

HINES ENERGY COMPLEX

POWER BLOCK 4

TITLE V AIR OPERATION
PERMIT REVISION APPLICATION

Prepared for:



Progress Energy

People. Performance. Excellence.

St. Petersburg, Florida

Prepared by:

ECT

Environmental Consulting & Technology, Inc.

*3701 Northwest 98th Street
Gainesville, Florida 32606*

ECT No. 080075-0100

February 2008

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INTRODUCTION

The Hines Energy Complex is an existing electric generation facility located southwest of Bartow in Polk County, Florida. The Hines Energy Complex is owned and operated by Florida Power Corporation d/b/a Progress Energy Florida, Inc. (PEF). The Hines Energy Complex emission units include a nominal 500 megawatt (MW) combined-cycle unit (Power Block 1), two nominal 530-MW combined-cycle units (Power Blocks 2 and 3), and ancillary support equipment. Florida Department of Environmental Protection (FDEP) Title V Final Permit Revision No. 1050234-014-AV authorizes the operation of these Hines Energy Complex emission units. Final Permit Revision No. 1050234-014-AV was issued with an effective date of January 1, 2007, and an expiration date of December 31, 2011.

PEF recently constructed and placed in operation an additional 530-MW combined-cycle unit at the Hines Energy Complex. Power Block 4 consists of two General Electric Model 7FA dual-fuel, combustion turbine generators (CTGs), two unfired heat recovery steam generators (HRSGs), and one common steam turbine generator (STG). The two CTG/HRSG units are designated as Units 4A and 4B. The CTGs each have a nominal electrical generating capacity of 170 MW and are fired primarily with pipeline quality natural gas with low sulfur distillate fuel oil serving as a back-up fuel source.

An air construction permit was required prior to the commencement of construction of Power Block 4, per Rule 62-212.300(1)(a), Florida Administrative Code (F.A.C.). PEF submitted an initial air construction permit application to FDEP in August 2004 and a revised application in December 2004. In response to these applications, FDEP issued an air construction permit (No. 1050234-010-AC/PSD-FL-342 on June 5, 2005, authorizing the construction and initial operation of Power Block 4. The Power Block 4 air construction permit expires on June 30, 2009.

Initial startup of Power Block 4 occurred on August 29, 2007. Compliance testing, as required by Air Construction Permit No. 1050234-010-AC/PSD-FL-342, Section III, Specific Condition No. 19 (testing for carbon monoxide [CO], nitrogen oxides [NO_x], vola-

tile organic compounds [VOC], and visible emissions [VE]), was conducted on November 17, 2007 (Unit 4A—natural gas), November 19, 2007 (Unit 4B—natural gas), and November 20, 2007 (Units 4A and 4B—fuel oil). The initial emissions performance testing demonstrated that Units 4A and 4B were operating in compliance with all applicable permit emission limits. Reports of the initial performance testing were submitted to the FDEP Bureau of Air Monitoring and Mobile Sources and to the FDEP Southwest District Office on January 3, 2008.

Section II, Condition No. 7, of the Power Block 4 air construction permit requires the submittal of a Title V operating permit application to the Bureau of Air Regulation, with a copy to FDEP's Southwest District, in accordance with Chapter 62-213, F.A.C. Rule 62-213.420(1)(a)4., F.A.C., states that a Title V source which contains an emission unit that commences operation or is modified after October 25, 1995, shall submit an application for a permit revision at least 90 days prior to expiration of the unit's air construction permit, but no later than 180 days after the emissions unit commences operation. Initial startup of Power Block 4 occurred on August 29, 2007. Accordingly, the application for a Title V revision for Power Block 4 is due at least by April 1, 2009 (90 days prior to air construction permit expiration), but no later than February 23, 2008 (180 days after commencement of operation).

This permit application submittal, using FDEP Form No. 62-210.900(1), *Application for Air Permit—Long Form, Effective 2/2/06* constitutes PEF's application to revise Title V Final Permit Revision No. 1050234-014-AV to incorporate the appropriate terms and conditions of Power Block 4 Air Construction Permit No. 1050234-010-AC/PSD-FL-342 pursuant to the requirements of Chapter 62-213, F.A.C.

In addition to incorporating the appropriate terms and conditions of the Power Block 4 air construction permit, PEF requests the following revisions to Title V Final Permit Revision No. 1050234-014-AV:

1. Include the following permit language pertaining to the exclusion of continuous emissions monitoring system (CEMS) data during dry low-NO_x (DLN)

combustor tuning from Power Block 2 (reference Section III, Subsection E, Specific Condition E.9) to Power Block 1 (Section III, Subsection A):

CEMS Data Exclusion—DLN Tuning. CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer’s specifications. A “major tuning session” would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Department’s Southwest District Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.
(Rule 62-4.070[3], F.A.C.; and 1050234-007-AC/PSD-FL-296[a])

2. Revise Appendix U-1, List of Unregulated Emission Units and Activities, to include an additional No. 2 fuel oil storage tank as follows:
 - From: One No. 2 Fuel Oil Storage Tank (3.80 million gallon capacity).
 - To: Two No. 2 Fuel Oil Storage Tanks (3.80-million-gallon capacity and 1.0-million-gallon capacity).

Following this introduction, FDEP’s *Application for Air Permit – Long Form*, is provided in Appendix A. Power Block 4 Air Construction Permit No. 1050234-010-AC/PSD-FL-342 is provided in Appendix B.

APPENDIX A

**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
APPLICATION FOR AIR PERMIT—LONG FORM**



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

RECEIVED

FEB 20 2008

BUREAU OF AIR REGULATION

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for any air construction permit at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also 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
- Where the applicant proposes to establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

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

Air Construction Permit & 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: Florida Power Corporation d/b/a Progress Energy Florida, Inc.	
2. Site Name: Hines Energy Complex	
3. Facility Identification Number: 1050234	
4. Facility Location... Street Address or Other Locator: 7700 County Road 555 City: Bartow County: Polk Zip Code: 33830	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: Dave Meyer, Senior Environmental Specialist	
2. Application Contact Mailing Address Organization/Firm: Progress Energy Florida, Inc. Street Address: 299 – First Avenue North PEB PEF-903 City: St. Petersburg State: FL Zip Code: 33701	
3. Application Contact Telephone Numbers... Telephone: (727) 820-5295 ext. Fax: (727) 820-5229	
4. Application Contact Email Address: dave.meyer@pgnmail.com	

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 2/25/08	3. PSD Number (if applicable):
2. Project Number(s): 1050234-016-AV	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 construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

APPLICATION INFORMATION

Application Comment

Progress Energy Florida, Inc. (PEF) recently constructed and placed in operation an additional 530-MW combined cycle unit at the Hines Energy Complex. Power Block 4 consists of two (2) General Electric Model 7FA dual-fuel, combustion turbine generators (CTGs), two unfired heat recovery steam generators (HRSGs), and one common steam turbine generator (STG). The two CTG/HRSG units are designated as Units 4A and 4B. The CTGs each have a nominal electrical generating capacity of 170 MW and are fired primarily with pipeline quality natural gas with low sulfur distillate fuel oil serving as a back-up fuel source.

Initial startup of Power Block 4 occurred on August 29, 2007. Compliance testing, as required by Air Construction Permit No. 1050234-010-AC/PSD-FL-342, Section III, Specific Condition No. 19 (testing for carbon monoxide (CO), nitrogen oxides [NO_x], volatile organic compounds (VOC), and visible emissions [VE]), was conducted on November 17, 2007 (Unit 4A – natural gas), November 19, 2007 (Unit 4B – natural gas), and November 20, 2007 (Units 4A and 4B – fuel oil). The initial emissions performance testing demonstrated that Units 4A and 4B were operating in compliance with all applicable permit emission limits.

This permit application constitutes PEF's application to revise Title V FINAL Permit Revision No. 1050234-014-AV to incorporate the appropriate terms and conditions of Power Block 4 Air Construction Permit No. 1050234-010-AC/PSD-FL-342 pursuant to the requirements of Chapter 62-213, F.A.C.

In addition to incorporating the appropriate terms and conditions of the Power Block 4 air construction permit, PEF requests the following revisions to Title V FINAL Permit Revision No. 1050234-014-AV:

- (1) Include permit language pertaining to the exclusion of continuous emissions monitoring system (CEMS) data during dry low-NO_x (DLN) combustor tuning from Power Block 2 (reference Section III, Subsection E., Specific Condition E.9) to Power Block 1 (Section III, Subsection A); and
- (2) Include an additional No. 2 fuel oil storage tank to the Appendix U-1 List of Unregulated Emission Units and Activities.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
018	Power Block 4, CT 4A (170 MW gas turbine with unfired HRSG)	N/A	N/A
019	Power Block 4, CT 4B (170 MW gas turbine with unfired HRSG)	N/A	N/A

Application Processing Fee

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

APPLICATION INFORMATION

Owner/Authorized Representative Statement **NOT APPLICABLE**

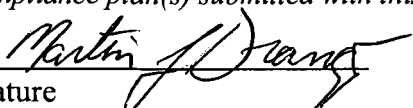
Complete if applying for an air construction permit or an initial FESOP.

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: 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

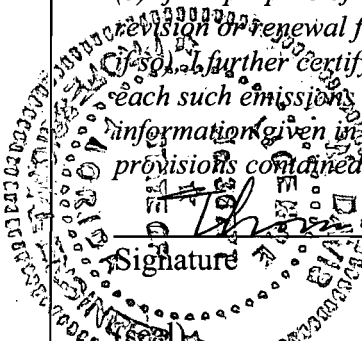
Application Responsible Official Certification

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: Martin J. Drango, P.E., Plant Manager
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 type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: Progress Energy Florida, Inc. Street Address: 7700 County Road 555 City: Bartow State: FL Zip Code: 33830
4. Application Responsible Official Telephone Numbers... Telephone: Telephone: (863) 519-6103 ext. Fax: (863) 519-6110
5. Application Responsible Official Email Address: martin.drango@pgnmail.com
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i> Signature  Date <u>2/21/08</u>

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: FL Zip Code: 32606
3. Professional Engineer Telephone Numbers... Telephone: (352) 332-6230 ext. 11351 Fax: (352) 332-6722
4. Professional Engineer Email Address: tdavis@ectinc.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/> if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/> if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/> if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input checked="" type="checkbox"/>) I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>  Signature: <u>Thomas W. Davis</u> Date: <u>2/20/08</u>

* Attach any exception to certification statement.

APPLICATION INFORMATION

ATTACHMENT

PROGRESS ENERGY FLORIDA, INC.

HINES ENERGY COMPLEX

POWER BLOCK 4 PROJECT

PROFESSIONAL ENGINEER CERTIFICATION EXCEPTIONS

An inspection of the Progress Energy Florida, Inc. (PEF) Hines Energy Complex Power Block 4 was conducted on January 15, 2008. The inspection confirmed, with two minor exceptions, that the Power Block 4 project was constructed in accordance with the previously submitted air construction permit application.

Exceptions include the following:

- (a) The additional auxiliary boiler authorized by Air Permit No. PSD-FL-342 was not constructed. The capacity of the existing auxiliary boiler is adequate to support operations of the Hines Energy Complex, including Power Block 4. Accordingly, PEF does not plan to install an additional auxiliary boiler.**

- (b) The Power Block 4 project includes one 1,000,000 gallon capacity distillate fuel oil storage tank. This storage tank qualifies as an unregulated emission unit.**

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 414.4 North (km) 3,073.9		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 27 / 47 / 19 Longitude (DD/MM/SS) 81 / 52 / 10	
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4911
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: Tommy W. Oneal, EHS Specialist
2. Facility Contact Mailing Address Organization/Firm: Progress Energy Florida, Inc. Street Address: 7700 County Road 555, HE-44 City: Bartow State: FL Zip Code: 33830
3. Facility Contact Telephone Numbers: Telephone: (863) 519-6119 ext. Fax: (863) 519-6110
4. Facility Contact Email Address: tommy.oneal@pgnmail.com

Facility Primary Responsible Official **NOT APPLICABLE**

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

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

Facility Regulatory Classifications

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

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR 60)	
10. <input type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR 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: Applicable NSPS: 40 CFR Part 60, Subparts GG (CTs-PB1, PB2, PB3, and PB4), and Dc (auxiliary boiler)	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter – PM/PM₁₀	A	
Sulfur Dioxide – SO₂	A	
Nitrogen Oxide - NO_x	A	
Carbon Monoxide – CO	A	
Volatile Organic Compounds – VOC	A	
Total Hazardous Air Pollutants – HAPS	A	
Sulfuric Acid Mist - SAM	B	

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps **NOT APPLICABLE**

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

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

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004
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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004

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, Modification, or Plantwide Applicability Limit (PAL): <input type="checkbox"/> Attached, Document ID: _____
3. Rule Applicability Analysis: <input type="checkbox"/> Attached, Document ID: _____
4. List of Exempt Emissions Units (Rule 62-210.300(3), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

Additional Requirements for FESOP Applications **NOT APPLICABLE**

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
 Attached, Document ID: _____ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

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

Additional Requirements Comment

In addition to incorporating the appropriate terms and conditions of the Power Block 4 air construction permit, PEF requests the following revisions to Title V FINAL Permit Revision No. 1050234-014-AV:

- (1) **Include permit language pertaining to the exclusion of continuous emissions monitoring system (CEMS) data during dry low-NO_x (DLN) combustor tuning from Power Block 2 (reference Section III, Subsection E., Specific Condition E.9) to Power Block 1 (Section III, Subsection A); and**
- (2) **Include an additional No. 2 fuel oil storage tank to the Appendix U-1 List of Unregulated Emission Units and Activities.**

EMISSIONS UNIT INFORMATION

Section [1] of [2]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

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

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

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

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
Power Block 4; CT 4A
General Electric Model 7FA dual-fuel, combustion turbine generator (CTG), unfired heat recovery steam generator (HRSG), and one common steam turbine generator (STG) shared with CT 4B.

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

4. Emissions Unit Status Code: A	5. Commence Construction Date: 12/1/05	6. Initial Startup Date: 8/29/07	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--	--	--	--

9. Package Unit: **GE Frame 7FA**
 Manufacturer: **GE** Model Number: **Frame 7FA**

10. Generator Nameplate Rating: **170 MW (nominal)**

11. Emissions Unit Comment:
GE Frame 7FA combustion turbine firing natural gas with distillate oil back up.

EMISSIONS UNIT INFORMATION

Section [1] of [2]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

NO_x Control

Dry Low NO_x combustion-natural gas firing (025)

Water Injection – distillate oil firing (028)

Selective Catalytic Reduction (SCR) – natural gas firing/ distillate oil firing (139)

2. Control Device or Method Code(s): **025, 028, 139**

EMISSIONS UNIT INFORMATION

Section [1] of [2]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: 1,915 million Btu/hr	
4. Maximum Incineration Rate: pounds/hr Tons/day	
5. Requested Maximum Operating Schedule: hours/day weeks/year	days/week 8,760 hours/year
6. Operating Capacity/Schedule Comment: Higher heating value (HHV) heat input shown is for natural gas firing at 59°F turbine inlet temperature and 100% load. For oil firing, HHV heat input is 2,122 MMBtu/hr at 59°F turbine inlet temperature and 100% load. Note that the Power Block 4 description on Page 5 of air construction permit 1050234-010-AC lists incorrect heat input rates. The correct heat rates are contained in permit condition No. 8 on Page 6 of the air construction permit.	

EMISSIONS UNIT INFORMATION

Section [1] of [2]

C. EMISSION POINT (STACK/VENT) INFORMATION
 (Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: CT 4A		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Exhausts through a single stack			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 125 feet		7. Exit Diameter: 18 feet
8. Exit Temperature: 202 °F	9. Actual Volumetric Flow Rate: 1,036,271 acfm		10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates Zone: 17 East (km): 414.4 North (km): 3,073.9		14. Emission Point Latitude/Longitude Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Temperature and flow for natural gas at 59°F turbine inlet; see 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			

EMISSIONS UNIT INFORMATION

Section [1] of [2]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): Combustion Turbine Fired with Natural Gas		
2. Source Classification Code (SCC): 2-01-002-01		3. SCC Units: Million Cubic Feet
4. Maximum Hourly Rate: 1.99	5. Maximum Annual Rate: 16,430	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,021
10. Segment Comment: Based on natural gas heat content of 1,021 Btu/ft³ (HHV); maximum hourly rate at 20°F; annual rate at 59°F; turbine inlet temperatures.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Combustion Turbine Fired With Distillate Fuel Oil		
2. Source Classification Code (SCC): 2-01-001-01		3. SCC Units: Thousands Gallons Used
4. Maximum Hourly Rate: 17.6	5. Maximum Annual Rate: 16,604	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 127.8
10. Segment Comment: Based on distillate fuel oil heat content of 127, 800 Btu/gallon (HHV). Maximum hourly rate at 20°F; annual rate at 59°F. Aggregate fuel usage of 30,700,000 gallons per year for Power Block 4 equates to 1,000 hr/CT/yr.		

EMISSIONS UNIT INFORMATION

Section [1] of [2]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/PM ₁₀			NS
SO ₂			NS
NO _x	025, 028	139	EL
CO			EL
VOC			EL
SAM			NS
<p>Note: PM/PM₁₀, SO₂, and SAM subject to fuel specifications; see Condition 9.b. of Air Permit No. PSD-FL-342.</p>			

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: 39.1 lb/hour 57.7 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): N/A to tons/year			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year N/A		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/year/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10% opacity	4. Equivalent Allowable Emissions: 10.1 lb/hour 43.8 tons/year
5. Method of Compliance: EPA Method 9; annually	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10% opacity	4. Equivalent Allowable Emissions: 39.1 lb/hour 18.9 tons/year
5. Method of Compliance: EPA Method 9; annually (Not required for oil-firing during any federal fiscal year in which less than 6,140,000gallons of distillate fuel oil is fired in both CT 4A and CT 4B combined).	
6. Allowable Emissions Comment (Description of Operating Method): Oil firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: 109.2 lb/hour 71.0 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): N/A to tons/year			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 2	
8.a. Baseline Actual Emissions (if required): tons/year N/A		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Fuel Specification; 1.0 gr S/100 ft³	4. Equivalent Allowable Emissions: 5.4 lb/hour 22.1 tons/year
5. Method of Compliance: Fuel Sampling and Analysis per 40 CFR Part 75 (Acid Rain Program)	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Also subject to less stringent SO₂ standards of NSPS Subpart GG. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Fuel Specification; 0.05% weight % S	4. Equivalent Allowable Emissions: 109.2 lb/hour 51.4 tons/year
5. Method of Compliance: Fuel Sampling and Analysis per 40 CFR Part 75 (Acid Rain Program)	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine. Also subject to equivalent SO₂ standards of NSPS Subpart GG. Rule 62-212.400(4)(c), F.A.C. (BACT)	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: Approx. 90%	
3. Potential Emissions: 82.4 lb/hour 102.4 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): N/A tons/year		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): N/A tons/year		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 2.5 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 17.7 lb/hour 72.3 tons/year
5. Method of Compliance: CEMS; Part 75; 24-hour block average; midnight to midnight	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; TPY for 8,760 hrs/yr at 59°F turbine inlet. Also subject to less stringent NO_x standards of NSPS Subpart GG. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10.0 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 82.4 lb/hour 38.4 tons/year
5. Method of Compliance: CEMS; Part 75; 24-hour block average; midnight to midnight	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; TPY equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Also subject to less stringent NO_x standards of NSPS Subpart GG. Rule 62-212.400(4)(c), F.A.C. (BACT)	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: 60.3 lb/hour 152.7 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): N/A tons/year		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 8.0 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 34.2 lb/hour 140.6 tons/year
5. Method of Compliance: CEMS; 24-hour block average; midnight to midnight	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 12.0 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 60.3 lb/hour 28.1 tons/year
5. Method of Compliance: CEMS; 24-hour block average; midnight to midnight	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: 8.6 lb/hour 15.2 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): N/A tons/year		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 1.3 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 3.1 lb/hour 12.6 tons/year
5. Method of Compliance: EPA Method 25A and, optionally, EPA Method 18	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Voluntary limit to avoid BACT review.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 3.0 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 8.6 lb/hour 4.0 tons/year
5. Method of Compliance: EPA Method 25A and, optionally, EPA Method 18	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Voluntary limit to avoid BACT review.	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: SAM		2. Total Percent Efficiency of Control: N/A	
3. Potential Emissions: 16.7 lb/hour 10.8 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 2	
8.a. Baseline Actual Emissions (if required): N/A tons/year		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; TPY at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Fuel Specification; 1.0 gr S/100 ft³	4. Equivalent Allowable Emissions: 0.83 lb/hour 3.4 tons/year
5. Method of Compliance: Fuel Sampling and Analysis per 40 CFR Part 75 (Acid Rain Program)	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Fuel Specification; 0.05% weight % S	4. Equivalent Allowable Emissions: 16.7 lb/hour 7.9 tons/year
5. Method of Compliance: Fuel Sampling and Analysis per 40 CFR Part 75 (Acid Rain Program)	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

EMISSIONS UNIT INFORMATION

Section [1] of [2]

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 2

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9 (Not required for oil-firing during any federal fiscal year in which less than 6,140,000 gallons of distillate fuel oil is fired in both CT 4A and CT 4B combined).	
5. Visible Emissions Comment: Rule 62-212.400(4)(c), F.A.C. (BACT)	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

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: % Exceptional Conditions: 20 % Maximum Period of Excess Opacity Allowed: Up to ten, 6-minute average periods per calendar day.	
4. Method of Compliance: N/A	
5. Visible Emissions Comment: Rule 62-212.400(4)(c), F.A.C. (BACT)	

EMISSIONS UNIT INFORMATION

Section [1] of [2]

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): NO_x
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information Manufacturer: Thermo Electron Model Number: 42i-LS Serial Number: 0601214670	
5. Installation Date: 7/1/07 - 7/19/07	6. Performance Specification Test Date: 10/22/07 - 10/29/07
7. Continuous Monitor Comment: Required by 40 CFR Part 75 (Acid Rain Program).	

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: O2	2. Pollutant(s): N/A
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information Manufacturer: Servomax Model Number: 1440 Serial Number: 01440C1STD/2926	
5. Installation Date: 7/1/07 - 7/19/07	6. Performance Specification Test Date: 10/22/07 - 10/29/07
7. Continuous Monitor Comment: Required by 40 CFR Part 75 (Acid Rain Program).	

EMISSIONS UNIT INFORMATION

Section [1] of [2]

H. CONTINUOUS MONITOR INFORMATION

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): CO
3. CMS Requirement:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
4. Monitor Information Manufacturer: Thermo Electron Model Number: 48i Serial Number: 0601214675	
5. Installation Date: 7/1/07 – 7/19/07	6. Performance Specification Test Date: 10/22/07 - 10/29/07
7. Continuous Monitor Comment: Required by Condition No. 22 of Air Permit No. PSD-FL-342.	

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 [1] of [2]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004
2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004
3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004
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"/> 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 checked="" type="checkbox"/> Previously Submitted, Date: January 3, 2008 Test Date(s)/Pollutant(s) Tested: November 17, 2007 – natural gas, November 20, 2007– distillate fuel oil /NO_x, CO, VOC, and VE. <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable <p>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.</p>
7. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [1] of [2]

Additional Requirements for Air Construction Permit Applications **NOT APPLICABLE**

- 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
 Attached, Document ID: _____ Not Applicable
- 2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(4)(d), 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: _____ (revision application with no change in applicable requirements)
- 2. Compliance Assurance Monitoring
 Attached, Document ID: _____ Not Applicable
- 3. Alternative Methods of Operation
 Attached, Document ID: **See Comment Below** 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: _____
 - Acid Rain Part (Form No. 62-210.900(1)(a))
 Attached, Document ID: _____ Previously Submitted, Date: **10/01/04**
 - 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

EMISSIONS UNIT INFORMATION

Section [1] of [2]

Additional Requirements Comment

Alternate Methods of Operation:

Natural Gas Combustion – up to 8,760 hours per year.

Distillate Fuel Oil Combustion – up to 30,700,000 gallons in any consecutive 12 month period for both CT 4A and CT 4B combined (equivalent to 1,000 hrs/yr/CT).

EMISSIONS UNIT INFORMATION

Section [2] of [2]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

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

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

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

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

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

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
Power Block 4; CT 4B
General Electric Model 7FA dual-fuel, combustion turbine generator (CTG), unfired heat recovery steam generator (HRSG), and one common steam turbine generator (STG) shared with CT 4B.

3. Emissions Unit Identification Number: **019**

4. Emissions Unit Status Code: A	5. Commence Construction Date: 12/1/05	6. Initial Startup Date: 8/29/07	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: **GE Frame 7FA**
 Manufacturer: **GE** Model Number: **Frame 7FA**

10. Generator Nameplate Rating: **170 MW (nominal)**

11. Emissions Unit Comment:
GE Frame 7FA combustion turbine firing natural gas with distillate oil back up.

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

NO_x Control

Dry Low NO_x combustion-natural gas firing (025)

Water Injection – distillate oil firing (028)

Selective Catalytic Reduction (SCR) – natural gas firing/ distillate oil firing (139)

2. Control Device or Method Code(s): **025, 028, 139**

EMISSIONS UNIT INFORMATION

Section [2] of [2]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: 1,915 million Btu/hr	
4. Maximum Incineration Rate: pounds/hr Tons/day	
5. Requested Maximum Operating Schedule: hours/day weeks/year	days/week 8,760 hours/year
6. Operating Capacity/Schedule Comment: Higher heating value (HHV) heat input shown is for natural gas firing at 59°F turbine inlet temperature and 100% load. For oil firing, HHV heat input is 2,122 MMBtu/hr at 59°F turbine inlet temperature and 100% load. Note that the Power Block 4 description on Page 5 of air construction permit 1050234-010-AC lists incorrect heat input rates. The correct heat rates are contained in permit condition No. 8 on Page 6 of the air construction permit.	

EMISSIONS UNIT INFORMATION

Section [2] of [2]

C. EMISSION POINT (STACK/VENT) INFORMATION
 (Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: CT 4B		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Exhausts through a single stack			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 125 feet	7. Exit Diameter: 18 feet	
8. Exit Temperature: 202 °F	9. Actual Volumetric Flow Rate: 1,036,271 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates Zone: 17 East (km): 414.4 North (km): 3,073.9		14. Emission Point Latitude/Longitude Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: Temperature and flow for natural gas at 59°F turbine inlet; see 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			

EMISSIONS UNIT INFORMATION

Section [2] of [2]

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

1. Segment Description (Process/Fuel Type): Combustion Turbine Fired with Natural Gas		
2. Source Classification Code (SCC): 2-01-002-01		3. SCC Units: Million Cubic Feet
4. Maximum Hourly Rate: 1.99	5. Maximum Annual Rate: 16,430	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,021
10. Segment Comment: Based on natural gas heat content of 1,021 Btu/ft³ (HHV); maximum hourly rate at 20°F; annual rate at 59°F; turbine inlet temperatures.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): Combustion Turbine Fired With Distillate Fuel Oil		
2. Source Classification Code (SCC): 2-01-001-01		3. SCC Units: Thousands Gallons Used
4. Maximum Hourly Rate: 17.6	5. Maximum Annual Rate: 16,604	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 127.8
10. Segment Comment: Based on distillate fuel oil heat content of 127, 800 Btu/gallon (HHV). Maximum hourly rate at 20°F; annual rate at 59°F. Aggregate fuel usage of 30,700,000 gallons per year for Power Block 4 equates to 1,000 hr/CT/yr.		

EMISSIONS UNIT INFORMATION

Section [2] of [2]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/PM ₁₀			NS
SO ₂			NS
NO _x	025, 028	139	EL
CO			EL
VOC			EL
SAM			NS
<p>Note: PM/PM₁₀, SO₂, and SAM subject to fuel specifications; see Condition 9.b. of Air Permit No. PSD-FL-342.</p>			

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: 39.1 lb/hour 57.7 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): N/A to tons/year			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year N/A		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/year/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10% opacity	4. Equivalent Allowable Emissions: 10.1 lb/hour 43.8 tons/year
5. Method of Compliance: EPA Method 9; annually	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10% opacity	4. Equivalent Allowable Emissions: 39.1 lb/hour 18.9 tons/year
5. Method of Compliance: EPA Method 9; annually (Not required for oil-firing during any federal fiscal year in which less than 6,140,000 gallons of distillate fuel oil is fired in both CT 4A and CT 4B combined).	
6. Allowable Emissions Comment (Description of Operating Method): Oil firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: 109.2 lb/hour 71.0 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): N/A to tons/year			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 2	
8.a. Baseline Actual Emissions (if required): tons/year N/A		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Fuel Specification; 1.0 gr S/100 ft³	4. Equivalent Allowable Emissions: 5.4 lb/hour 22.1 tons/year
5. Method of Compliance: Fuel Sampling and Analysis per 40 CFR Part 75 (Acid Rain Program)	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Also subject to less stringent SO₂ standards of NSPS Subpart GG. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Fuel Specification; 0.05% weight % S	4. Equivalent Allowable Emissions: 109.2 lb/hour 51.4 tons/year
5. Method of Compliance: Fuel Sampling and Analysis per 40 CFR Part 75 (Acid Rain Program)	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine. Also subject to equivalent SO₂ standards of NSPS Subpart GG. Rule 62-212.400(4)(c), F.A.C. (BACT)	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: Approx. 90%	
3. Potential Emissions: 82.4 lb/hour 102.4 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): N/A tons/year		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): N/A tons/year		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 2.5 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 17.7 lb/hour 72.3 tons/year
5. Method of Compliance: CEMS; Part 75; 24-hour block average; midnight to midnight	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; TPY for 8,760 hrs/yr at 59°F turbine inlet. Also subject to less stringent NO_x standards of NSPS Subpart GG. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10.0 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 82.4 lb/hour 38.4 tons/year
5. Method of Compliance: CEMS; Part 75; 24-hour block average; midnight to midnight	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; TPY equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Also subject to less stringent NO_x standards of NSPS Subpart GG. Rule 62-212.400(4)(c), F.A.C. (BACT)	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: 60.3 lb/hour 152.7 tons/year		4. Synthetically Limited? <input checked="checked" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): N/A tons/year		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 8.0 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 34.2 lb/hour 140.6 tons/year
5. Method of Compliance: CEMS; 24-hour block average; midnight to midnight	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 12.0 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 60.3 lb/hour 28.1 tons/year
5. Method of Compliance: CEMS; 24-hour block average; midnight to midnight	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: 8.6 lb/hour 15.2 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): N/A tons/year		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; tpy at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 1.3 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 3.1 lb/hour 12.6 tons/year
5. Method of Compliance: EPA Method 25A and, optionally, EPA Method 18	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Voluntary limit to avoid BACT review.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 3.0 ppmvd at 15% O₂	4. Equivalent Allowable Emissions: 8.6 lb/hour 4.0 tons/year
5. Method of Compliance: EPA Method 25A and, optionally, EPA Method 18	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Voluntary limit to avoid BACT review.	

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

(Optional for unregulated emissions units.)

Potential, Estimated Fugitive, and Baseline & Projected Actual 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: SAM		2. Total Percent Efficiency of Control: N/A	
3. Potential Emissions: 16.7 lb/hour 10.8 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year N/A			
6. Emission Factor: Reference: GE, 2004.		7. Emissions Method Code: 2	
8.a. Baseline Actual Emissions (if required): N/A tons/year		8.b. Baseline 24-month Period: N/A From: To:	
9.a. Projected Actual Emissions (if required): tons/year N/A		9.b. Projected Monitoring Period: N/A <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See 12/1/04 revised PSD Permit Application, Attachment 2, Tables 1 and 2.			
11. Potential, Fugitive, and Actual Emissions Comment: Max lb/hr for oil firing at 20°F turbine inlet; TPY at 59°F turbine inlet with 7,760 hrs/yr-gas; equivalent of 1,000 hrs/yr/CT-oil.			

**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: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Fuel Specification; 1.0 gr S/100 ft³	4. Equivalent Allowable Emissions: 0.83 lb/hour 3.4 tons/year
5. Method of Compliance: Fuel Sampling and Analysis per 40 CFR Part 75 (Acid Rain Program)	
6. Allowable Emissions Comment (Description of Operating Method): Gas Firing: lb/hr at 20°F turbine inlet; tpy for 8,760 hrs/yr at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: Fuel Specification; 0.05% weight % S	4. Equivalent Allowable Emissions: 16.7 lb/hour 7.9 tons/year
5. Method of Compliance: Fuel Sampling and Analysis per 40 CFR Part 75 (Acid Rain Program)	
6. Allowable Emissions Comment (Description of Operating Method): Oil Firing: lb/hr at 20°F turbine inlet; tpy equivalent of 1,000 hrs/yr/CT-oil at 59°F turbine inlet. Rule 62-212.400(4)(c), F.A.C. (BACT)	

EMISSIONS UNIT INFORMATION

Section [2] of [2]

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 2

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9 (Not required for oil-firing during any federal fiscal year in which less than 6,140,000 gallons of distillate fuel oil is fired in both CT 4A and CT 4B combined).	
5. Visible Emissions Comment: Rule 62-212.400(4)(c), F.A.C. (BACT)	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

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: % Exceptional Conditions: 20 % Maximum Period of Excess Opacity Allowed: Up to ten, 6-minute average periods per calendar day.	
4. Method of Compliance: N/A	
5. Visible Emissions Comment: Rule 62-212.400(4)(c), F.A.C. (BACT)	

EMISSIONS UNIT INFORMATION

Section [2] of [2]

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): NO_x
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information Manufacturer: Thermo Electron Model Number: 42i-LS Serial Number: 0601214673	
5. Installation Date: 7/1/07 - 7/19/07	6. Performance Specification Test Date: 09/06-07 - 10/10/07
7. Continuous Monitor Comment: Required by 40 CFR Part 75 (Acid Rain Program).	

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: O2	2. Pollutant(s): N/A
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information Manufacturer: Servomax Model Number: 1440 Serial Number: 01440C1STD/2925	
5. Installation Date: 7/1/07 - 7/19/07	6. Performance Specification Test Date: 09/06-07 - 10/10/07
7. Continuous Monitor Comment: Required by 40 CFR Part 75 (Acid Rain Program).	

EMISSIONS UNIT INFORMATION

Section [2] of [2]

H. CONTINUOUS MONITOR INFORMATION

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): CO
3. CMS Requirement:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
4. Monitor Information Manufacturer: Thermo Electron Model Number: 48i Serial Number: 0601214674	
5. Installation Date: 7/1/07 – 7/19/07	6. Performance Specification Test Date: 09/06-07 - 10/10/07
7. Continuous Monitor Comment: Required by Condition No. 22 of Air Permit No. PSD-FL-342.	

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 [2] of [2]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004
2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004
3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: August 2004
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"/> 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 checked="" type="checkbox"/> Previously Submitted, Date: January 3, 2008 Test Date(s)/Pollutant(s) Tested: November 19, 2007 – natural gas, November 20, 2007– distillate fuel oil /NO_x, CO, VOC, and VE. <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable <p>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.</p>
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 [2]

Additional Requirements for Air Construction Permit Applications **NOT APPLICABLE**

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(4)(d), 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 type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> (revision application with no change in applicable requirements)
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>See Comment Below</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
5. Acid Rain Part Application <input type="checkbox"/> Certificate of Representation (EPA Form No. 7610-1) <input type="checkbox"/> Copy Attached, Document ID: _____ <input checked="" type="checkbox"/> Acid Rain Part (Form No. 62-210.900(1)(a)) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: 10/01/04 <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 type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [2] of [2]

Additional Requirements Comment

Alternate Methods of Operation:

Natural Gas Combustion – up to 8,760 hours per year.

Distillate Fuel Oil Combustion – up to 30,700,000 gallons in any consecutive 12 month period for both CT 4A and CT 4B combined (equivalent to 1,000 hrs/yr/CT).

APPENDIX B

**POWER BLOCK 4
AIR CONSTRUCTION PERMIT**

PERMITTEE:

Progress Energy Florida
P.O. Box 14042, MAC BB1A
St. Petersburg, FL 33733-4042

Hines Energy Complex, Power Block 4
Project No. 1050234-010-AC
Air Permit No. PSD-FL-342
Power Plant Siting Case No. PA 92-33
SIC No. 4911
Expires: June 30, 2009

Authorized Representative:

Roger Zirkle, Plant Manager – Hines Energy Complex

PROJECT AND LOCATION

This permit authorizes the construction of Power Block 4 at the existing Hines Energy Complex, a “2-on-1” combined cycle unit with an electrical generating capacity of approximately 530 megawatts (MW). The project will consist of two 170 MW gas turbine-electrical generator sets, two unfired heat recovery steam generator (HRSG) sets, and a single 190 MW steam turbine-electrical generator. The existing Hines Energy Complex is located in the southwest portion of Polk County, Florida, approximately 7 miles south-southwest of Bartow and 5 miles west-northwest of Fort Meade. *{Permitting Note: Throughout this permit, the electrical generating capacities represent nominal values.}*

UTM Zone 17; 414.4 km East; 3073.9 km North (Latitude: 27° 47’ 19”, Longitude: 81° 52’ 10”)

STATEMENT OF BASIS

This PSD air pollution construction 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.). Pursuant to Chapter 62-17, F.A.C. and Chapter 403 Part II, F.S., the project is also subject to Electrical Power Plant Siting. The project was processed in accordance with Florida’s program for the Prevention of Significant Deterioration (PSD) of Air Quality. The permittee is authorized to install the proposed equipment 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.

CONTENTS

- Section I. General Information
- Section II. Administrative Requirements
- Section III. Combustion Turbine Specific Conditions
- Section IV. Auxiliary Boiler Specific Conditions

Michael Cooke, Director (Date)
Division of Air Resource Management

SECTION I. GENERAL INFORMATION

FACILITY DESCRIPTION

The existing Hines Energy Complex currently consists of two operating electrical generating units (Power Blocks 1 and 2) and another electrical generating unit currently under construction (Power Block 3). Power Block 1 is a 500 MW combined cycle power generation unit that began operation in 1999. It consists of 2 combustion turbines, 2 HRSGs, and 1 steam turbine. Power Block 2 is similar in design; the existing facility (inclusive of both Power Blocks) has a total generating capacity of 1,030 MW. Power Block 3, when complete, will include 2 combustion turbines, 2 HRSGs, and 1 steam turbine in a 530 MW power generation unit. After completion of this project (Power Block 4), the plant will have a total generating capacity of approximately 2,090 MW.

NEW EMISSIONS UNITS

This permit authorizes construction and installation of the following new emissions units.

ID	Emission Unit Description
018	Power Block 4, CT 4A (170 MW gas turbine with unfired HRSG)
019	Power Block 4, CT 4B (170 MW gas turbine with unfired HRSG)
020	Natural Gas-fired auxiliary boiler

{Permitting Note: The Hines Energy Complex, Power Block 4 (Power Block 4, or "the project") consists of 2 gas turbine-electrical generator sets (Units CT 4A and CT 4B), 2 unfired HRSGs, and a single steam-turbine electrical generator.}

REGULATORY CLASSIFICATION

Title III: The existing facility is a major source of hazardous air pollutants (HAPs). Each Power Block 4 gas turbine is a "stationary combustion turbine located at a major source of HAP emissions" and will commence construction after January 14, 2003. Therefore, the gas turbines will be subject to the new stationary combustion turbine requirements of 40 CFR 63, Subpart YYYYY. (See Appendix YYYYY.)

Title IV: The facility operates emissions units subject to the acid rain provisions of the Act.

Title V: Because potential emissions of at least one regulated pollutant exceed 100 tons per year, the existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), and volatile organic compounds (VOC).

PSD: The project is located in an area designated as "attainment" or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard. The facility is considered a "fossil fuel fired steam electric plant of more than 250 million British thermal units (MMBtu) per hour of heat input," which is one of the 28 PSD source categories with the lower PSD applicability threshold of 100 tons per year. Potential emissions of at least one regulated pollutant exceed 100 tons per year. Therefore, the facility is classified as a PSD-major source of air pollution with respect to Rule 62-212.400, F.A.C.

Siting: The project is subject to Electrical Power Plant Siting in accordance with Chapter 62-17, F.A.C. and Chapter 403, Part II, F.S.

PERMITTING AUTHORITY

All documents related to applications for permits to construct, operate or modify an emissions unit shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection (DEP, or "the Department") at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. Copies of all such documents shall also be submitted to the Compliance Authority.

SECTION I. GENERAL INFORMATION

COMPLIANCE AUTHORITY

All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Southwest District Air Program, Compliance/Enforcement Section, 3804 Coconut Palm Drive, Tampa, Florida 33619-8218.

APPENDICES

The following Appendices are attached as part of this permit.

Appendix TEBD	Final BACT Determinations and Emissions Standards
Appendix GC	General Conditions
Appendix GG	NSPS Subpart GG Requirements for Gas Turbines
Appendix XS	Semiannual NSPS Excess Emissions Report
Appendix YYYY	NESHAP Subpart YYYY

REVIEWING AND PROCESSING SCHEDULE

- Received Site Certification and PSD application on August 6, 2004;
- Additional information requested on August 19, 2004;
- Received request for additional time to respond on November 8, 2004;
- Received revised application and responses on December 6, 2004;
- Intent to Issue PSD Permit distributed January 18, 2005.

RELEVANT DOCUMENTS

The documents listed below are not attached; however, they are specifically related to this permitting action and are on file with the Department.

- Permit application
- Department's request for additional information (Office of Siting Coordination sufficiency questions)
- Applicant's additional information
- Department's Intent to Issue

SECTION II. ADMINISTRATIVE REQUIREMENTS

1. General Conditions: The permittee shall operate under the attached General Conditions listed in Appendix GC of this permit. General Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
2. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit 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.; Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.; and 40 CFR Parts 60, 72, 73, and 75, adopted by reference in Rule 62-204.800, F.A.C. The terms used in this permit have specific meanings as defined in the applicable chapters of the F.A.C. 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. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
3. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports, and submit an application for a Title V operation permit to the Department. Approval to construct shall become invalid for any of the following reasons: construction is not commenced within 18 months after issuance of this permit; construction is discontinued for a period of 18 months or more; or 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. In conjunction with an extension of the 18-month period to commence or continue construction (or to construct the project in phases), the Department may require the permittee to demonstrate the adequacy of any previous determination of BACT for emissions units regulated by the project. For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, 62-210.300(1), and 62-212.400(6)(b), F.A.C.]
4. New or Additional Conditions: 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.]
5. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Chapters 62-210 and 62-212, F.A.C.]
6. Application for Title IV Permit: At least 24 months before the date on which the new unit begins serving an electrical generator greater than 25 MW, the permittee shall submit an application for a Title IV Acid Rain Permit to the Department's Bureau of Air Regulation in Tallahassee and a copy to the Region 4 Office of the U.S. Environmental Protection Agency in Atlanta, Georgia. [40 CFR 72]
7. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Department's Bureau of Air Regulation with a copy to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

This section of the permit addresses the following emissions units.

Emission Units 018 and 019

Description: Emission units 018 and 019 each consist of a General Electric Model 7FA gas turbine-electrical generator set, an automated gas turbine control system, and an unfired HRSG. In addition, the project also includes a single steam turbine-electrical generator that serves both gas turbine/HRSG systems.

Fuels: Each gas turbine fires natural gas as the primary fuel and distillate oil as a restricted alternate fuel.

Generating Capacity: Both of the gas turbine-electrical generator sets have a generating capacity of 170 MW for gas firing. Exhaust from each gas turbine passes through a separate HRSG. Steam from both HRSGs is delivered to the single steam turbine-electrical generator, which has a generating capacity of 190 MW. The total generating capacity of the "2-on-1" combined cycle unit is approximately 530 MW.

Controls: The efficient combustion of natural gas and restricted firing of low sulfur distillate oil minimizes the emissions of CO, PM/PM₁₀, SAM, SO₂ and VOC. Dry low-NO_x (DLN) combustion technology for gas firing and water injection for oil firing reduce NO_x emissions. A selective catalytic reduction (SCR) system – in combination with DLN combustion technology for gas firing and a water injection system for oil firing – reduces NO_x emissions. The HRSGs are designed and constructed such that an oxidation catalyst can be readily installed if necessary to achieve compliance with CO emission limitations.

Stack Parameters: Each HRSG has a stack that is 125 feet tall and 18 feet in diameter. The Department may require the permittee to perform additional air dispersion modeling should the actual specified stack dimensions change. The following table summarizes the exhaust characteristics for the combined cycle systems. Nominal heat input values are based on the higher heating value (HHV) of the fuel, assuming 1,021 British thermal units (Btu) per standard cubic feet of natural gas and 19,075 Btu/lb of fuel oil.

Fuel	Nominal Heat Input (HHV)	Compressor Inlet Temp	Exhaust Temperature	Exit Velocity	Flow Rate
Gas	1,806 MMBtu/hour	59 °F	202 °F	67.9 ft/sec	1,036,271 acfm
Oil	1,962 MMBtu/hour	59 °F	295 °F	80.0 ft/sec	1,220,938 acfm

Continuous Monitors: Each stack is equipped with continuous emissions monitoring systems (CEMS) to measure and record CO and NO_x emissions as well as flue gas oxygen or carbon dioxide content.

APPLICABLE STANDARDS AND REGULATIONS

1. **BACT Determinations:** Determinations of BACT were made for CO, NO_x, PM/PM₁₀, sulfuric acid mist (SAM) and SO₂. See Appendix BD of this permit for a summary of the final BACT determinations. [Rule 62-212.400(BACT), F.A.C.]
2. **New Source Performance Standards (NSPS):** The Department determines that compliance with the BACT emissions performance and monitoring requirements also assures compliance with the NSPS for gas turbines at 40 CFR part 60, subpart GG. See Appendix GG of this permit for a summary of the applicable NSPS requirements. [Rule 62-204.800(7), F.A.C.]
3. **National Emission Standards for Hazardous Air Pollutants (NESHAP):** The Department determines that compliance with the stationary combustion turbine requirements of 40 CFR 63, Subpart YYYY (currently stayed) is required. See Appendix YYYY of this permit.

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

EQUIPMENT

4. Gas Turbines: The permittee is authorized to install, tune, operate, and maintain two General Electric Model 7FA gas turbine-electrical generator sets each with a generating capacity of 170 MW. Each gas turbine shall have dual-fuel capability. The gas turbines will utilize DLN combustors. [Application; Design]
5. Gas Turbine NOx Controls
 - a. *DLN Combustion*: The permittee shall operate and maintain the DLN combustion system to control NOx emissions from each gas turbine when firing natural gas. Prior to the initial emissions performance tests required for each gas turbine, the DLN combustors and automated gas turbine control system shall be tuned, in conjunction with any post-combustion emissions control equipment, to achieve the permitted levels for CO and NOx emissions. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.
 - b. *Water Injection*: The permittee shall install, operate, and maintain a water injection system to reduce NOx emissions from each gas turbine when firing distillate oil. Prior to the initial emissions performance tests required for each gas turbine, the water injection system shall be tuned, in conjunction with any post-combustion emissions control equipment, to achieve the permitted levels for CO and NOx emissions. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.
 - c. *SCR System*: The permittee shall install, tune, operate, and maintain a SCR system to control NOx emissions from each gas turbine when firing either natural gas or distillate oil. The SCR system consists of an ammonia injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be designed, constructed and operated to achieve the permitted levels for NOx emissions and ammonia slip. *{Permitting Note: In accordance with 40 CFR 60.130, the storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.}*
[Design; Rule 62-212.400(BACT), F.A.C.]
6. HRSBs: The permittee is authorized to install, operate, and maintain two HRSBs. Each HRSB shall be designed to recover heat energy from one of the two gas turbines (CT 4A or CT 4B) and deliver steam to the steam turbine-electrical generator through a common manifold. *{Permitting Note: The two HRSBs deliver steam to a single steam turbine-electrical generator with a generating capacity of 190 MW.}* [Application; Design]
7. CO Controls: The permittee shall design and construct the HRSBs such that an oxidation catalyst can be readily installed if necessary to achieve compliance with the CO emission limitations. The oxidation catalyst, should it be installed, shall be designed and operated to achieve a maximum outlet concentration of 2.5 ppmvd corrected to 15% oxygen when natural gas is fired and 5.0 ppmvd corrected to 15% oxygen when distillate oil is fired. [Rule 62-4.070(3), F.A.C.]

PERFORMANCE RESTRICTIONS

8. Permitted Capacity - Gas Turbines: The maximum heat input rate to each gas turbine is 1,915 MMBtu per hour when firing natural gas and 2,122 MMBtu per hour when firing distillate oil (based on a compressor inlet air temperature of 59 °F, the HHV of each fuel, and 100% load). Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate fuels, and evaporative cooling. The permittee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45 days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

the performance curves and/or equations on file with the Department. [Rule 62-210.200(PTE), F.A.C.]

9. **Methods of Operation:** Subject to the restrictions and requirements of this permit, the gas turbines may operate under the following methods of operation.
 - a. **Hours of Operation:** Subject to the other operational restrictions of this permit, the gas turbines may operate throughout the year (8,760 hours per year).
 - b. **Authorized Fuels:** Each gas turbine shall fire natural gas as the primary fuel, which shall contain no more than 1.0 grains of sulfur per 100 standard cubic feet of natural gas. As a restricted alternate fuel, each gas turbine may fire No. 2 distillate oil (or a superior grade) containing no more than 0.05% sulfur by weight. Distillate fuel oil consumption of both emissions units shall not exceed 30,700,000 gallons in any consecutive 12 month period. *{Permitting Note: This condition limits annual average fuel oil consumption to the equivalent of approximately 1,000 hours of operation per year per turbine, based on 59 °F annual average temperature. Fuel oil consumption is not limited per turbine, and the allowable fuel may be used in a single turbine.}*
 - c. **Combined Cycle Operation:** Each gas turbine/HRSG system may operate to produce direct, shaft-driven electrical power and steam-generated electrical power from the steam turbine-electrical generator as a “2-on-1” combined cycle unit subject to the restrictions of this permit. In accordance with the specifications of the SCR and HRSG manufacturers, the SCR system shall be on line and functioning properly during combined cycle operation or when the HRSG is producing steam.
 - d. **Ammonia Injection:** Ammonia injection shall begin as soon as operation of the gas turbine/HRSG system achieves the operating parameters specified by the manufacturer.

[Application; Rules 62-210.200(PTE) and 62-212.400(BACT), F.A.C.]

EMISSIONS STANDARDS

10. **Emissions Standards:** Emissions from each gas turbine/HRSG shall not exceed the following limits for the listed pollutants at any ambient temperature.

Pollutant	Emission Limit (ppmvd corrected to 15% oxygen)		Averaging Time
	Natural Gas	Fuel Oil	
CO ^a	8.0	12.0	24 hour block
NOx ^b	2.5	10.0	24 hour block
VOC ^c	1.3	3.0	3 hours
Ammonia ^d	5.0	5.0 ^e	3 hours

Pollutant	Fuel Specification and Emission Limit
PM/PM ₁₀ ^e	Fuel specifications. Visible emissions shall not exceed 10% opacity for each 6-minute block average.
SAM/SO ₂ ^f	Fuel specifications.

- a. Compliance with the CO standards shall be demonstrated based on data collected by the required CEMS. Compliance with the 24-hour CO CEMS standards shall be determined separately based on the hours of operation for each alternative fuel. *{Permitting Note: A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data. The Department*

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

shall revise the CO emissions standards following any future installation of an oxidation catalyst pursuant to Condition No. 7 of this section.}

- b. Compliance with the NO_x standards shall be demonstrated based on data collected by the required CEMS. NO_x mass emission rates are defined as oxides of nitrogen expressed as NO₂. Compliance with the 24-hour NO_x CEMS standards shall be determined separately based on the hours of operation for each alternative fuel. *{Permitting Note: A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.}*
- c. Compliance with the VOC standards shall be demonstrated by conducting tests in accordance with EPA Method 25A. Optionally, EPA Method 18 may also be performed to deduct emissions of methane and ethane. The emission standards are based on VOC measured as propane. *{Permitting Note: Compliance with this standard is adequate to avoid a PSD/BACT Review.}*
- d. Each SCR system shall be designed and operated with an ammonia slip of less than 5 ppmvd corrected to 15% oxygen when firing natural gas based on the average of three test runs. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTM-027 or EPA Method 320.
- e. The fuel specifications established in Condition No. 9 of this section combined with the efficient combustion design and operation of each gas turbine represents the BACT determination for PM/PM₁₀ emissions. Compliance with the fuel specifications, CO standards, and visible emissions standards shall serve as indicators of good combustion. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content. Compliance with the visible emissions standard shall be demonstrated by conducting tests in accordance with EPA Method 9.
- f. The fuel sulfur specifications in Condition No. 9 of this section effectively limit the potential emissions of SAM and SO₂ from the gas turbines and represent the BACT determination for these pollutants. Compliance with the fuel sulfur specifications shall be determined by the requirements in Condition No. 26 of this section.
- g. Although the ammonia slip limit is established at 5.0 ppm, compliance shall be demonstrated while combusting natural gas.

{Permitting Note: Informational only - the concentration limits and fuel specifications for the control of the above pollutants are equivalent to the following mass emission rates (at 20 °F):

- CO = 32.1 lb/hr for natural gas firing and 57.2 lb/hr for distillate fuel oil firing,
- NO_x = 17.7 lb/hr for natural gas firing and 82.4 lb/hr for distillate fuel oil firing,
- VOC = 3.1 lb/hr for natural gas firing and 8.1 lb/hr for distillate fuel oil firing,
- PM₁₀ = 10.1 lb/hr for natural gas firing and 39.1 lb/hr for distillate fuel oil firing, and
- SO₂ = 5.4 lb/hr for natural gas firing and 109.2 lb/hr for distillate fuel oil firing.

SAM emissions are estimated to be less than 10% of the SO₂ emissions.} [Rule 62-212.400(BACT), F.A.C.]

STARTUP, SHUTDOWN, AND MALFUNCTION EMISSIONS

11. Operating Procedures: The BACT determinations established by this permit rely on “good operating practices” to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the gas turbines, HRSGs, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

12. Excess Emissions Prohibited: Excess emissions caused 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. All such preventable emissions shall be included in any compliance determinations based on CEMS data. [Rule 62-210.700(4), F.A.C.]
13. Alternate Visible Emissions Standard: Visible emissions due to startups, shutdowns, and malfunctions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity. [Rule 62-212.400(BACT), F.A.C.]
14. Alternate CO and NOx Emissions Standard: During any 24 hour period, in which at least one hour of startup or shutdown operation has occurred, the following alternative emission limits shall apply:
- a) An alternative NOx limit of 3000 lb shall apply if natural gas is the exclusively fired fuel;
 - b) An alternative NOx limit of 8880 lb shall apply if any fuel oil is fired; and
 - c) An alternative CO limit of 4200 lb shall apply when firing either natural gas or fuel oil.
15. Allowed Excess Emissions: 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. Best operating practices shall be used to minimize hourly emissions that occur during episodes of startup, shutdown, oil-to-gas fuel switching, or documented malfunction. Excess emissions shall in no case exceed two hours in any 24-hour period.

[Rule 62-210.700, F.A.C.]

16. CEMS Data Exclusion: As provided in this paragraph, NOx and CO emissions data recorded during certain periods may be excluded from the compliance determination calculation requirements of this section.
- a. Periods of data excluded for oil-to-gas fuel switches shall not exceed two hours in any 24-hour block.
 - b. Periods of data excluded for documented malfunctions shall not exceed two hours in any 24-hour block. A “documented malfunction” means a malfunction that meets the notification requirements specified in Condition No. 27 of this section. The permittee shall minimize the duration of data excluded to the extent practicable. Data shall not be excluded if the documented malfunction was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably have been prevented.
 - c. Data collected during periods covered by the alternate emissions standard provisions of Condition No.14 may be excluded from the compliance determination calculation requirements of Condition No. 10.

[Rules 62-212.400(BACT) and 62-210.700, F.A.C.]

17. CEMS Data Exclusion – DLN Tuning: CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer’s specifications. A “major tuning session” would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Design; Rule 62-4.070(3), F.A.C.]

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

EMISSIONS PERFORMANCE TESTING

18. Test Methods: Any required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
CTM-027 or EPA Method 320	<i>Procedure for Collection and Analysis of Ammonia in Stationary Sources</i> This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.
7E	<i>Determination of Nitrogen Oxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)</i>
9	<i>Visual Determination of the Opacity of Emissions from Stationary Sources</i> The test shall be conducted for a minimum of 30 minutes.
10	<i>Determination of Carbon Monoxide Emissions from Stationary Sources</i> This method shall be based on a continuous sampling train.
18	<i>Measurement of Gaseous Organic Compound Emissions by Gas Chromatography</i> (Optional) EPA Method 18 may be used concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.
20	<i>Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines</i>
25A	<i>Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer</i>

Method CTM-027 is published on EPA's Technology Transfer Network Web Site at <http://www.epa.gov/ttn/emc/ctm.html>. The other methods are described in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; 40 CFR 60, Appendix A]

19. Initial Compliance Determinations: Each gas turbine shall be stack tested to demonstrate initial compliance with the emission standards for CO, NO_x, VOC, visible emissions, and ammonia slip. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of each unit. Each unit shall be tested when firing natural gas and when firing distillate fuel oil. CEMS data collected during the required Relative Accuracy Test Assessments (RATA) may be used to demonstrate compliance with the initial CO and NO_x standards. CO and NO_x emissions recorded by the CEMS shall also be reported for each run during tests for visible emissions, VOC and ammonia slip. The Department may require the permittee to conduct additional tests after major replacement or major repair of any air pollution control equipment, such as the SCR catalyst, DLN combustors, etc. [Rule 62-297.310(7)(a)1., F.A.C. and 40 CFR 60.8]
20. Continuous Compliance: The permittee shall demonstrate continuous compliance with the CO and NO_x emissions standards based on data collected by the certified CEMS. Within 45 days of conducting any RATA on a CEMS, the permittee shall submit a report to the Compliance Authority summarizing results of the RATA. {*Permitting Note: Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion, which reduces emissions of PM/PM₁₀ and VOC.*} [Rule 62-212.400 (BACT), F.A.C.]
21. Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), each gas turbine shall be tested to demonstrate compliance with the emission standards for visible emissions and ammonia.
- a. Visible Emissions. Each unit shall be tested for visible emissions when firing natural gas and when firing distillate fuel oil. Annual emissions testing while firing fuel oil is not required during any federal

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

fiscal year in which less than 6,140,000 gallons of distillate fuel oil is fired in both emission units combined. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period. *{Permitting Note: The fuel limitation for waiving testing while firing distillate fuel oil corresponds to the equivalent of approximately 200 hours of operation per year per turbine.}*

- b. *Ammonia.* Annual testing to determine the ammonia slip shall be conducted while firing natural gas. NOx emissions recorded by the CEMS shall be reported for each ammonia slip test run.

{Permitting Note: After initial compliance with the VOC standards is demonstrated, annual compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions.} [Rules 62-212.400 (BACT) and 62-297.310(7)(a)4., F.A.C.]

CONTINUOUS MONITORING REQUIREMENTS

22. **CEMS:** The permittee shall install, calibrate, maintain, and operate CEMS to measure and record the emissions of CO and NOx from the combined cycle gas turbine. The CEMS shall be used to demonstrate continuous compliance with the CEMS emission standards specified in this permit. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332. Each monitoring system shall be installed, calibrated, and properly functioning prior to the initial performance tests. Within one working day of discovering emissions in excess of a CO or NOx standard (and subject to the specified averaging period), the permittee shall notify the Compliance Authority.
- a. *CO Monitors.* Except as otherwise specified by this condition, the CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60. The Method 10 analysis shall be based on a continuous sampling train, and the ascarite trap may be omitted or the interference trap of Section 10.1 may be used in lieu of the silica gel and ascarite traps. The CO monitor shall be a dual range monitor. The span for the lower range shall not be greater than 50 ppm. The span for the upper range shall be set at a level that provides for accurate measurement during startups and shutdowns.
- b. *NOx Monitors.* Except as otherwise specified by this condition, the NOx monitor shall be certified pursuant to 40 CFR 75, and shall be operated and maintained in accordance with the applicable requirements of 40 CFR 75, Subparts B and C. Record keeping and reporting shall be conducted pursuant to 40 CFR 75, Subparts F and G. The RATA tests required for the NOx monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60. The NOx monitor shall be a dual range monitor. The span for the lower range shall not be greater than 10 ppm. The span for the upper range shall be set at a level that provides for accurate measurement during startups and shutdowns.
- c. *Diluent Monitors.* The oxygen or carbon dioxide (CO₂) content of the flue gas shall be monitored at the location where CO and NOx are monitored to correct the measured emissions rates to 15% oxygen. If a CO₂ monitor is installed, the oxygen content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.
- d. *Moisture Correction.* Final results of the CEMS shall be expressed as ppmvd corrected to 15% oxygen. If the CEMS measures concentration on a wet basis, the CEMS shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the permittee may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). If the CEMS measures concentration on a wet basis and the diluent monitor measures CO₂ on a wet basis, then the permittee may develop an algorithm to enable correction of the CEMS results to a dry basis (0% moisture) without determining the corresponding moisture content.

- e. *1-Hour Block Averages.* Hourly average values shall begin at the top of each hour. Each hourly average value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly value shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). If less than two such data points are available, the hourly average value is not valid. An hour in which any oil is fired is attributed towards compliance with the permit standards for oil firing. The permittee shall use all valid measurements or data points collected during an hour to calculate the hourly average values. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an hour.
- f. *24-hour Block Averages:* A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS emissions standards of this permit, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be determined using the remaining hourly data in the 24-hour block. *{Permitting Note: There may be more than one 24-hour compliance demonstration required for CO and NO_x emissions depending on the use of alternate fuels}.* [Rule 62-212.400(BACT), F.A.C.]
- g. *Data Exclusion.* Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches, and DLN tuning. CEMS emissions data recorded during some of these episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of Condition Nos. 16 and 17 of this section.
- h. *Availability.* Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The quarterly permit excess emissions report shall be used to demonstrate monitor availability. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit, except as otherwise authorized by the Department's Compliance Authority.

{Permitting Note: Compliance with these requirements assures compliance with the other applicable CEM system requirements such as: NSPS Subpart GG; Rule 62-297.520, F.A.C.; 40 CFR 60.7(a)(5) and 40 CFR 60.13; 40 CFR 60, Appendix B - Performance Specifications; and 40 CFR 60, Appendix F - Quality Assurance Procedures.} [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

The water injection monitoring is no longer necessary due to the NSPS, Subpart GG revisions.

- 23. Ammonia Monitoring Requirements: In accordance with the manufacturer's specifications, the permittee shall install, calibrate, operate and maintain an ammonia flow meter to measure and record the ammonia injection rate to the SCR system. The permittee shall document the general range of ammonia flow rates required to meet permitted emissions levels over the range of load conditions allowed by this permit by comparing NO_x emissions recorded by the CEM system with ammonia flow rates recorded using the ammonia flow meter. During NO_x monitor downtimes or malfunctions, the permittee shall operate at the ammonia flow rate that is consistent with the documented flow rate for the combustion turbine load condition. [Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

RECORDS AND REPORTS

24. Monitoring of Operation: To demonstrate compliance with the fuel consumption limits of Condition No. 9 of this section, the permittee shall record the distillate fuel oil consumption on a rolling 12-month basis. [Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]
25. Frequency of Recordkeeping: Condition No. 22 of this section requires the calculation of one or more 24-hour block average emission rates for each operating day. Within 24 hours of the conclusion of each operating day, the permittee shall complete the calculations and record the results for that operating day. [Rule 62-4.070(3), F.A.C.]
26. Fuel Sulfur Records: The permittee shall demonstrate compliance with the fuel sulfur limits specified in this permit by maintaining the following records of the sulfur contents.
 - a. Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D3246-81 or more recent versions.
 - b. Compliance with the distillate oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM D129-91, ASTM D1552-90, ASTM D2622-94, or ASTM D4294-90. More recent versions of these methods may be used. For each subsequent fuel delivery, the permittee shall either (1) maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor, or (2) take and analyze a sample according to the above procedures and maintain a permanent file of the results of the analysis. At the request of a Compliance Authority, the permittee shall perform additional sampling and analysis for the fuel sulfur content.

The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75 Appendix D. [Rules 62-4.070(3) and 62-4.160(15), F.A.C.]

27. Malfunction Notification: Within one working day of a malfunction for which CEMS data is excluded pursuant to Condition No. 16 of this section, the permittee shall notify the Compliance Authority by telephone, facsimile transmittal, or electronic mail. The notification shall include a preliminary report of: the nature, extent, and duration of the emissions; the probable cause of the emissions; and the actions taken to correct the problem. If requested by the Compliance Authority, the permittee shall submit written quarterly reports summarizing the malfunctions in lieu of the individual malfunction notifications otherwise required. [Rule 62-210.700, F.A.C.]
28. Semiannual NSPS Excess Emissions Report: In accordance with 40 CFR 60.7(c), the permittee shall semiannually submit a report to the Compliance Authority summarizing any emissions in excess of the NSPS standards. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the information specified in 40 CFR 60.7(c)(1) through (c)(4). For purposes of reporting emissions in excess of NSPS Subpart GG, excess emissions from the gas turbine are defined as: any CEMS hourly average value exceeding the NSPS NO_x emission standard identified in Appendix GG (i.e., 112.5 ppmvd corrected to 15% oxygen for both natural gas and fuel oil); and any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds the NSPS standard identified in Appendix GG (i.e., sulfur in excess of 0.8% by weight). An example of an acceptable report format is provided in Appendix XS. [40 CFR 60.7(c)]
29. Quarterly Data Exclusion and Monitor Availability Report: The permittee shall quarterly submit a report to the Compliance Authority summarizing all periods of valid hourly CO and NO_x emissions data

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS
POWER BLOCK 4 COMBUSTION TURBINES (EU 018 AND 019)

excluded from the 24-hour block average compliance determinations pursuant to Condition Nos. 16 and 17 of this section. In addition, the quarterly report shall summarize the CEMS availability for the previous quarter. All reports shall be postmarked by the 30th day following the end of each calendar quarter. An example of an acceptable report format for monitoring systems availability is provided in Appendix XS. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C.; and 40 CFR 60.7(c) and (d)]

SECTION IV. EMISSIONS UNIT SPECIFIC CONDITIONS

POWER BLOCK 4 AUXILIARY BOILER (EU 020)

This section of the permit addresses the following emissions units.

ID	Emission Unit Description
020	Gas-fired, auxiliary boiler rated at 99 MMBtu per hour capacity

EQUIPMENT SPECIFICATIONS

1. Auxiliary Boiler: The permittee is authorized to install one auxiliary boiler designed to produce adequate steam for the cold startup of the combustion turbines. The boiler shall be designed for a nominal heat input rate of 99 MMBtu per hour from the firing of natural gas. The boiler shall fire natural gas as the exclusive fuel and this shall be considered as BACT for the emissions of particulate matter and sulfur dioxide. [Applicant Request; Design; Rule 62-210.200(PTE), F.A.C.]

PERFORMANCE REQUIREMENTS

2. Restricted Operation: The hours of operation of the auxiliary boiler are limited to 500 hours per year. [62-210.200(PTE), F.A.C.]

FEDERAL NSPS SUBPART DC STANDARDS

{Permitting Note: Subpart Dc regulates emissions of particulate matter and sulfur dioxide from each steam generating unit with a maximum design heat input rate of 10 MMBtu per hour or more, but less than 100 MMBtu per hour. Subpart Dc defines a steam generating unit as, "... a device that combusts any fuel and produces steam or heats water or any other heat transfer medium." However, Subpart Dc does not specify any emissions standards for units that combust only natural gas. Therefore, the auxiliary boiler is subject only to the following NSPS Subpart Dc requirements for notification and record keeping.}

3. Reporting and Recordkeeping Requirements of 40 CFR 60.48c: *{Original numbering is retained.}*

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.
- (4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(g) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

STATE STANDARDS

4. Visible Emissions – 20 percent opacity except for either one six-minute period per hour during which opacity shall not exceed 27 percent. [62-296.406 (PTE), F.A.C.]