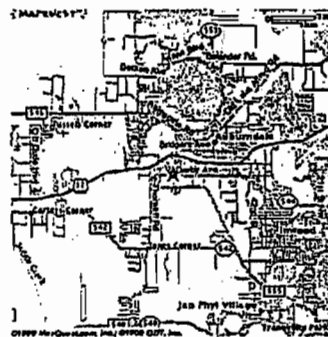


FIGURE 2

2.2 Standard Industrial Classification Codes (SIC)

Industry Group No.	49	Electric, Gas, and Sanitary Services
Industry No.	4911	Electric Services

2.3 Facility Category

The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 TPY. The facility is within an industry included in the list of the 28 Major Facility Categories per Table 212.400-1, F.A.C.

As a Major Facility, project emissions greater than the Significant Emission Rates given in Table 212.400-2 (100 TPY of CO; 40 TPY of NO_x, SO₂, or VOC, 25/15 TPY of PM/PM₁₀) require review per the PSD rules and a determination of Best Available Control Technology (BACT). This facility is also subject to the Title IV Acid Rain Program, 40 CFR 72.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

3. PROJECT DESCRIPTION

This permit addresses the following emissions units:

EMISSION UNIT	SYSTEM	Emission Unit Description
001	Power Generation	One nominal 170 Megawatt Gas Combustion Turbine-Electrical Generator
002	Power Generation	One nominal 170 Megawatt Gas Combustion Turbine-Electrical Generator
003	Steam Generation	One 250 MMBtu/hr Duct Burner in a Supplementally Fired Heat Recovery Steam Generator
004	Steam Generation	One 250 MMBtu/hr Duct Burner in a Supplementally Fired Heat Recovery Steam Generator
005	Water Cooling	Cooling Tower

Calpine Construction Finance Company, LP (Calpine) proposes to construct a nominal 527 megawatt (MW) combined cycle plant to be situated adjacent to the existing Auburndale Power Partners facility which is located at 1501 Derby Avenue, Auburndale in Polk County. The project includes: two nominal 170 MW Westinghouse 501FD combustion turbine-electrical generators operating solely on natural gas; two 250 million Btu per hour (MMBtu/hr) supplementally-fired heat recovery steam generators (HRSG); a 200 MW (gross output) steam turbine; two stacks; an emergency (gas-fired) generator; a diesel fire pump; a fresh water cooling tower; and ancillary equipment.

The turbines will be equipped with Dry Low NO_x combustors as well as an SCR in order to control NO_x emissions to ~4 ppmvd at 15% O₂. The turbines will each have a nominal heat input rating of 1,669 MMBtu/hr at a lower heat value (LHV) of 920 MMBtu/MCF while operating at 100% load.

The fuel will be pipeline quality natural gas and the unit will operate up to 8760 hours per year. Emission increases will occur for carbon monoxide (CO), sulfur dioxide (SO₂), sulfuric acid mist (SAM), particulate matter (PM/PM₁₀), volatile organic compounds (VOC) and nitrogen oxides (NO_x). PSD review is required for CO, SO₂, SAM, PM/PM₁₀, NO_x, and VOC since emissions, per the application, will increase by more than their respective significant emissions levels.

4. PROCESS DESCRIPTION

Much of the following discussion is from a 1993 EPA document on Alternative Control Techniques for NO_x Emissions from Stationary Gas turbines. Project specific information is interspersed where appropriate.

A gas turbine is an internal combustion engine that operates with rotary rather than reciprocating motion. Ambient air is drawn into the compressor of the 501 F where it is then directed to the combustor section, fuel is introduced, ignited, and burned. The combustion section consists of multiple separate can-annular combustors instead of a single combustion chamber.

Flame temperatures in a typical combustor section can reach 3600 degrees Fahrenheit (°F). Units such as the 501 F operate at lower flame temperatures, which minimize NO_x formation. The hot combustion gases are then diluted with additional cool air and directed to the turbine section at temperatures up to 2700 °F. Energy is recovered in the turbine section in the form of shaft horsepower, of which typically more than 50 percent is required to drive the internal compressor

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

section. The balance of recovered shaft energy is available to drive the external load unit such as an electrical generator.

There are three basic operating cycles for gas turbines. These are simple cycle, regenerative, and combined cycles. In the Calpine project, the 501 F will operate in the combined cycle mode and as a continuous duty unit (versus an intermittent duty peaking unit).

In combined cycle operation, the gas turbine drives an electric generator while the exhausted gases are used to raise steam in a heat recovery steam generator (HRSG). In this case, most of the steam is fed to a separate steam turbine, which also drives an electrical generator. Typical combined cycle efficiencies are up to 55 percent. The 501 F can achieve over 50 percent efficiency in combined cycle operation, especially if the gas turbine and the HRSG/steam generator power a common shaft connected to a single electric generator. See Figures 3 and 4 below.

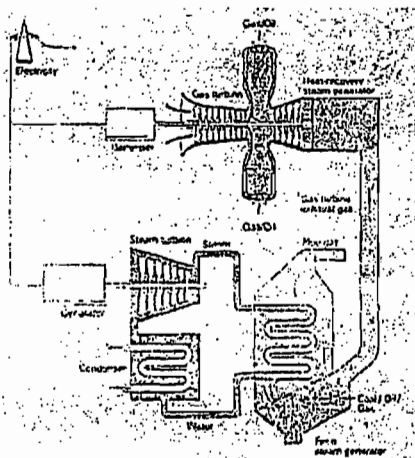


FIGURE 3

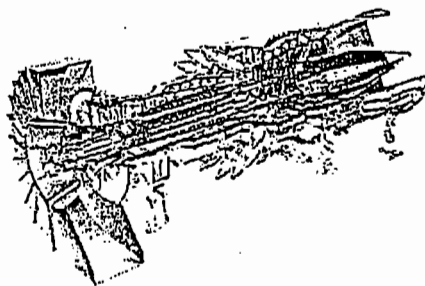


FIGURE 4

Additional process information and control measures to minimize NO_x formation are given in the draft BACT determination distributed with this evaluation.

5. RULE APPLICABILITY

The proposed project is subject to preconstruction review requirements under the provisions of 40 CFR 52.21, Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.).

This facility is located in Polk County, an area designated as attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C. The proposed project is subject to review under Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD), because the potential emission increases for SO_2 , SAM, PM/PM_{10} , CO, VOC and NO_x exceed the significant emission rates given in Chapter 62-212, Table 62-212.400-2, F.A.C.

This PSD review consists of a determination of Best Available Control Technology (BACT) for SO_2 , SAM, PM/PM_{10} , VOC, CO, and NO_x . An analysis of the air quality impact from proposed project upon soils, vegetation and visibility is required along with air quality impacts resulting from associated commercial, residential, and industrial growth. This project will also be reviewed for Site Certification under the Power Plant Siting Act.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The emission units affected by this PSD permit shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein) and, specifically, the following Chapters and Rules:

5.1 State Regulations

Chapter 62-17	Electrical Power Siting
Chapter 62-4	Permits.
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.260	Prevention of Significant Deterioration Increments
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-212.400	Prevention of Significant Deterioration
Rule 62-213	Operation Permits for Major Sources of Air Pollution
Rule 62-214	Requirements For Sources Subject To The Federal Acid Rain Program
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods
Rule 62-297.520	EPA Continuous Monitor Performance Specifications

5.2 Federal Rules

40 CFR 52.21	Prevention of Significant Deterioration
40 CFR 60	NSPS Subparts GG and Da
40 CFR 60	Applicable sections of Subpart A, General Requirements
40 CFR 72	Acid Rain Permits (applicable sections)
40 CFR 73	Allowances (applicable sections)
40 CFR 75	Monitoring (applicable sections including applicable appendices)
40 CFR 77	Acid Rain Program-Excess Emissions (future applicable requirements)

6. SOURCE IMPACT ANALYSIS

6.1 Emission Limitations

The proposed project will emit the following PSD pollutants (Table 212.400-2): particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, carbon monoxide, sulfuric acid mist, and negligible quantities of mercury and lead. The applicant's proposed annual emissions are summarized in the Table below and form the basis of the source impact review. The Department's proposed permitted allowable emissions for these Units are summarized in the Draft BACT document and Specific Conditions Nos. 20 through 24 of Draft Permit PSD-FL-287.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

6.2 Emission Summary

The emissions for all PSD pollutants as a result of the construction of this facility are presented below:

FACILITY EMISSIONS (TPY) AND PSD APPLICABILITY

Pollutants	2 CT/HRSG with Duct Burners ¹	Cooling Tower	Emergency Generator and Diesel Fire Pump ²	Total	PSD Significance	PSD REVIEW?
PM/PM ₁₀	190/190	8.6/4.3	0.37	199/194	25	Yes
SO ₂	95	0	0.062	95	40	Yes
NO _x	218	0	8.6	227	40	Yes
CO	792	0	4.83	797	100	Yes
Ozone(VOC)	69.1	0	0.47	70	40	Yes
Sulfuric Acid Mist	14.6	0	Neg.	15	7	Yes
Mercury	0.000014	0	Neg.	0.000014	0.1	No
Lead	Neg.	0	Neg.	Neg.	0.6	No

1. Based on 5880 hours/year at 100% output, 59°F compressor inlet temperature and 2880 hours/year at 100% output using power augmentation with duct burners on at 95°F compressor inlet temperature.

2. Categorically exempt under Rule 62-210.300(3), F.A.C. Emissions based upon combined fuel use limits in Rule.

6.3 Control Technology

Emissions control will be primarily accomplished by good combustion of clean natural gas along with the use of an SCR. The gas turbine combustors will operate in lean pre-mixed mode to minimize the flame temperature and nitrogen oxides formation potential. The SCR will control emissions of NO_x to 3.5 ppm @15% O₂ between 60 and 100% of full load under normal operating conditions. Low NO_x burners will be utilized in the HRSG to achieve NO_x values of 0.1 lb/MW-hr. A full discussion is given in the Draft Best Available Control Technology (BACT) Determination (see Permit Appendix BD). The Draft BACT is incorporated into this evaluation by reference.

6.4 Air Quality Analysis

6.4.1 Introduction

The proposed project will increase emissions of five pollutants at levels in excess of PSD significant amounts: SO₂/SAM, PM/PM₁₀, CO, NO_x, and VOC. SO₂, PM₁₀ and NO_x are criteria pollutants and have national and state ambient air quality standards (AAQS), PSD increments, and significant impact levels defined for them. CO and VOC are criteria pollutants and have only AAQS and significant impact levels defined for them. Since the project's VOC emissions increase is less than 100 tons per year no air quality analysis is required for VOC. SAM is a non-criteria pollutant and has no AAQS or PSD increments defined for it; therefore, no air quality impact analysis was required for SAM. Instead, the BACT requirements will establish the SAM emission limit for this project.

The applicant's initial SO₂, PM₁₀, CO and NO_x air quality impact analyses for this project predicted no significant impacts; therefore, further applicable AAQS and PSD increment impact analyses for these pollutants were not required. The nearest PSD Class I area is the Chassahowitzka National

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Wilderness Area located 102 km to the northwest. Based on the preceding discussion the air quality analyses required by the PSD regulations for this project are the following:

- A significant impact analysis for SO₂, PM₁₀, CO and NO_x;
- An analysis of impacts on soils, vegetation, and visibility and of growth-related air quality modeling impacts.

Based on these required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the conditions of approval proposed herein, will not cause or significantly contribute to a violation of any AAQS or PSD increment. However, the following EPA-directed stack height language is included: "In approving this permit, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in *NRDC v. Thomas*, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification if and when EPA revises the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators." A more detailed discussion of the required analyses follows.

6.4.2 Models and Meteorological Data Used in the Significant Impact Analysis

The EPA-approved Industrial Source Complex Short-Term (ISCST3) and California Puff (CALPUFF) dispersion models were used to evaluate the pollutant emissions from the proposed project. The ISCST3, Version 99155, dispersion model (EPA, 1999) was used to evaluate the maximum pollutant impacts due to the project in nearby areas surrounding the site. The ISCST3 model is generally applicable for estimating the air quality impacts in areas that are within 50 km from a source. This model is maintained by EPA on its Internet website and is designed to calculate hourly concentrations based on hourly meteorological data. The ISCST3 model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area, and volume sources. It incorporates elements for plume rise, transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition. The ISCST3 model allows for the separation of sources, building wake downwash, and various other input and output features. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfy the good engineering practice (GEP) stack height criteria.

At distances beyond 50 km from a source, the CALPUFF model, Version 5.0 (EPA, 1998) is recommended for use by the EPA and the FDEP. The CALPUFF model is a long-range transport model applicable for estimating the air quality impacts in areas that are more than 50 km from a source. The methods and assumptions used in the CALPUFF model were based on the latest recommendations for modeling analysis as presented in the *Interagency Workgroup on Air Quality Models (IWAQM), Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts* (EPA, 1998). This model is also maintained by the EPA on its website. Accordingly, the CALPUFF model was used to perform the significant impact and regional haze analyses at the Chassahowitzka NWA for the project.

Meteorological data used in the ISCST3 model to determine air quality impacts consisted of a concurrent five-year period of hourly surface weather observations and twice-daily upper air soundings from the National Weather Service (NWS) stations at Tampa International Airport and Ruskin, Florida respectively. The five-year period of meteorological data used was from 1987 through 1991, which are the latest readily available data for these stations that are acceptable to

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

FDEP. The NWS station at Tampa is located approximately 42 miles west of the proposed site while the NWS station at Ruskin is located approximately 45 miles southwest of the proposed site.

These meteorological data are the most complete and representative of the region around the site because both the site and the weather stations are located in areas that experience similar weather conditions, such as frontal passages. In addition, these data have been approved for use by the FDEP in previous air permit applications to address air quality impacts for other proposed sources locating in Polk and adjacent counties.

6.4.3 Significant Impact Analysis

Initially, the applicant conducts modeling using only the proposed project's emissions at worst load conditions. In order to determine worst-case load conditions the SCREEN3 model was used to evaluate dispersion of emissions from the combined cycle facility for three loads (60%, 75% and 100%) and three seasonal operating conditions (summer, winter and average). Once the worst-case loads are identified, the applicant utilizes the ISCST3 model to evaluate impacts at these loads, and compares the results to the significant impact levels. If this modeling (at worst load conditions) shows significant impacts, additional multi-facility modeling is required to determine the project's impacts on the existing air quality and any applicable AAQS or PSD increments.

For predicting maximum concentrations in the vicinity of the project, a polar receptor grid was used which consisted of 729 receptors. These receptors included 36 receptors located on radials extending out from the proposed stack location for HRSG No.1. Along each radial, receptors were located beginning at the fenced plant property and extending to distances of 100; 200; 300; 400; 500; 700; 1000; 1500; 2000; 2500; 3000; 4000; 5000; 7000; 10000; 12000; 15000; 20000; 25000; and 30000 meters. However, concentrations were predicted only at receptors located off plant property that would be considered ambient air locations. As a result, because the proposed plant property extends out from a minimum distance of about 60 m in several directions to about 330 m for other directions, there were directions for which receptors were not modeled at certain distances (e.g., 200m) which would not be considered ambient air locations.

For each pollutant and averaging time, modeling refinements were performed, as needed, by employing a Cartesian receptor grid with a maximum spacing of 100 m centered on the receptor and for the year during which the maximum impact from the project was predicted. For the Class I analysis, the maximum concentrations were predicted at 13 receptors surrounding the PSD Class I area of the Chassahowitzka NWA (CNWA). These receptors have been provided by the FDEP for use on the previous applications. The tables below show the results of this modeling.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

MAXIMUM PROJECT AIR QUALITY IMPACTS FOR COMPARISON TO THE PSD CLASS II SIGNIFICANT IMPACT LEVELS IN THE VICINITY OF THE FACILITY

Pollutant	Averaging Time	Max Predicted Impact (ug/m ³)	Significant Impact Level (ug/m ³)	Significant Impact?
SO ₂	Annual	0.051	1	NO
	24-hour	1.35	5	NO
	3-hour	7.48	25	NO
PM ₁₀	Annual	0.26	1	NO
	24-hour	4.5	5	NO
CO	8-hour	79	500	NO
	1-hour	427	2000	NO
NO ₂	Annual	0.14	1	NO

MAXIMUM PROJECT AIR QUALITY IMPACTS FOR COMPARISON TO THE PSD CLASS I SIGNIFICANT IMPACT LEVELS (CNWA)

Pollutant	Averaging Time	Max. Predicted Impact at Class I Area (ug/m ³)	Proposed EPA Significant Impact Level (ug/m ³)	Significant Impact?
SO ₂	Annual	0.0014	0.1	NO
	24-hour	0.024	0.2	NO
	3-hour	0.072	1.0	NO
PM ₁₀	Annual	0.0034	0.2	NO
	24-hour	0.052	0.3	NO
NO ₂	Annual	0.0014	0.1	NO

The results of the significant impact modeling show that there are no significant impacts predicted from emissions from this project; therefore, no further modeling was required.

6.4.4 Impacts Analysis

Impact Analysis Impacts On Soils, Vegetation, And Wildlife

Very low emissions are expected from this natural gas-fired combustion turbine in comparison with conventional power plant generating equal power. Emissions of acid rain and ozone precursors will be very low. The maximum ground-level concentrations predicted to occur for PM₁₀, CO, NO_x, and VOC as a result of the proposed project, including background concentrations and all other nearby sources, will be less than 1 percent of their respective ambient air quality standards (AAQS). The project impacts are less than the significant impact levels, which in-turn is less than the applicable allowable increments for each pollutant. Because the AAQS are designed to protect both the public health and welfare and the project impacts are less than significant, it is reasonable to assume the impacts on soils, vegetation, and wildlife will be minimal or insignificant.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Impact On Visibility

Natural gas is a clean fuel and produces little ash. This will minimize smoke formation. The low NO_x and SO₂ emissions will also minimize plume opacity. The results of the refined CALPUFF analysis predicted a change in visibility of 0.47%. This impact is well below the National Park Service-recommended threshold of 5%, and it indicates that the proposed project will not have an adverse impact on visibility and regional haze in the CNWA.

Growth-Related Air Quality Impacts

The applicant projects that there will be only short-term increases in the labor force to construct the project and that it will not result in permanent, significant commercial and residential growth in the vicinity of the project. Operation of the additional unit will require approximately 25 permanent employees, which should not cause a significant impact to the local area.

On a larger scale, a project review is required by the Public Service Commission, who has previously determined that power projects are needed to help meet the low electrical reserves throughout the State of Florida. The project is a response to statewide and regional growth and also accommodates more growth. There are no adequate procedures under the PSD rules to fully assess these impacts. However, the type of project proposed has a small overall physical "footprint," minimal ground water requirements and will be one of the lowest regional air pollutant emitters per unit of electric power generating capacity.

Hazardous Air Pollutants

The project is not a major source of hazardous air pollutants (HAPs) and is not subject to any specific industry or HAP control requirements pursuant to Sections 112 of the Clean Air Act.

7. CONCLUSION

Based on the foregoing technical evaluation of the application and additional information submitted by the applicant, the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations, provided the Department's BACT determination is implemented.

Michael P. Halpin, P.E., Review Engineer
A. A. Linero, P.E., NSR Administrator
Cleve Holladay, Meteorologist

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Osprey Energy Center
Calpine Construction Finance Company, L.P.
PSD-FL-287 and PA00-41
Auburndale, Polk County, Florida

BACKGROUND

The applicant, Calpine Construction Finance Company, L.P. (Calpine), proposes to build a 527 MW (average ambient net megawatts) combined cycle power plant as a new facility. The location of the proposed plant is adjacent to the existing Auburndale Power Partners facility, in Auburndale, Polk County. The proposed project will result in "significant increases" with respect to Table 62-212.400-2, Florida Administrative Code (F.A.C.) of emissions of particulate matter (PM and PM₁₀), sulfur dioxide (SO₂), sulfuric acid mist (SAM), carbon monoxide (CO), volatile organic compounds (VOC), and nitrogen oxides (NO_x). The project is therefore subject to review for the Prevention of Significant Deterioration (PSD) and a determination of Best Available Control Technology (BACT) in accordance with Rules 62-212.400, F.A.C.

The primary units to be installed are two nominal 170 MW, Siemens Westinghouse "F" Class (501FD) combustion turbine-electrical generators, fired solely with pipeline natural gas and equipped with evaporative coolers on the inlet air system. The project includes two heat recovery steam generators (HRSGs), each with a 135 ft. stack and one steam turbine-electrical generator rated at approximately 200 MW. Duct burners will be installed in the HRSGs for supplemental firing and to achieve peak output. The project also includes a mechanical draft cooling tower, an emergency (gas-fired) generator and a diesel fire pump. Descriptions of the process, project, air quality effects, and rule applicability are given in the Technical Evaluation and Preliminary Determination dated May 10, 2000, accompanying the Department's Intent to Issue.

BACT APPLICATION:

The application was received on March 30, 2000 and included a proposed BACT proposal prepared by the applicant's consultant, Golder Associates. The proposal is summarized in the table below (MW loads are assumed to be at 70% or higher).

POLLUTANT	CONTROL TECHNOLOGY	BACT PROPOSAL
PM/PM ₁₀ VE	Pipeline Natural Gas Good Combustion	10 Percent Opacity 9 ppmvd Ammonia Slip
SO ₂ / SAM	Pipeline Natural Gas	2 grains S / 100 scf
CO	Pipeline Natural Gas Good Combustion	10 ppmvd 16 ppmvd with Duct Burners on (DB) 25 ppmvd during power augmentation (PA) 30 ppmvd during DB plus PA
VOC	Pipeline Natural Gas Good Combustion	2.3 ppmvd 4.6 ppmvd during DB plus PA
NO _x	DLN & SCR	4.0 ppmvd
PM (cooling tower)	High efficiency drift eliminators	0.002% drift loss

Based upon the applicant's submittal, the maximum annual emissions that the facility has the potential to emit (PTE) are as follows: 95 TPY SO₂, 15 TPY SAM, 199 TPY PM/PM₁₀, 258 TPY NO_x, 797 TPY CO and 70 TPY of VOC.

Calpine Construction Finance Company, L.P.
Osprey Energy Center

Permit No. PSD-FL-287
PA00-41

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

BACT DETERMINATION PROCEDURE:

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

- Any Environmental Protection Agency determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES:

The minimum basis for a BACT determination is 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines (NSPS). Subpart GG was adopted by the Department by reference in Rule 62-204.800, F.A.C. The key emission limits required by Subpart GG are 75 ppmvd NO_x @ 15% O₂ (assuming 25 percent efficiency) and 150 ppmvd SO₂ @ 15% O₂ (or <0.8% sulfur in fuel). The BACT proposed by Calpine is consistent with the NSPS, which allows NO_x emissions in the range of 110 ppmvd for the high efficiency units to be purchased. No National Emission Standard for Hazardous Air Pollutants exists for stationary gas turbines.

The duct burners required for supplementary gas-firing of the HRSGs are subject to 40 CFR 60, Subpart Da, Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978. The 0.1 lb/MW-hr NO_x emission rate proposed by Calpine is well below the revised Subpart Da output-based limit of 1.6 lb/MW-hr promulgated on September 3, 1998. No National Emission Standards for Hazardous Air Pollutants exist for stationary gas turbines or gas-fired duct burners.

The gas-fired emergency generator and diesel fire pump will only be operated a few hours per month (so as to ensure their reliability for emergency use) and are considered insignificant for this analysis.

DETERMINATIONS BY EPA AND STATES:

The following table is a sample of information on some recent BACT determinations by states for combined cycle stationary gas turbine projects. These are projects incorporating large prime movers capable of producing more than 150 MW excluding the steam cycle. Such units are typically categorized as F or G Class Frame units. The applicant's proposed BACT is included for reference.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

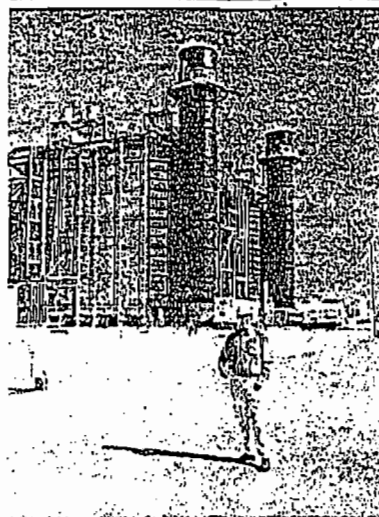


Figure B

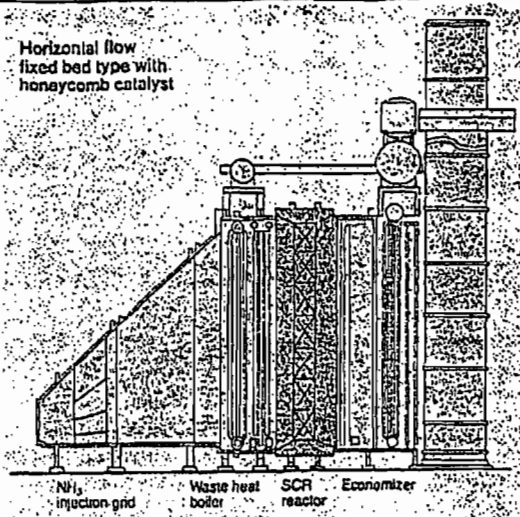


Figure C

Excessive ammonia use tends to increase emissions of CO, ammonia (slip), and particulate matter (when sulfur-bearing fuels are used). Permit limits as low as 2 to 3.5 ppmvd NO_x have been specified using SCR on combined cycle F Class projects throughout the country. Permit BACT limits as low as 3.5 ppmvd NO_x have been specified using SCR for at least one F Class project (with large in-line duct burners) in the Southeast and lower in the southwest.

Selective Non-Catalytic Combustion

Selective non-catalytic reduction (SNCR) reduction works on the same principle as SCR. The differences are that it is applicable to hotter streams than conventional or hot SCR, no catalyst is required, and urea can be used as a source of ammonia. Certain manufacturers, such as Engelhard, market an SCNR for NO_x control within the temperature ranges for which this project will operate (700 - 1400°F). However, the process also requires a low oxygen content in the exhaust stream in order to be effective. The oxygen levels greater than 12%, which are expected in this application, cause SNCR to not be technically feasible for the Calpine Osprey project.

Emerging Technologies: SCONO_xTM and XONONTM

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

upon the recent performance of a Vernon, California natural gas-fired 32 MW combined cycle turbine (without duct burners) equipped with the patented SCONox™ system.

SCONox™ technology (at 2.0 ppmvd) is considered to represent LAER in non-attainment areas where cost is not a factor in setting an emission limit. It competes with less-expensive SCR in those areas, but has the advantages that it does not cause ammonia emissions in exchange for NO_x reduction. Advantages of the SCONox™ process include (in addition to the reduction of NO_x) the elimination of ammonia and the control of VOC and CO emissions. SCONox™ has not been applied on any major sources in ozone attainment areas, apparently only due to cost considerations. The Department is interested in seeing this technology implemented in Florida and intends to continue to work with applicants seeking an opportunity to demonstrate ammonia-free emissions on a large unit.

XONON™, which works by partially burning fuel in a low temperature pre-combustor and completing the combustion in a catalytic combustor. The overall result is low temperature partial combustion (and thus lower NO_x combustion) followed by flameless catalytic combustion to further attenuate NO_x formation. The technology has been demonstrated on combustors on the same order of size as SCONox™ has. XONON™ avoids the emissions of ammonia and the need to generate hydrogen. It is also extremely attractive from a mechanical point of view.

Catalytica Combustion Systems, Inc. develops, manufactures and markets the XONON™ Combustion System. In a press release on October 8, 1998 Catalytica announced the first installation of a gas turbine equipped with the XONON™ Combustion System in a municipally owned utility for the production of electricity. The turbine was started up on that day at the Gianera Generating Station of Silicon Valley Power, a municipally owned utility serving the City of Santa Clara, Calif. The XONON™ Combustion System, deployed for the first time in a commercial setting, is designed to enable turbines to produce environmentally sound power without the need for expensive cleanup solutions. Previously, this XONON™ system had successfully completed over 1,200 hours of extensive full-scale tests which documented its ability to limit emissions of nitrogen oxides, a primary air pollutant, to less than 3 parts per million.

In a definitive agreement signed on November 19, 1998, GE Power Systems and Catalytica agreed to cooperate in the design, application, and commercialization of XONON™ systems for both new and installed GE E and F-class turbines used in power generation and mechanical drive applications. This appears to be an up-and-coming technology, the development of which will be watched closely by the Department for future applications.

REVIEW OF PARTICULATE MATTER (PM/PM₁₀) AND SO₂ CONTROL TECHNOLOGIES:

Particulate matter is generated by various physical and chemical processes during combustion and will be affected by the design and operation of the NO_x controls. The particulate matter emitted from this unit will mainly be less than 10 microns in diameter (PM₁₀).

Natural gas will be the only fuel fired at the

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and maintained to reduce drift to 0.002 percent of the circulating water flow rate. No PM testing is required because the Department's Emission Monitoring Section has determined that there is no appropriate PM test method for this type of cooling tower.

REVIEW OF CARBON MONOXIDE(CO) CONTROL TECHNOLOGIES

CO is emitted from combustion turbines due to incomplete fuel combustion. Combustion design and catalytic oxidation are the control alternatives that are viable for the project. The most stringent control technology for CO emissions is the use of an oxidation catalyst.

Among the most recently permitted projects with oxidation catalyst requirements are the 500 MW Wyandotte Energy project in Michigan, the El Dorado project in Nevada, Ironwood in Pennsylvania, Millenium in Massachusetts, and Calpine Sutter in California. The permitted CO values of these units are between 3 and 5 ppmvd. Catalytic oxidation was recently installed at a cogeneration plant at Reedy Creek (Walt Disney World), Florida to avoid PSD review which would have been required due to increased operation at low load. Seminole Electric will install oxidation catalyst to meet the permitted CO limit at its planned 244 MW Westinghouse 501FD combined cycle unit in Hardee County, Florida.⁴

Most combustion turbines incorporate good combustion to minimize emissions of CO. These installations typically achieve emissions between 10 and 30 ppmvd at full load, even as they achieve relatively low NO_x emissions by SCR or dry low NO_x means. Calpine proposes to meet a limit of 10 ppmvd while firing natural gas above 70% output with the duct burner off. However, the applicant proposes higher values of 16, 25 and 30 for the operating modes of duct burner firing, power augmentation and their combination, respectively. The combined operating modes have been requested for 2880 hours per year. The applicant additionally notes that CO emissions approach 50 ppmvd at loads between 60% and 70% and requests the ability to operate up to 1500 hours per year in this reduced output range.

The Department has not reviewed an extensive body of actual data, but has reasonable assurance that the WH 501FD unit selected by Calpine will achieve values below those proposed, without requiring installation of an oxidation catalyst. However, the authorized hours of off-normal operation will be decreased from the applicant's request to 2 hours per day at 60% - 70% output as well as 2 hours per day for each of the above operating modes (on an equivalent basis). The remaining 16 equivalent hours per day will be allotted for routine (10 ppmvd CO emission rate) operation. The Department will require the use of a CEMS for compliance on a 24-hour block average, with two limits depending upon actual operation. The limits will be:

- a) 10 ppmvd based upon a 24-hour block average for those days when no valid hour includes the use of duct burner firing, power augmentation or 60-70% operation; otherwise, the limit is
- b) 17 ppmvd based upon a 24-hour block average (rationale: 10 ppmvd x 16/24 hours plus 16 ppmvd x 2/24 hours plus 25 ppmvd x 2/24 hours plus 30 ppmvd x 2/24 hours plus 50 ppmvd x 2/24 hours)

REVIEW OF VOLATILE ORGANIC COMPOUND (VOC) CONTROL TECHNOLOGIES

Volatile organic compound (VOC) emissions, like CO emissions, are formed due to incomplete combustion of fuel. The high flame temperature is very efficient at destroying VOC. The applicant has proposed good combustion practices to control VOC. The limits proposed by Calpine for this project are 4.2 ppm with the duct burner off (between 60% and 70% output) and 4.6 ppm with the duct burner on during power augmentation. According to the applicant's submittals, VOC emissions less than 3 ppm will be achieved at 100% output and duct burners off.⁵

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BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

DEPARTMENT BACT DETERMINATION

Following are the BACT limits determined for the Calpine project assuming full load. Values for NO_x and CO are corrected to 15% O₂. The emission limits or their equivalents in terms of pounds per hour and NSPS units, as well as the applicable averaging times, are given in the permit Specific Conditions No. 20 through 24.

POLLUTANT	CONTROL TECHNOLOGY	BACT DETERMINATION
PM/PM ₁₀ , VE	Pipeline Natural Gas Good Combustion Inlet Air Filtering	10 Percent Opacity 24.1 lb/hr during DB plus PA 9 ppmvd Ammonia Slip
SO ₂ / SAM	Pipeline Natural Gas	2 grains S / 100 scf
VOC	Pipeline Natural Gas Good Combustion	2.3 ppmvd 4.6 ppmvd during DB plus PA
CO	Pipeline Natural Gas Good Combustion	10 ppmvd - 24 hour block average, or 17 ppmvd - 24 hour block average; and 10 ppmvd and 45 lb/hr w/o DB plus PA
NO _x (all operating modes)	DLN & SCR	3.5 ppmvd (SCR) DB limited to 0.1 lb/MW-hr 27.5 lb/hr during DB plus PA
PM (cooling tower)	High efficiency drift eliminators	0.002% drift loss

RATIONALE FOR DEPARTMENT'S DETERMINATION

- The Lowest Achievable Emission Rate (LAER) for NO_x is approximately 2 ppmvd. It has been achieved at a small combustion turbine installation using SCONO_x.
- EPA Region IV advised that the Department (in a draft BACT) did not present "any unusual site-specific conditions associated with the KUA Cane Island 3 project to indicate that the use of SCR to achieve 3.5 ppmvd would create greater problems than experienced elsewhere at other similar facilities."⁶ The Fish & Wildlife Service has similar comments for Calpine Osprey Energy Center.⁷
- EPA advised FDEP that it intended to appeal the KUA Permit if the Department did not require a NO_x emissions rate of 3.5 ppmvd when firing natural gas.⁷
- FDEP considered a shorter (3-hour) averaging time for NO_x compliance, but was ultimately persuaded to provide the higher (24-hour) averaging time due to Calpine's BACT proposal being the first one submitted in Florida where a low (4.0 ppmvd) emission rate SCR was proposed by the applicant. FDEP intends to issue subsequent BACT Determinations with lower averaging time requirements.
- Uncertainties (and statistical variances) in NO_x emissions related to instrumentation, methodology, calibration and sampling errors, exhaust flow, ammonia slip bias, corrections to 15% O₂ and ambient conditions, etc., are approximately equal to "ultra low NO_x" limits (2.5-3.5 ppmvd).⁸
- VOC emissions of 2.3 ppm from the combustion turbine by Good Combustion proposed by the applicant are acceptable values determined as BACT. However even lower values have already been achieved by the previous generation DLN 2 combustors on the GE's 7FA units after tuning. Similar VOC performance is expected with the Westinghouse combustors while firing natural gas.
- The CO concentrations of 10 ppmvd are low, for operation with the duct burner off. This emission rate will be verified on an annual basis via stack test. With the duct burner on, emissions will be less than 20 ppmvd, which is within the range of recent Department BACT determinations for combustion

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

turbines alone. However, values as high as 50 ppmvd for 60% - 70% operation will not be authorized for up to 1500 hours annually, as requested by the applicant. The CO limit will be 10 ppmvd on a 24-hour block average, or 17 ppmvd on a weighted daily (24-hour block) average, which incorporates a reasonable allowance for all daily off-normal operations. CEMS will be used for compliance.

- For reference, CO limits for the Lakeland and Tallahassee projects are 25 ppmvd on gas while the limit for the FPL Fort Myers project is 12 ppmvd. Limits for the Santa Rosa Energy Center are 9 ppmvd with the duct burner off and 24 ppmvd with the duct burner on. The CO impact on ambient air quality is lower compared to other pollutants because the allowable concentrations of CO are much greater than for NO_x, SO₂, VOC (ozone) or PM₁₀.
- BACT for PM₁₀ was determined to be good combustion practices consisting of: inlet air filtering; use of pipeline natural gas; and operation of the unit in accordance with the manufacturer-provided manuals.
- PM₁₀ emissions will be very low and difficult to measure. Therefore, the Department will set a Visible Emission standard of 10 percent opacity as BACT.

COMPLIANCE PROCEDURES

POLLUTANT	COMPLIANCE PROCEDURE
PM/Visible Emissions	Method 5 (initial test only) and Method 9
Volatile Organic Compounds	Method 18, 25, or 25A (initial tests only)
Carbon Monoxide	CEMS plus annual method 10 during operation at capacity without use of duct burners and power augmentation
NO _x 24-hr block average	NO _x CEMS, O ₂ or CO ₂ diluent monitor, and flow device as needed
NO _x (performance)	Annual Method 20 or 7E
Ammonia Slip	EPA Method 26A (modified) and Draft Method 206 (Annual)

BACT EXCESS EMISSIONS APPROVAL

Pursuant to the Rule 62-210.700 F.A.C., the Department through this BACT determination will allow excess emissions as follows: Valid hourly emission rates shall not include periods of startup, shutdown, or malfunction as defined in Rule 62-210.200 F.A.C., where emissions exceed the applicable NO_x or CO standard. These excess emissions periods shall be reported as required in Specific Condition 27 of the Permit. A valid hourly emission rate shall be calculated for each hour in which at least two pollutant concentrations are obtained at least 15 minutes apart [Rules 62-4.070 F.A.C., 62-210.700 F.A.C. and applicant request].

Excess emissions may occur under the following startup scenarios:

- Hot Start: One hour following a HRSG shutdown less than or equal to 8 hours.
Warm Start: Two hours following a HRSG shutdown between 8 and 48 hours.
Cold Start: Four hours following a HRSG shutdown greater than or equal to 48 hours.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

Michael P. Halpin, P.E. Review Engineer
A. A. Linero, P.E. Administrator, New Source Review Section
Cleve Holladay, Meteorologist, New Source Review Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended By:

Approved By:

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

Howard L. Rhodes, Director
Division of Air Resources Management

Date:

Date:

Calpine Construction Finance Company, L.P.
Osprey Energy Center

Permit No. PSD-FL-287
PA00-41

BD-12

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

REFERENCES

- ¹ News Release. Goaline Environmental. Genetics Institute Buys SCONOX Clean Air System. August 20, 1999.
- ² "Control Maker Strives to Sway Utility Skeptics." Air Daily. Volume 5, No. 199. October 14, 1998.
- ³ Telecom. Linero, A.A., FDEP, and Beckham, D., U.S. Generating. Circa November 1998.
- ⁴ Letter. Opalinski, M.P., SECI to Linero, A.A., FDEP. Turbines and Related Equipment at Hardee Unit 3. December 9, 1998.
- ⁵ Table A-2, referencing Siemens-Westinghouse. Calpine Osprey Energy Center application received 3-30-2000.
- ⁶ Letter. Neeley, R. Douglas, EPA Region IV, to Fancy, C.H., FDEP. Draft PSD Permit - KUA Project. February 2, 1999.
- ⁷ Letter. Smith, Winston, EPA Region IV, to Rhodes, H.L., FDEP. Proposed KUA Permit. November 8, 1999.
- ⁸ Zachary, J, Joshi, S., and Kagolanu, R., Siemens. "Challenges Facing the Measurement and Monitoring of Very Low Emissions in Large Scale Gas Turbine Projects." Power-Gen Conference. Orlando, Florida. December 9-11, 1998.
- ⁹ Letter. Porter, Ellen to Linero, A.A., FDEP. Technical Review of Prevention of Significant Deterioration Permit Application For Osprey Energy Center. April 17, 2000.



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

June 18, 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Benjamin M. H. Borsch, P.E.
Manager, Safety Health & Environmental
Calpine Construction Finance Company, L.P.
Island Center
2701 N. Rocky Point Drive, Suite 1200
Tampa, Florida 33607

Re: Osprey Energy Center, PSD Permit No. PSD-FL-287 (PA00-41)
Emergency Generator

The applicant, Benjamin M. H. Borsch, Manager, Safety Health & Environmental -- Calpine, applied on June 9, 2004, to the Department for a change to PSD permit number PSD-FL-287 for its Osprey Energy Center located at 1501 Derby Avenue, Auburndale, Polk County. The construction permit is set to expire on December 31, 2004 and the applicant has indicated that the plant design requires that the emergency generator (which is not identified as a specific emissions unit, but rather referred to only within the general descriptions of the permit) be low sulfur diesel-fired rather than fired by natural gas. The Department has reviewed the request and finds that the size of the proposed generator (1250 KW) and the maximum heat input rating (14 MMBtu/hr) do not prompt NSPS applicability. Additionally, the applicant further stipulates that the emergency generator will operate less than 500 hours per year, consume less than 32,000 gallons of diesel per year, and is not subject to the Acid Rain Program making it categorically exempt as per 62-210.300(3)(a)20, F.A.C. Based upon these facts, the Department makes the following two changes to the subject permit:

PROJECT AND LOCATION:

Permit pursuant to the requirements for the Prevention of Significant Deterioration of Air Quality (PSD Permit) for the construction of a nominal 527 megawatt (MW) Combined Cycle plant consisting of: two nominal 170 MW gas-fired, stationary combustion turbine-electrical generators fired solely on natural gas; two supplementally-fired heat recovery steam generators (HRSGs); a nominal 200 MW steam electrical generator; two stacks; an emergency (~~gas-fired~~) generator; a diesel fire pump; two selective catalytic reduction units including ancillary equipment and ammonia storage. The combined cycle plant will achieve approximately 585 megawatts in combined cycle operation during extreme winter peaking conditions. The facility is designated as Osprey Energy Center and will be situated adjacent to the Auburndale Power Partners facility, which is located at 1501 Derby Avenue, Auburndale, Polk County. UTM coordinates are: Zone 17; 421.0 km E; 3103.2 km N.

FACILITY DESCRIPTION

The proposed Osprey Energy center is a nominal 527 MW combined cycle plant. It will include: two nominal 170 MW gas-fired, stationary combustion turbine-electrical generators fired solely on natural gas; two supplementally-fired heat recovery steam generators (HRSGs); a nominal 200 MW steam electrical generator; two stacks; an emergency (~~gas-fired~~) generator; a diesel fire pump; two selective catalytic reduction units including ancillary equipment and ammonia storage. New major support facilities include a cooling tower, water and wastewater facilities and a transmission line.

Emissions from Osprey Energy Center will be controlled by Dry Low NO_x (DLN) combustors and selective catalytic reduction (SCR). Pipeline quality natural gas and good combustion practices will be employed to control all pollutants.

"More Protection, Less Process"

Printed on recycled paper.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permitting decision is issued pursuant to Chapter 403, Florida Statutes.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

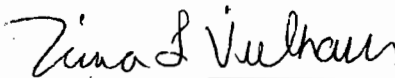
The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this order will not be effective until further order of the Department.

Any party to this permitting decision (order) has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.


Trina Vielhauser, Bureau Chief
Division of Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this order was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 6/18/04 to the person(s) listed:

Mr. Robert K. Alff, Senior VP, Calpine Eastern Corporation *
Mr. Benjamin Borsch, Environmental Manager, Calpine *
Mr. Gerald Kissel, SWD-DEP
Mr. Hamilton S. Oven, DEP-Siting
Mr. Gregg Worley, EPA
Mr. John Bunyak, NPS

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

 6/18/04
(Clerk) (Date)

A-6
**Compliance Report, Plan,
Proposed Schedule, and Certification
Osprey Energy Center**

Document A-5 of this Title V operation permit application identifies the requirements that are applicable to the emission units that comprise this Title V source. Each emissions unit is in compliance, and will continue to comply, with the respective applicable requirements.

The emission units that comprise this Title V source will comply with future effective applicable requirements on a timely basis.

Periodic compliance statements are proposed to be submitted on an annual basis consistent with FDEP Rule 62-213.440(3)(a)2., F.A.C. The compliance statement submittal date is proposed to be within 60 days after the end of each calendar year consistent with the schedule required by 40 CFR §72.90 of the Acid Rain Program.

I, the undersigned, am the responsible official as defined in Chapter 62-210.200(220), F.A.C., of the Title V source for which this application is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry that the statements made and data contained in the above statements are true, accurate, and complete.



Benjamin M. H. Borsch, P.E.
Manager—Safety, Health & Environment

9/14/04
Date



8210 Mosley Rd.
Houston, TX 77075
713 943-9776 Telephone
713 943-3846 Facsimile

CORRECTED REPORT

CORE LABORATORIES

LEONARD BRENNER
CUBIX CORPORATION
3709 SW 42ND AVENUE ST2
GAINSVILLE, FL 32608

Sample Number: 141966-001
Sample Date: 5/5/04 3:46:00 PM
Date Reported: 5/28/04
Date Received: 5/13/04
Sample ID: # 1-Compliance, Cyl. 1674
Description: #1674

Analytical Report

Test	Result	Units	Method	Date	Analyst
Natural Gas Analysis					
Nitrogen	0.34	Mol %	ASTM-1945	5/19/04	TL
Oxygen	0.03	Mol %			
Carbon Dioxide	0.87	Mol %			
Methane	96.80	Mol %			
Ethane	1.85	Mol %			
Propane	0.08	Mol %			
Isobutane	0.02	Mol %			
n-Butane	0.01	Mol %			
Isopentane	< 0.01	Mol %			
n-Pentane	< 0.01	Mol %			
Hexanes Plus	< 0.01	Mol %			
Total	100.00	Mol %			
Molar Mass Ratio	0.57411		ASTM D-3588		
Relative Density	0.57492				
Compressibility Factor	0.99792				
Gross Heating Value (Dry)	1013.4	BTU/CF (Ideal			
Gross Heating Value (Dry)	1015.5	BTU/CF (Real			
Net Heating Value (Dry)	913.0	BTU/CF (Ideal			
Net Heating Value (Dry)	914.9	BTU/CF (Real			
Pressure Base	14.696	psia			
Sulfur, Total in Gas by Micro.	2	ppm wt	ASTM D-3246	5/17/04	VS

The analytical results, opinions or interpretations contained in this report are based upon information and material supplied by the client for whose exclusive and confidential use this report has been made. The analytical results, opinions or interpretations expressed represent the best judgment of Core Laboratories. Core Laboratories, however, makes no warranty or representation, express or implied, of any type, and expressly disclaims same as to the productivity, proper operations or profitability of any oil, gas, coal, or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, in whole or in part, without the written approval of Core Laboratories.



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Houston, TX 77075
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Sample Number: 141966-001
Sample Date: 5/5/04 3:46:00 PM
Date Reported: 5/28/04
Date Received: 5/13/04
Sample ID: # 1-Compliance, Cyl. 1674
Description: #1674

Analytical Report

Test	Result	Units	Method	Date	Analyst
------	--------	-------	--------	------	---------

Approved By:

Pam Shousgard
for Jean Waits
Supervising Chemist

The analytical results, opinions or interpretations contained in this report are based upon information and material supplied by the client for whose exclusive and confidential use this report has been made. The analytical results, opinions or interpretations expressed represent the best judgment of Core Laboratories. Core Laboratories, however, makes no warranty or representation, express or implied, of any type, and expressly disclaims same as to the productivity, proper operations or profitability of any oil, gas, coal, or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, in whole or in part, without the written approval of Core Laboratories.

ATTACHMENT A-8

OSPREY ENERGY CENTER

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

The OEC combined cycle units are each equipped with dry low-NO_x (DLN) combustor and selective catalytic reduction (SCR) technologies to control NO_x emissions. Descriptions of these NO_x control technologies are provided in the following section.

Dry Low-NO_x Combustor Design

A number of turbine vendors have developed DLN combustors that premix turbine fuel and air prior to combustion in the primary zone. Use of a premix burner results in a homogeneous air/fuel mixture without an identifiable flame front. For this reason, the peak and average flame temperatures are the same, causing a decrease in thermal NO_x emissions in comparison to a conventional diffusion burner. A typical DLN combustor incorporates fuel staging using several operating modes as follows:

- Primary Mode—Fuel supplied to first stage only at turbine loads from 0 to 35 percent. Combustor burns with a diffusion flame with quiet, stable operation. This mode is used for ignition, warm-up, acceleration, and low-load operation.
- Lean-Lean Mode—Fuel supplied to both stages with flame in both stages at turbine loads from 35 to 50 percent. Most of the secondary fuel is premixed with air. Turbine loading continues with a flame present in both fuel stages. As load is increased, CO emissions will decrease, and NO_x levels will increase. Lean-lean operation will be maintained with increasing turbine load until a preset combustor fuel-to-air ratio is reached when transfer to premix operation occurs.
- Secondary Mode (Transfer to Premix)—At 70-percent load, all fuel is supplied to second stage.
- Premix Mode—Fuel is provided to both stages with approximately 80 percent furnished to the first stage at turbine loads from 70 to 100 percent. Flame is present in the second stage only.

Currently, premix burners are limited in application to natural gas and loads above approximately 35 to 50 percent of baseline due to flame stability considerations.

In addition to lean premixed combustion, CT DLN combustors typically incorporate lean combustion and reduced combustor residence time to reduce the rate of NO_x formation. All CTs cool the high-temperature CT exhaust gas stream with dilution air to lower the exhaust gas to an acceptable temperature prior to entering the turbine. By adding additional dilution air, the hot CT exhaust gases are rapidly cooled to temperatures below those needed for NO_x formation. Reduced residence time combustors add the dilution air sooner than do standard combustors. The amount of thermal NO_x is reduced because the CT combustion gases are at a higher temperature for a shorter period of time.

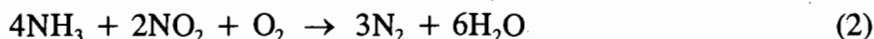
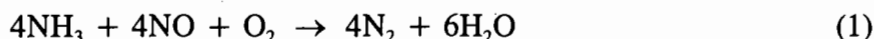
ATTACHMENT A-8

OSPREY ENERGY CENTER

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Selective Catalytic Reduction

Selective catalytic reduction (SCR) technology is used to control NO_x emissions from the OEC combined cycle units. SCR reduces NO_x emissions by reacting ammonia (NH₃) with exhaust gas NO_x to yield nitrogen and water vapor in the presence of a catalyst. NH₃ is injected upstream of the catalyst bed where the following primary reactions take place:



The catalyst serves to lower the activation energy of these reactions, which allows the NO_x conversions to take place at a lower temperature (i.e., in the range of 600 to 750°F). Typical SCR catalysts include metal oxides (titanium oxide and vanadium), noble metals (combinations of platinum and rhodium), zeolite (alumino-silicates), and ceramics.

Reaction temperature is critical for proper SCR operation. The optimum temperature range for conventional SCR operation is 600 to 750°F. Below this temperature range, reduction reactions (1) and (2) will not proceed. At temperatures exceeding the optimal range, oxidation of NH₃ will take place resulting in an increase in NO_x emissions. Due to these temperature constraints, the SCR catalyst modules are located in the appropriate section of the HRSGs where temperatures are suitable for proper SCR operation.

A NH₃ injection grid is located in the HRSG downstream of the high pressure steam drum and upstream of the SCR catalyst modules. This injection grid is utilized to inject anhydrous ammonia into the CT exhaust stream. The NH₃ and NO_x (i.e., NO and NO₂) in the exhaust stream is then adsorbed on the surface of the SCR catalyst and react catalytically to form N₂ and H₂O per reactions (1) and (2) above. The N₂ and H₂O formed is subsequently desorbed and discharged to the atmosphere with the CT exhaust stream.

The reaction of NO_x with NH₃ theoretically requires a 1:1 molar ratio. NH₃/NO_x molar ratios greater than 1:1 are necessary to achieve high-NO_x removal efficiencies due to imperfect mixing and other reaction limitations. However, NH₃/NO_x molar ratios are typically maintained at 1:1 or lower to prevent excessive unreacted NH₃ (ammonia slip) emissions. The OEC SCR control systems are designed to achieve an ammonia slip rate of no more than 9.0 ppmvd at 15% O₂ over a 3-hour block average.

ATTACHMENT A-9

OSPREY ENERGY CENTER

PROCEDURES FOR STARTUP AND SHUTDOWN COMBUSTION TURBINE (CT) AND HEAT RECOVERY STEAM GENERATOR (HRSG)

STARTING SEQUENCE

Startup of the Siemens Westinghouse 501FD2 combustion turbine (CT) is implemented by means of a computer controlled startup sequencer. The startup sequencer is given a START command by the control room operator. The startup sequencer then controls startup and synchronization of the CT to the power grid while the control room operator monitors the CT startup and other plant processes.

SHUTDOWN SEQUENCE

CT shutdown occurs in a similar fashion as startup. Shutdown of the Siemens Westinghouse 501FD2 combustion turbine (CT) is implemented by means of a computer controlled shutdown sequencer. The shutdown sequencer is given a STOP command by the control room operator. The shutdown sequencer then reduces CT load, disconnects the CT from the power grid (opens the generator breaker), closes the fuel supply to the CT, and allows the CT to cool in a controlled manner. Once the CT has cooled sufficiently, the CT is allowed to coast until rotation stops. The CT will automatically go on turning gear.

ATTACHMENT A-10

OSPREY ENERGY CENTER

ALTERNATIVE METHODS OF OPERATION

Combined Cycle Combustion Turbine CT/HRSG-1 and/or CT/HRSG-2

Method No.	Load (%)	Ambient Temperature (°F)	Inlet Fogging	Duct Burner Firing	Power Augmentation
1	60 - 100	All			
2	100 (approx.)	+50	✓		
3	100 (approx.)	+50	✓	✓	
4	100 (approx.)	+50	✓	✓	✓
5	100 (approx.)	All		✓	
6	100 (approx.)	All		✓	✓

ATTACHMENT A-11

**OEC NOTICE FOR CERTIFICATE
OF REPRESENTATION
EPA ACID RAIN PROGRAM**

Calpine Construction and Finance Company, LP (owner), and Calpine Eastern Corporation (operator), gives notice of Mr. Robert Callery, General Manager, being selected as the designated representative for the Osprey Energy Center (ORIS Code 55412). The facility is located in Polk County, Florida. Mr. Robert Callery may be contacted at 1651 West Derby Avenue; Auburndale, Florida or by phone at (863) 551-4665. This public notice is required pursuant to US EPA's Acid Rain Program 40 CFR Part 72. A revised certificate of representation has been filed with the US EPA; Acid Rain Program (6204); Attention: Designated Representative; 401 M St., SW; Washington, DC 20460. Any questions for the agency may be directed to (202) 564-9620 (EPA Acid Rain Hotline).

A-12



CALPINE

ISLAND CENTER
2701 N. ROCKY POINT DRIVE
SUITE 1200
TAMPA, FLORIDA 33607
813.637.7300
813.637.7399 (FAX)

August 29, 2001

Scott Sheplak
Florida Department of Environmental Protection
2600 Blairstone Road
Tallahassee, FL 32399
MS 5505

RE: Acid Rain Permit Application for Calpine Finance and Construction Company, L.P.
- Osprey Energy Center
FedEx Number: 8287 0238 8985

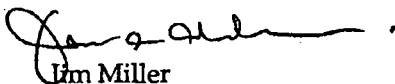
Dear Mr. Miller:

Please find the attached Acid Rain Permit Application for the proposed Osprey Energy Center to be located in Polk County, Florida. With one exception, this certificate is submitted in accordance with the provisions of Title 40, Parts 72.30 and 72.31 of the Code of Federal Regulations applicable to facilities regulated by the Acid Rain Program. This exception is in regard to the date of submission described in the regulation as the later of 24 months prior to January 1, 2000 or 24 months prior to the unit commencing operation. Due to the short period of time before the anticipated start of operation for the facility (April 2003), Calpine Finance and Construction Company, L.P. was unable to meet this deadline.

If you have any questions concerning the attached information, please call myself at (863) 965-1561 or Benjamin Borsch at (813) 637-7300.

Sincerely,

Calpine Construction Finance Company, L.P.


Jim Miller
Plant Manager

Enclosure

CC: Robert Miller, US EPA; FedEx Number 8287 0238 8996
EPA Region IV; FedEx Number 8287 0238 8952

Phase II Permit Application

Page 1

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

This submission is: ☒ New ☐ Revised**STEP 1**

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

Plant Name **Osprey Energy Center**State **FL**ORIS Code **55412**

STEP 2 Enter the boiler ID# from NADB for each affected unit and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e.

Compliance Plan				
a	b	c	d	e
Boiler ID#	Unit will hold allowances in accordance with 40 CFR 72.9(c)(1)	Repowering Plan	New Units Commence Operation Date	New Units Monitor Certification Deadline
CT1	Yes		Apr 1, 2003	Jul 1, 2003
CT2	Yes		Apr 1, 2003	Jul 1, 2003
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3

Check the box if the response in column c of Step 2 is "Yes for any unit

For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

Osprey Energy Center

Plant Name (from Step 1)

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Standard RequirementsPermit Requirements.

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

Monitoring Requirements.

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

Sulfur Dioxide Requirements.

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

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

Excess Emissions Requirements.

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

Recordkeeping and Reporting Requirements.

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

STEP 5 (optional)
Enter the source AIRS
FINDS identification

AIRS
FINDS