



December 16, 1996

**RECEIVED**

DEC 18 1996

BUREAU OF  
AIR REGULATION

Mr. Clair Fancy  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: Air Construction Permit Application for Combustion Turbine Natural Gas Conversion  
at FPC's Suwannee Plant (DEP Permit No. AO61-189579)

This letter serves to transmit Florida Power Corporation's (FPC) application for an air construction permit to install natural gas-firing capability for combustion turbines at the above-referenced site. Please find enclosed four copies of the application, as well as a check in the amount of \$250.00 for the processing of this application.

FPC has the opportunity to use, on an interruptible basis, natural gas as a supplemental fuel in peaking units P1-P3 at Suwannee Plant. Because the natural gas will be supplied on an interruptible basis, the currently permitted No. 2 fuel oil will continue to be the primary fuel for these units.

If you should have any questions or require additional information, please do not hesitate to contact me at (813) 866-5158.

Sincerely,

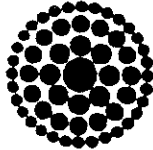
A handwritten signature in black ink, appearing to read "Scott H. Osbourn".

Scott H. Osbourn  
Senior Environmental Engineer

Enclosure

cc: Chris Kirts, DEP NE District  
Ken Kosky, P.E., KBN

Accounts Payable Department C2N  
P.O. Box 14042  
St. Petersburg, FL 33733-4042



**Florida  
Power**  
CORPORATION

63-111

631

DATE 10/16/96 CHECK NO. 1845424

PAY:

\$250\*DOLLARS AND 00 CENTS

\*\*\*\*\*250.00

SunBank / Mid-Florida

TO  
THE  
ORDER  
OF

STATE OF FLORIDA  
DEPARTMENT OF ENVIRON PROT  
2600 BLAIR STONE ROAD  
TALLAHASSEE FL 32399-2400

Void after 60 days

*J. V. Smallwood*  
Treasurer

⑈ 1001845424⑈ ⑆063101153⑆6990032052736⑈

# **FPC/ Suwanee Plant**

**Air Construction Permit Application for  
Natural Gas Conversion at Combustion  
Turbines P1, P2 and P3**

**RECEIVED**  
DEC 19 1996  
BUREAU OF  
AIR REGULATION

# Department of Environmental Protection

## DIVISION OF AIR RESOURCES MANAGEMENT

### APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

#### I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

#### Identification of Facility Addressed in This Application

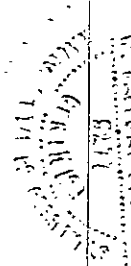
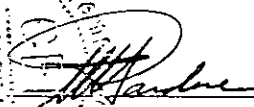
Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

|  |   |
|--|---|
| 1. Facility Owner/Company Name: <b>Florida Power Corporation</b>   |   |
| 2. Site Name: <b>Suwannee River</b>  |   |
| 3. Facility Identification Number: <b>1210003</b> [ ] Unknown  |   |
| 4. Facility Location Information:<br>Street Address or Other Locator: <b>S of US Rte 90-NW of Live Oak</b><br>City: <b>Live Oak</b> County: <b>Suwannee</b> Zip Code: <b>32462</b> |   |
| 5. Relocatable Facility?<br>[ ] Yes [x] No   | 6. Existing Permitted Facility?<br>[x] Yes [ ] No |

#### Application Processing Information (DEP Use)

|                                    |  |
|------------------------------------|--|
| 1. Date of Receipt of Application: |  |
| 2. Permit Number:                  |  |
| 3. PSD Number (if applicable):     |  |
| 4. Siting Number (if applicable):  |  |

Owner/Authorized Representative or Responsible Official

|   |
|---|
| 1. Name and Title of Owner/Authorized Representative or Responsible Official:<br><b>W. Jeffrey Pardue, Director-Environmental Services Dep</b>  |
| 2. Owner/Authorized Representative or Responsible Official Mailing Address:<br><br>Organization/Firm: <b>Florida Power Corporation</b><br>Street Address: <b>3201 34th Street South</b><br>City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33711</b>  |
| 3. Owner/Authorized Representative or Responsible Official Telephone Numbers:<br><br>Telephone: <b>(813)866-4387</b> Fax: <b>(813)866-4926</b>  |
| 4. Owner/Authorized Representative or Responsible Official Statement:<br><br>I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. 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. 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 any permitted emissions unit. |
| <br><br>Signature _____ Date <u>12/17/96</u>  |

\* Attach letter of authorization if not currently on file.

**Scope of Application**

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

| <b>Emissions Unit ID</b> |                | <b>Description of Emissions Unit</b> | <b>Permit Type</b> |
|--------------------------|----------------|--------------------------------------|--------------------|
| <b>Unit #</b>            | <b>Unit ID</b> |                                      |                    |
| 1R                       | *              | Gas Turbine Units 1, 2, 3            | ACM2               |

See individual Emissions Unit (EU) sections for more detailed descriptions.  
Multiple EU IDs indicated with an asterisk (\*). Regulated EU indicated with an "R".

Purpose of Application and Category

Check one (except as otherwise indicated):

Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain:

Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: \_\_\_\_\_

Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: \_\_\_\_\_

Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit to be renewed: \_\_\_\_\_

Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: \_\_\_\_\_

\_\_\_\_\_

Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

\_\_\_\_\_

Category II: All Air Construction Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): \_\_\_\_\_  
\_\_\_\_\_

- Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_  
\_\_\_\_\_

Category III: All Air Construction Permit Applications for All Facilities and Emissions Units.

This Application for Air Permit is submitted to obtain:

- Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: \_\_\_\_\_  
**AO61-189579**

- Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): \_\_\_\_\_  
\_\_\_\_\_

- Air construction permit for one or more existing, but unpermitted, emissions units.



Application Processing Fee

Check one:

Attached - Amount: \$ **\$ 250.00**

Not Applicable.

Construction/Modification Information

|   |
|---|
| 1. Description of Proposed Project or Alterations:<br><b>This application is for the installation of natural gas firing for combustion turbine units P1, P2 and P3.</b> |
| 2. Projected or Actual Date of Commencement of Construction :   |
| 3. Projected Date of Completion of Construction :   |

Professional Engineer Certification

|  |
|--|
| 1. Professional Engineer Name: <b>Kennard F. Kosky</b><br>Registration Number: <b>14996</b>  |
| 2. Professional Engineer Mailing Address:<br>Organization/Firm: <b>KBN Eng. and Applied Sciences, Inc.</b><br>Street Address: <b>6241 NW 23rd Street, Suite 500</b><br>City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32653-1500</b> |
| 3. Professional Engineer Telephone Numbers:<br>Telephone: <b>(352)336-5600</b> Fax: <b>(352)336-6603</b>   |

4. Professional Engineer's Statement:

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

*(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and*

*(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

*If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.*

*If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [ X ] 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.*

*If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.*

*[Handwritten Signature]*  
\_\_\_\_\_  
Signature  
(seal)

*10/22/96*  
\_\_\_\_\_  
Date

\* Attach any exception to certification statement.

Application Contact

|  |
|--|
| 1. Name and Title of Application Contact:<br><b>Scott Osbourn, Senior Environmental Engineer</b>   |
| 2. Application Contact Mailing Address:<br><br>Organization/Firm: <b>Florida Power Corporation</b><br>Street Address: <b>3201 34th Street South</b><br>City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33711</b> |
| 3. Application Contact Telephone Numbers:<br><br>Telephone: <b>(813)866-5158</b> Fax: <b>(813)866-4926</b>   |

Application Comment

|                                |
|--------------------------------|
| <b>See Attachment SU-AI-AC</b> |
|--------------------------------|

**ATTACHMENT SU-AI-AC**  
**APPLICATION COMMENT**

**ATTACHMENT SU-AI-AC  
APPLICATION COMMENT**

This application is for the Suwannee Facility. The application's structure is as follows:

| Emission Unit 1 - Gas Turbines |   |
|--------------------------------|---|
| General                        | 3 peaking units                                   |
| Emission Points                | 1 stack per turbine                               |
| Segments                       | No. 2 fuel oil<br>On-spec used oil<br>Natural Gas |
| Pollutants                     | SO <sub>2</sub>                                   |
| VE Emissions                   | VE limits applicable                              |
| CEM                            | None  |
| PSD                            | Existing Baseline Sources                         |

**1.0 INTRODUCTION**

Florida Power Corporation (FPC) currently owns a simple cycle electric generation facility located in Suwannee, Florida. The facility consists of three 63-megawatt (MW) distillate oil-fired turbine generator units. This facility is considered to be an existing major source because potential emissions of several pollutants including nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) are in excess of 100 tons per year (TPY). FPC requests the flexibility to operate the existing units while firing natural gas. No increase in operating hours per year is requested.

FPC is submitting the attached Application For Air Permit - Long Form [Florida Department of Environmental Protection (FDEP) Form No. 62-210.900(1)] for the requested facility modification. Because the resulting net emission increase for CO is greater than 100 TPY, the modification is not considered "minor".

Because FPC will continue to operate its water injection system at a 0.50 water-to-fuel ratio as currently permitted, increases in CO emissions due to the firing of natural gas will result in simultaneous reduction in NO<sub>x</sub> emissions. Turbine manufacturer's design information suggest that operating with natural gas causes a decrease in NO<sub>x</sub> emissions of approximately 1.13 lb/hr for every 1 lb/hr increase in CO emissions. Therefore, the operation of the unit on natural gas is expected to reduce NO<sub>x</sub> emissions at a greater rate than CO emissions are increased, thereby reducing overall NO<sub>x</sub> impacts. On an annual basis, CO emissions are increased from 401.7 TPY (total for all three units) to 584.4 TPY (proposed), or a 182.7 TPY increase. A 1.13 lb/hr NO<sub>x</sub> decrease for every 1 lb/hr CO increase could potentially decrease NO<sub>x</sub> emissions by 204.9 TPY when operating on natural gas for the entire year.

Further, sulfur dioxide (SO<sub>2</sub>) emissions will also be reduced at a rate of approximately 4.67 lb/hr for every 1 lb/hr increase in CO emissions. Therefore, the operation of the unit on natural gas is expected to reduce SO<sub>2</sub> emissions at a greater rate than CO emissions are increased.

## **2.0 CONTROL TECHNOLOGY REVIEW FOR CARBON MONOXIDE EMISSIONS**

For the control of CO, a potential application for new combustion turbines is an oxidation catalyst system. The FPC Suwanee units are configured with two gas turbines joining into one steam turbine. The transfer of power to a generator is located at the point of connection. This configuration is especially difficult to retrofit additional equipment. Also, the FPC units will only operate up to 1,500 hour per year. This limited operating schedule greatly reduces the benefit to install control equipment.

Even if technologically feasible, the cost for an oxidation catalyst system would be economically burdensome. The capital cost of an oxidation catalyst system is anticipated to exceed approximately \$6.9 million (for all three units), based on a preliminary budgetary estimate of \$1 per lb mass of flow. Annualized costs are estimated to be approximately \$1.1 million. Based on a decrease of 526 TPY (0.9 x 584.4) of CO from the current operation, the total cost effectiveness would be approximately \$2,100/ton.

Because of a limited operating schedule, a prohibitively difficult configuration to retrofit additional equipment, and high cost, the installation of an oxidation catalyst system for the treatment of CO emissions is considered infeasible.

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

|  |  |  |  |
|--|--|--|--|
| 1. Facility UTM Coordinates:<br>Zone: <b>17</b> East (km): <b>290.5</b> North (km): <b>3362.2</b>  |  |  |  |
| 2. Facility Latitude/Longitude:<br>Latitude (DD/MM/SS): <b>30 / 22 / 35</b> Longitude: (DD/MM/SS): <b>83 / 10 / 50</b>   |  |  |  |
| 3. Governmental Facility Code:<br><br><b>0</b>   | 4. Facility Status Code:<br><br><b>A</b> | 5. Facility Major Group SIC Code:<br><br><b>49</b> | 6. Facility SIC(s):<br><br><b>4911</b> |
| 7. Facility Comment (limit to 500 characters):<br><br><b>The Suwannee Facility consists of 3 fossil fuel steam generators and 3 gas turbine peaking units. The steam generators are fired with No. 6 fuel oil, on spec used oil and natural gas (distillate fuel oil is used as an ignitor). The peaking units are fired with No.2 fuel oil and on spec used oil and are limited in hours of operation. This application is for a permit to construct the capability for natural gas firing at the Suwannee Peaker site.</b> |  |  |  |

#### Facility Contact

|  |  |  |  |
|--|--|--|--|
| 1. Name and Title of Facility Contact:<br><b>M.V. Westbrook, Plant Manager</b>   |  |  |  |
| 2. Facility Contact Mailing Address:<br>Organization/Firm:<br>Street Address: <b>Route 8, Box 286</b><br>City: <b>Suwannee</b> State: <b>FL</b> Zip Code: <b>32060</b> |  |  |  |
| 3. Facility Contact Telephone Numbers:<br>Telephone: <b>(904) 364-5151</b> Fax: <b>(813) 866-4967</b>  |  |  |  |

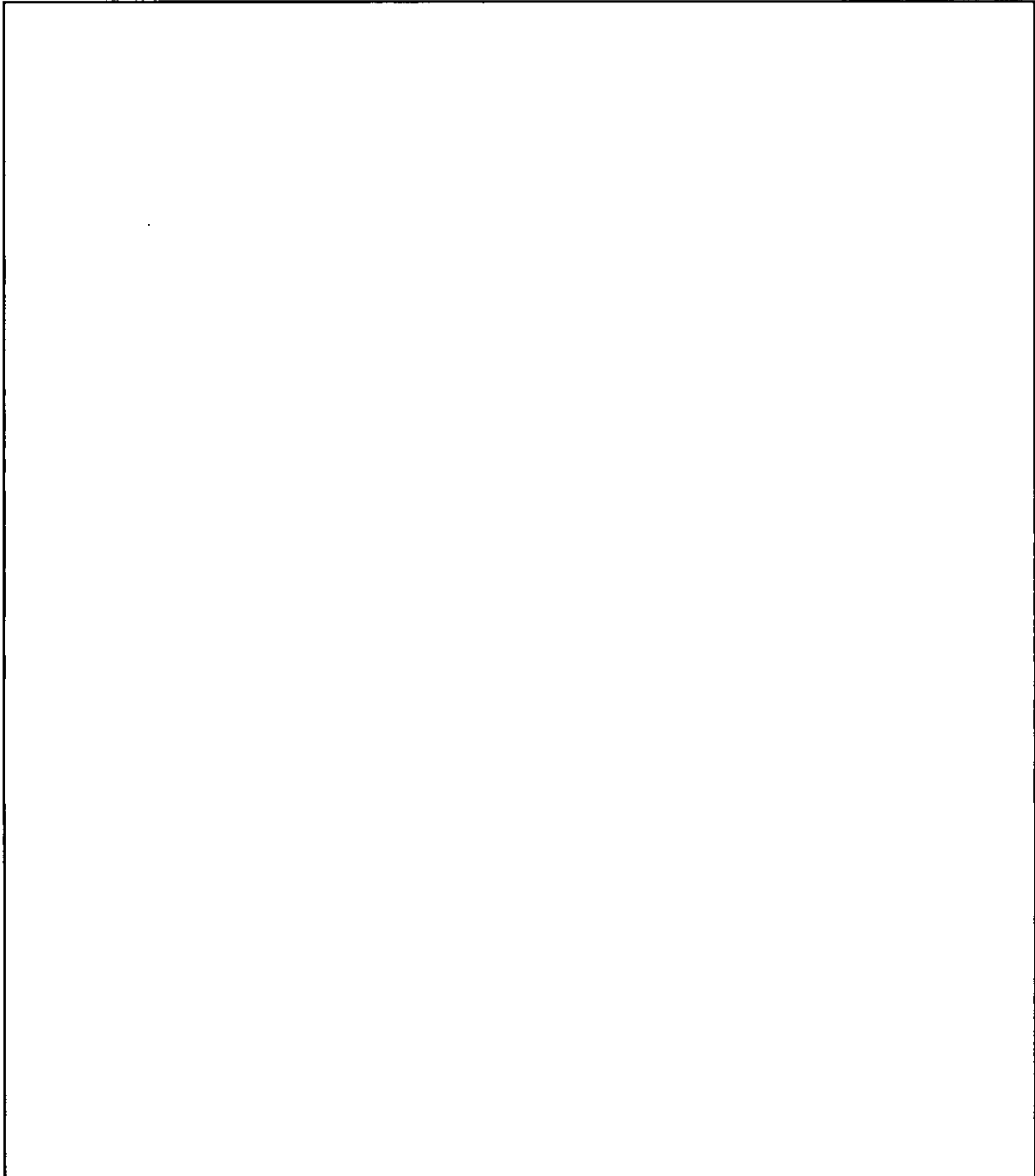
**Facility Regulatory Classifications**

|  |
|--|
| <p>1. Small Business Stationary Source?<br/> <input type="checkbox"/> Yes                                    <input checked="" type="checkbox"/> No                                    <input type="checkbox"/> Unknown</p>          |
| <p>2. Title V Source?<br/> <input checked="" type="checkbox"/> Yes                                    <input type="checkbox"/> No</p>  |
| <p>3. Synthetic Non-Title V Source?<br/> <input type="checkbox"/> Yes,                                    <input checked="" type="checkbox"/> No</p>   |
| <p>4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?<br/> <input checked="" type="checkbox"/> Yes                                    <input type="checkbox"/> No</p>   |
| <p>5. Synthetic Minor Source of Pollutants Other than HAPs?<br/> <input type="checkbox"/> Yes                                    <input checked="" type="checkbox"/> No</p>  |
| <p>6. Major Source of Hazardous Air Pollutants (HAPs)?<br/> <input checked="" type="checkbox"/> Yes                                    <input type="checkbox"/> No</p>   |
| <p>7. Synthetic Minor Source of HAPs?<br/> <input type="checkbox"/> Yes                                    <input checked="" type="checkbox"/> No</p>  |
| <p>8. One or More Emissions Units Subject to NSPS?<br/> <input checked="" type="checkbox"/> Yes                                    <input type="checkbox"/> No</p>   |
| <p>9. One or More Emissions Units Subject to NESHAP?<br/> <input type="checkbox"/> Yes                                    <input checked="" type="checkbox"/> No</p>   |
| <p>10. Title V Source by EPA Designation?<br/> <input type="checkbox"/> Yes                                    <input checked="" type="checkbox"/> No</p>  |
| <p>11. Facility Regulatory Classifications Comment (limit to 200 characters):<br/> <br/> <p style="margin-left: 40px;"><b>The gas turbines are subject to NSPS for stationary gas turbines (40 CFR Part 60, Subpart GG)</b></p> </p> |



## B. FACILITY REGULATIONS

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

**See Attachment SU-FI-B**

## C. FACILITY POLLUTANTS

### Facility Pollutant Information

| 1. Pollutant Emitted           | 2. Pollutant Classification |
|--------------------------------|-----------------------------|
| SO2 Sulfur Dioxide             | A                           |
| PM Particulate Matter - Total  | A                           |
| PM10 Particulate Matter - PM10 | A                           |
| NOX Nitrogen Oxides            | A                           |
| CO Carbon Monoxide             | A                           |
| VOC Volatile Organic Compounds | A                           |
| SAM Sulfuric Acid Mist         | A                           |

## D. FACILITY POLLUTANT DETAIL INFORMATION

### Facility Pollutant Detail Information:

|  |         |           |
|--|---------|-----------|
| 1. Pollutant Emitted:                                    |         |           |
| 2. Requested Emissions Cap:                              | (lb/hr) | (tons/yr) |
| 3. Basis for Emissions Cap Code:                         |         |           |
| 4. Facility Pollutant Comment (limit to 400 characters): |         |           |

### Facility Pollutant Detail Information:

|  |         |           |
|--|---------|-----------|
| 1. Pollutant Emitted:                                    |         |           |
| 2. Requested Emissions Cap:                              | (lb/hr) | (tons/yr) |
| 3. Basis for Emissions Cap Code:                         |         |           |
| 4. Facility Pollutant Comment (limit to 400 characters): |         |           |

## E. FACILITY SUPPLEMENTAL INFORMATION

### Supplemental Requirements for All Applications

|  |
|--|
| 1. Area Map Showing Facility Location:<br><input checked="" type="checkbox"/> Attached, Document ID: <u>SU-FI-E1</u><br><input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested                      |
| 2. Facility Plot Plan:<br><input checked="" type="checkbox"/> Attached, Document ID: <u>SU-FI-E2</u><br><input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested                                      |
| 3. Process Flow Diagram(s):<br><input checked="" type="checkbox"/> Attached, Document ID(s): <u>SU-FI-E3</u><br><input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested                              |
| 4. Precautions to Prevent Emissions of Unconfined Particulate Matter:<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested |
| 5. Fugitive Emissions Identification:<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested                                 |
| 6. Supplemental Information for Construction Permit Application:<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable  |

### Additional Supplemental Requirements for Category I Applications Only

|  |
|--|
| 7. List of Proposed Exempt Activities:<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable  |
| 8. List of Equipment/Activities Regulated under Title VI:<br><input type="checkbox"/> Attached, Document ID: _____<br><input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed<br><input checked="" type="checkbox"/> Not Applicable |
| 9. Alternative Methods of Operation:<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable  |
| 10. Alternative Modes of Operation (Emissions Trading):<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable   |

|   |
|---|
| <p>11. Identification of Additional Applicable Requirements:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>   |
| <p>12. Compliance Assurance Monitoring Plan:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>   |
| <p>13. Risk Management Plan Verification:</p> <p><input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached<br/>Document ID: _____</p> <p><input type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date</p> <p><input checked="" type="checkbox"/> Not Applicable</p> |
| <p>14. Compliance Report and Plan</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>  |
| <p>15. Compliance Statement (Hard-copy Required)</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>   |

**ATTACHMENT SU-FI-B**  
**FACILITY REGULATIONS**

(The following requirements are consistent with the requirements  
identified in the Title V application.)

**ATTACHMENT SU-FI-B**

**APPLICABLE REQUIREMENTS LISTING - POWER PLANTS**

**FACILITY: FPC SUWANEE RIVER PLANT**

**FDEP Rules:**

**General Permits:**

- 62-4.030
- 62-4.040(1)(a) - Exemptions from permitting
- 62-4.040(1)(b) - Exemptions from permitting
- 62-4.100
- 62-4.130

**Asbestos NESHAP:**

- 62-204.800(8)(b)8.(State Only) - Asbestos Removal
- 62-204.800(8)(d)(State Only) - General Provisions (Asbestos)

**Stationary Sources-General:**

62-210.300(2)

**Exemptions - Plant Specific:**

- 62-210.300(3)(a)4. - comfort heating < 1 mmBtu/hr
- 62-210.300(3)(a)5. - mobile sources
- 62-210.300(3)(a)7. - non-industrial vacuum cleaning
- 62-210.300(3)(a)8. - refrigeration equipment
- 62-210.300(3)(a)9. - vacuum pumps for labs
- 62-210.300(3)(a)10. - steam cleaning equipment
- 62-210.300(3)(a)11. - sanders, < 5 ft<sup>2</sup> or less surface area
- 62-210.300(3)(a)12. - space heating equip.; (non-boilers)
- 62-210.300(3)(a)14. - bakery ovens
- 62-210.300(3)(a)15. - lab equipment
- 62-210.300(3)(a)16. - brazing, soldering or welding
- 62-210.300(3)(a)17. - laundry dryers
- 62-210.300(3)(a)20. - emergency generators, limited to 32,000 gal/yr
- 62-210.300(3)(a)21. - general purpose engines, limited to 32,000 gal/yr
- 62-210.300(3)(a)22. - fire and safety equipment
- 62-210.300(3)(a)23. - surface coating > 5% VOC; 6 gal/day or less, averaged month.
- 62-210.300(3)(a)24. - surface coating < 5% or less VOC
- 62-210.300(3)(b) - Temporary Exemptions
- 62-210.370(3) - AORs
- 62-210.900(5) - AOR Form

**Title V Permits:**

- 62-213.205(1)(a) - Fees
- 62-213.205(1)(b)



62-213.205(1)(c)  
62-213.205(1)(e)  
62-213.205(1)(f)  
62-213.205(1)(g)  
62-213.205(1)(i)

62-213.205(1)(j)  
62-213.400  
62-213.410  
62-213.420.(1)(b)2.  
62-213.420.(1)(b)3.  
62-213.460  
62-213.900(1)

- Permits/Revisions
- Changes without permit revisions
- Permits-allows continued operation
- Permits-additional information
- Permit Shield
- Fee Form

Open Burning:

62-256.300  
62-256.500  
62-256.700

- Prohibitions
- Land Clearing
- Open burning Allowed

Asbestos Removal:

62-257.301  
62-257.400  
62-257.900

- Notification and Fee
- Fee Schedule
- Form

Stationary Sources-Emission Standards:

62-296.320(2) (State Only)  
62-296.320(3)(b)(State Only)  
62-296.320(4)(b)  
62-296.320(4)(c)

- Odor
- Emergency Open Burning
- General VE Standard
- Unconfined Emissions of Particulate Matter

Stationary Sources-Emission Monitoring

62-297.310(7)(a)10.

- Exemption of annual VE for 210.300(3)(a) sources/Gen. Per.

Federal Regulations:

Asbestos Removal:

40 CFR 61.05  
40 CFR 61.12(b)  
40 CFR 61.19  
40 CFR 61.145  
40 CFR 61.148

- Prohibited Activities
- Compliance with work practice standard
- Circumvention
- Demolition and Renovation
- Standard for Insulating Material

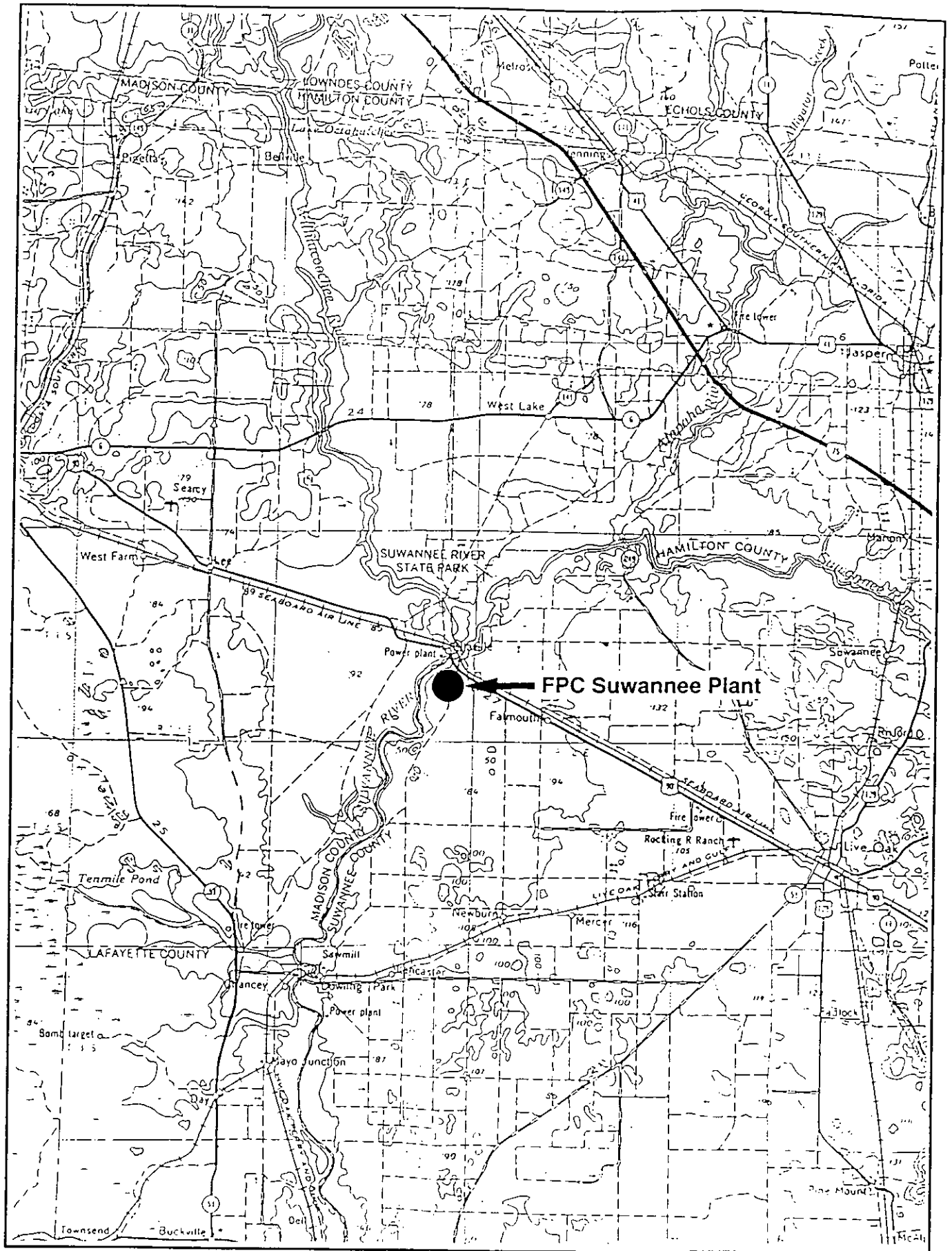
CFCs equal to or greater than 50 lb charge:

40 CFR 82.166(k)  
40 CFR 82.166(m)

- Service Documentation/Certification
- Recordkeeping

**ATTACHMENT SU-FI-E1**

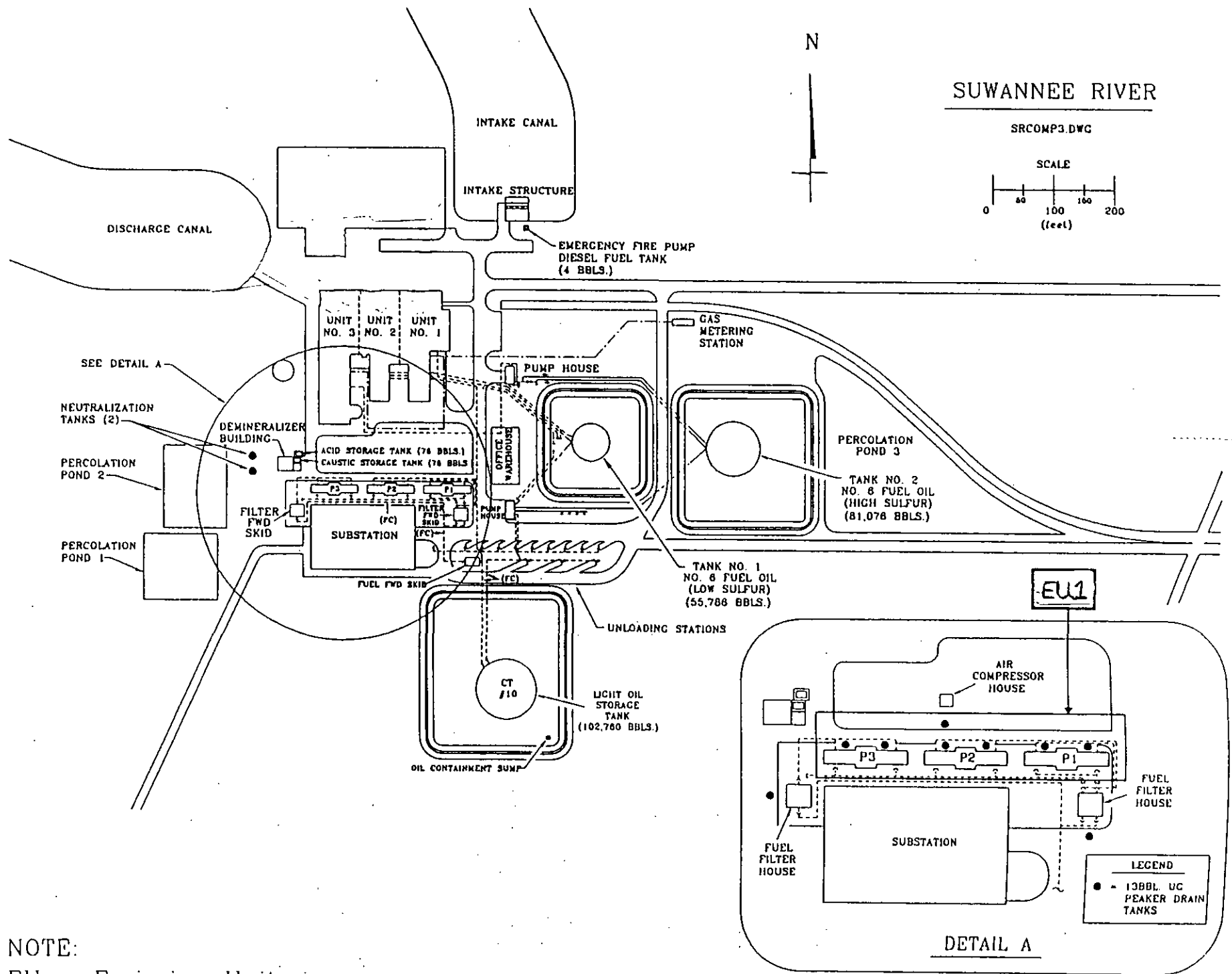
**AREA MAP**



Attachment SU-FI-E1  
Area Map

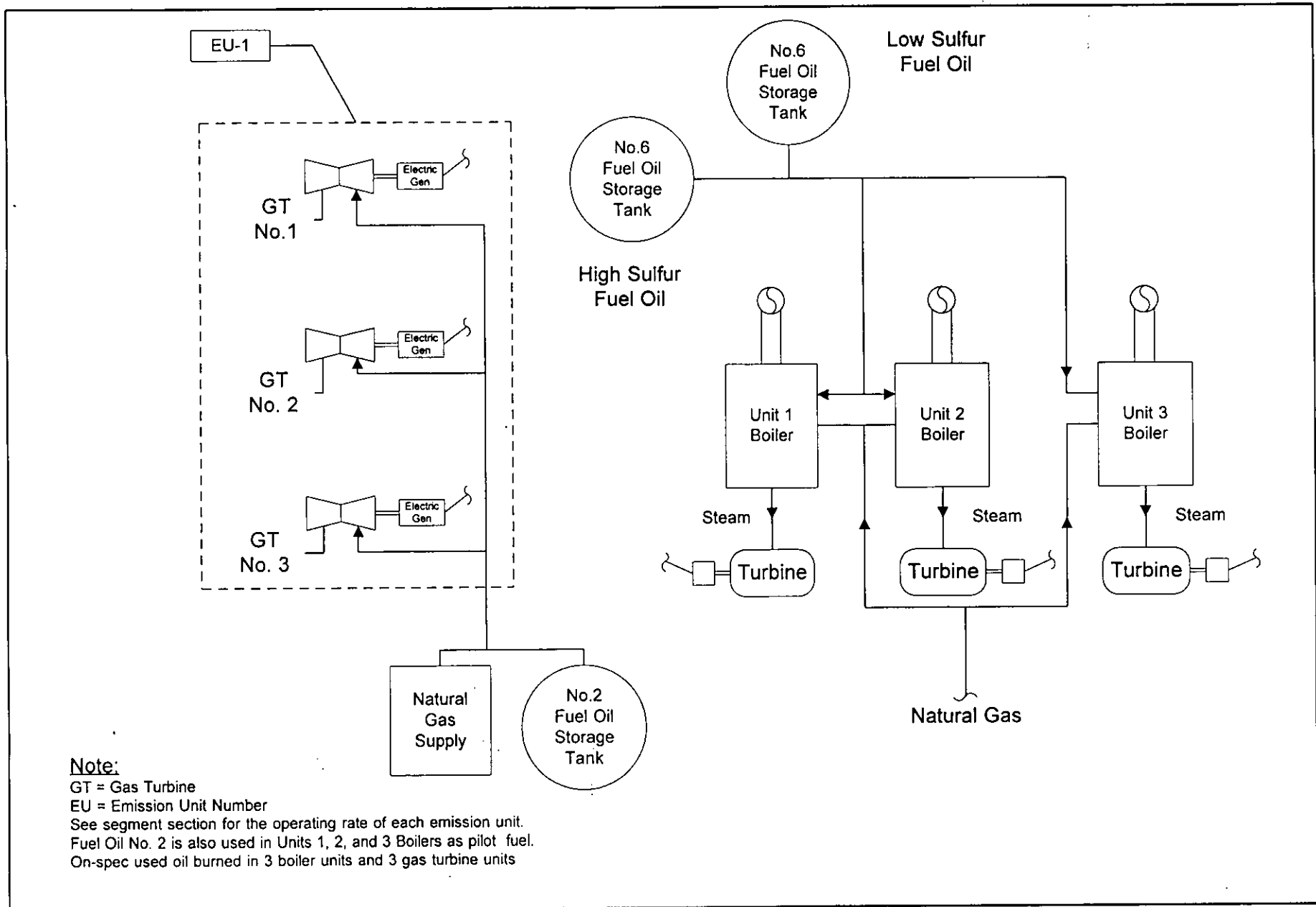
**ATTACHMENT SU-FI-E2**

**FACILITY PLOT PLAN**



NOTE:  
EU = Emission Unit

**ATTACHMENT SU-FI-E3**  
**PROCESS FLOW DIAGRAM**



**Note:**

GT = Gas Turbine

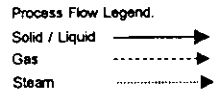
EU = Emission Unit Number

See segment section for the operating rate of each emission unit.

Fuel Oil No. 2 is also used in Units 1, 2, and 3 Boilers as pilot fuel.

On-spec used oil burned in 3 boiler units and 3 gas turbine units

Florida Power Corporation  
Suwannee River  
Live Oak, Florida  
Emission Unit Process Flow Diagram



Emission Unit: Overall Plant  
Process Area: Overall Plant  
Filename: FPCSUGS1.VSD  
Latest Revision Date: 12/12/96



**KBN**

Engineering and Applied Sciences, Inc.

**SECTION 2**  
**SOURCE INFORMATION**



**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT  
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

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.

2. Single Process, Group of Processes, or Fugitive Only? 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.

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

|   |   |  |
|---|---|--|
| 1. Description of Emissions Unit Addressed in This Section (limit to 60 characters):<br><b>Combustion Turbine Units P1, P2 and P3</b>   |   |  |
| 2. Emissions Unit Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown<br>*   |   |  |
| 3. Emissions Unit Status<br>Code: <b>A</b>  | 4. Acid Rain Unit?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 5. Emissions Unit Major<br>Group SIC Code: <b>49</b> |
| 6. Emissions Unit Comment (limit to 500 characters):<br><b>Package Unit: Water injected United Technologies twin pac; Turbo Power &amp; Marine System FT4C-3F; ARMS ID No. - Unit 1, 004; Unit 2, 005; Unit 3, 006.</b> |   |  |

**Emissions Unit Control Equipment Information**

**A.**

|   |
|---|
| 1. Description (limit to 200 characters):<br><br><b>Water injection</b> |
| 2. Control Device or Method Code: <b>28</b>                             |

**B.**

|   |
|---|
| 1. Description (limit to 200 characters): |
| 2. Control Device or Method Code:         |

**C.**

|   |
|---|
| 1. Description (limit to 200 characters): |
| 2. Control Device or Method Code:         |

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units Only)**

**Emissions Unit Details**

|                                      |                                |                       |
|--------------------------------------|--------------------------------|-----------------------|
| 1. Initial Startup Date:             | <b>29 Oct 1980</b>             |                       |
| 2. Long-term Reserve Shutdown Date:  |                                |                       |
| 3. Package Unit:                     |                                |                       |
| Manufacturer:                        | Turbo Power and Marine Systems | Model Number: FT4C-3F |
| 4. Generator Nameplate Rating:       | <b>63 MW</b>                   |                       |
| 5. Incinerator Information:          |                                |                       |
| Dwell Temperature:                   |                                | °F                    |
| Dwell Time:                          |                                | seconds               |
| Incinerator Afterburner Temperature: |                                | °F                    |

**Emissions Unit Operating Capacity**

|  |   |          |
|--|---|----------|
| 1. Maximum Heat Input Rate:                              | <b>739</b>  | mmBtu/hr |
| 2. Maximum Incineration Rate:                            | lbs/hr  | tons/day |
| 3. Maximum Process or Throughput Rate:                   |   |          |
| 4. Maximum Production Rate:                              |   |          |
| 5. Operating Capacity Comment (limit to 200 characters): |   |          |
|  | <b>1. Maximum heat input per unit based on permit limit firing No. 2 fuel oil at ambient temperature of 59 °F</b> |          |

**Emissions Unit Operating Schedule**

|  |           |                       |
|--|-----------|-----------------------|
| 1. Requested Maximum Operating Schedule: |           |                       |
|  | hours/day | days/week             |
|  | weeks/yr  | <b>1,500</b> hours/yr |

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

**Not Applicable**

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment SU-E01-D

**E. EMISSION POINT (STACK/VENT) INFORMATION  
(Regulated Emissions Units Only)**

**Emission Point Description and Type**

|  |                  |
|--|------------------|
| 1. Identification of Point on Plot Plan or Flow Diagram:<br>EU1, See SU-FI-E2  |                  |
| 2. Emission Point Type Code:<br><input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4   |                  |
| 3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):<br><b>Comb. turbine gases exhaust through a single stack per turbine unit. 3 units for emission unit (EU1)</b> |                  |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:<br><b>Not Applicable</b>   |                  |
| 5. Discharge Type Code:<br><input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P<br><input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W  |                  |
| 6. Stack Height:   | <b>22</b> feet   |
| 7. Exit Diameter:  | <b>11.3</b> feet |
| 8. Exit Temperature:   | <b>726</b> °F    |

|   |            |             |
|---|------------|-------------|
| 9. Actual Volumetric Flow Rate:   | 1,255,500  | acfm        |
| 10. Percent Water Vapor:  |            | %           |
| 11. Maximum Dry Standard Flow Rate:   |            | dscfm       |
| 12. Nonstack Emission Point Height:   |            | feet        |
| 13. Emission Point UTM Coordinates:   |            |             |
| Zone:   | East (km): | North (km): |
| 14. Emission Point Comment (limit to 200 characters):   |            |             |
| <p><b>Information for temperature and flow rate obtained from air operating permit. Exhaust gas temperature during natural gas firing is approximately 840°F.</b></p> |            |             |



**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
**(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:** Segment 1 of 3

|   |   |
|---|---|
| 1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode)<br>(limit to 500 characters):<br><br><b>No. 2 fuel oil</b>  |   |
| 2. Source Classification Code (SCC):<br><br><b>2-01-001-01</b>  |   |
| 3. SCC Units:<br><br><b>Thousand gallons burned</b>   |   |
| 4. Maximum Hourly Rate:<br><br><b>5.355</b>   | 5. Maximum Annual Rate:<br><br><b>8,033</b> |
| 6. Estimated Annual Activity Factor:  |   |
| 7. Maximum Percent Sulfur:<br><br><b>0.5</b>  | 8. Maximum Percent Ash:<br><br><b>0.1</b>   |
| 9. Million Btu per SCC Unit:<br><br><b>138</b>  |   |
| 10. Segment Comment (limit to 200 characters):<br><br><b>Maximum hourly rate based on permit heat input limit @ 59° F and heating value of fuel oil.<br/>Maximum annual rate is based on 1,500 hr/yr (permit limit) Heat content-HHV.</b> |   |

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

|  |   |
|--|---|
| 1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode)<br>(limit to 500 characters):<br><b>On-specification used oil</b>  |   |
| 2. Source Classification Code (SCC): <b>1-01-013-02</b>  |   |
| 3. SCC Units: <b>Thousand gallons burned</b>   |   |
| 4. Maximum Hourly Rate:<br><b>5.355</b>  | 5. Maximum Annual Rate:<br><b>8,033</b> |
| 6. Estimated Annual Activity Factor:   |   |
| 7. Maximum Percent Sulfur:<br><b>0.5</b>   | 8. Maximum Percent Ash:<br><b>0.9</b>   |
| 9. Million Btu per SCC Unit:<br><b>138</b>   |   |
| 10. Segment Comment (limit to 200 characters):<br><b>Maximum hourly rate based on permit heat input limit @ 59°F and the heating value of fuel oil. Max annual rate based on 1,500 hr/yr (permit limit). Heat content - HHV.</b> |   |

**F. SEGMENT (PROCESS/FUEL) INFORMATION**  
**(Regulated and Unregulated Emissions Units)**

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

|  |   |
|--|---|
| 1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode)<br>(limit to 500 characters):<br><br><b>Natural Gas</b>  |   |
| 2. Source Classification Code (SCC):<br><br><b>2-01-002-01</b>   |   |
| 3. SCC Units:<br><br><b>Million cubic feet</b>   |   |
| 4. Maximum Hourly Rate:<br><br><b>0.739</b>  | 5. Maximum Annual Rate:<br><br><b>1,109</b> |
| 6. Estimated Annual Activity Factor:   |   |
| 7. Maximum Percent Sulfur:<br><br><b>0</b>   | 8. Maximum Percent Ash:<br><br><b>0</b>     |
| 9. Million Btu per SCC Unit:<br><br><b>1,000</b>   |   |
| 10. Segment Comment (limit to 200 characters):<br><br><b>Max. hrly and annual rates for one turbine. Max. hrly rate based on heat input limit of 739 MMBtu/hr (@ 59°F) and fuel HV of 1,000 Btu/cf (LHV). Max. annual rate based on 1,500 hr/yr.</b> |   |

**G. EMISSIONS UNIT POLLUTANTS  
(Regulated and Unregulated Emissions Units)**

| 1. Pollutant Emitted                         | 2. Primary Control<br>Device Code | 3. Secondary Control<br>Device Code | 4. Pollutant<br>Regulatory Code        |
|--|-----------------------------------|-------------------------------------|--|
| SO2<br>NOX<br>PM<br>PM10<br>CO<br>VOC<br>SAM | 028                               |                                     | EL<br>EL<br>EL<br>NS<br>NS<br>NS<br>NS |

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

|   |   |
|---|---|
| 1. Pollutant Emitted: <b>SO2</b>  |   |
| 2. Total Percent Efficiency of Control:   | <b>0 %</b>  |
| 3. Potential Emissions:   | <b>379 lb/hour                      284.3 tons/year</b> |
| 4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No   |   |
| 5. Range of Estimated Fugitive/Other Emissions:<br><br><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr   |   |
| 6. Emission Factor: <b>0.5 %sulfur</b><br><br>Reference: <b>AC61-11862, 63, &amp; 64</b>  |   |
| 7. Emissions Method Code:<br><br><input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5   |   |
| 8. Calculation of Emissions (limit to 600 characters):<br><br><b>The potential emissions are based on No. 2 fuel oil. The SO2 emissions from natural gas are as follows: SO2 (lb/hr)= 2.12, SO2 (ton/yr)= 1.60. Assumes 1 gr sulfur/100cf (max. sulfur content from fuel analysis). Potential annual emissions for both No. 2 fuel oil and natural gas are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</b> |   |
| 9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):<br><br><b>Emission limit is BACT; each unit limited to 1500 hr/yr operation. Potential emissions in permit based on heat content of 132,600 Btu/gal (current heat content assumed 138,000 Btu/gal).</b>   |   |

Emissions Unit Information Section  1  of  1   
Allowable Emissions (Pollutant identified on front page)

**A.**

|   |                    |                        |
|---|--------------------|------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>OTHER</b>  |                    |                        |
| 2. Future Effective Date of Allowable Emissions:  |                    |                        |
| 3. Requested Allowable Emissions and Units:<br><b>0.5 % sulfur fuel</b>   |                    |                        |
| 4. Equivalent Allowable Emissions:  | <b>379 lb/hour</b> | <b>284.3 tons/year</b> |
| 5. Method of Compliance (limit to 60 characters):<br><b>Fuel analysis</b>   |                    |                        |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters):<br><br><b>Emission limit established as BACT (see AC61-11862,-11863,-11864).The equiv. allowable emissions represent the maximum expected from fuel oil firing. Emissions while firing natural gas will be lower.</b> |                    |                        |

**B.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

|  |                       |                         |
|--|-----------------------|-------------------------|
| 1. Pollutant Emitted: <b>NOX</b>   |                       |                         |
| 2. Total Percent Efficiency of Control:  |                       | %                       |
| 3. Potential Emissions:  | <b>210.22</b> lb/hour | <b>157.66</b> tons/year |
| 4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |                       |                         |
| 5. Range of Estimated Fugitive/Other Emissions:<br><br><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr  |                       |                         |
| 6. Emission Factor:  |                       | <b>94.8</b> ppmvd       |
| Reference: <b>AC61-11862, 63, &amp; 64</b>   |                       |                         |
| 7. Emissions Method Code:<br><br><input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5  |                       |                         |
| 8. Calculation of Emissions (limit to 600 characters):<br><br><p><b>The potential emissions are based on No. 2 fuel oil. The NOx emissions from natural gas are as follows: NOx (lb/hr)= 119.1, NOx (ton/yr)= 89.4. Potential hourly emissions from natural gas are based on vendor data @ 59°F. Potential annual emissions for both No. 2 fuel oil and natural gas are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</b></p> |                       |                         |
| 9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):<br><br><p><b>Emission limit established is BACT; each gas turbine limited to 1,500 hr/yr operation.</b></p>  |                       |                         |

Emissions Unit Information Section  1  of  1   
 Allowable Emissions (Pollutant identified on front page)

**A.**

|   |                       |                         |
|---|-----------------------|-------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>OTHER</b>  |                       |                         |
| 2. Future Effective Date of Allowable Emissions:  |                       |                         |
| 3. Requested Allowable Emissions and Units:<br><b>See comment</b>   |                       |                         |
| 4. Equivalent Allowable Emissions:  | <b>210.22</b> lb/hour | <b>157.66</b> tons/year |
| 5. Method of Compliance (limit to 60 characters):<br><b>Water to fuel ratio</b>   |                       |                         |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):<br><br><b>Emiss. limit established as BACT (see AC61-11862, -11863, -11864) Requested Allow. Emiss.:94.8 ppmvd at 15%O2, 0.015% or less FBN.Actual and potential emissions while firing natural gas will be lower.</b> |                       |                         |

**B.**

|  |         |           |
|--|---------|-----------|
| 1. Basis for Allowable Emissions Code:   |         |           |
| 2. Future Effective Date of Allowable Emissions:   |         |           |
| 3. Requested Allowable Emissions and Units:  |         |           |
| 4. Equivalent Allowable Emissions:   | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):  |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): |         |           |



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

|   |                   |                       |
|---|-------------------|-----------------------|
| 1. Pollutant Emitted: <b>PM</b>   |                   |                       |
| 2. Total Percent Efficiency of Control:   |                   | %                     |
| 3. Potential Emissions:   | <b>38 lb/hour</b> | <b>28.5 tons/year</b> |
| 4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No   |                   |                       |
| 5. Range of Estimated Fugitive/Other Emissions:<br><br><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr   |                   |                       |
| 6. Emission Factor:   |                   | <b>38 lb/hr</b>       |
| Reference: AC61-11862, 63, & 64   |                   |                       |
| 7. Emissions Method Code:<br><br><input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5   |                   |                       |
| 8. Calculation of Emissions (limit to 600 characters):<br><br><p><b>The potential emissions are based on No. 2 fuel oil. The PM emissions from natural gas are as follows: PM (lb/hr)= 31.0, PM (ton/yr)= 23.2. Potential hourly emissions for natural gas are based on AP-42, Table 3.1-1. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</b></p> |                   |                       |
| 9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):<br><br><p><b>Emission limit established in air construction permit; each gas turbine limited to 1500 hr/yr operation</b></p>  |                   |                       |

Emissions Unit Information Section 1 of 1  
Allowable Emissions (Pollutant identified on front page)

A.

|   |                   |                       |
|---|-------------------|-----------------------|
| 1. Basis for Allowable Emissions Code:<br><b>OTHER</b>  |                   |                       |
| 2. Future Effective Date of Allowable Emissions:  |                   |                       |
| 3. Requested Allowable Emissions and Units:<br><b>38 lb/hr</b>  |                   |                       |
| 4. Equivalent Allowable Emissions:  | <b>38 lb/hour</b> | <b>28.5 tons/year</b> |
| 5. Method of Compliance (limit to 60 characters):   |                   |                       |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters):<br><br><b>1. Based on air construction permit, AC61-11862, -11863, 11964. 2. Actual and potential emissions while firing natural gas will be lower.</b> |                   |                       |

B.

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

|   |   |
|---|---|
| 1. Pollutant Emitted: <b>PM10</b>   |   |
| 2. Total Percent Efficiency of Control:   | %                                       |
| 3. Potential Emissions:   | <b>38 lb/hour</b> <b>28.5 tons/year</b> |
| 4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   |   |
| 5. Range of Estimated Fugitive/Other Emissions:<br><br><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/yr   |   |
| 6. Emission Factor: <b>38 lb/hr</b><br><br>Reference: <b>AC61-11862, 63 &amp; 6A</b>  |   |
| 7. Emissions Method Code:<br><br><input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5   |   |
| 8. Calculation of Emissions (limit to 600 characters):<br><br><b>The potential emissions are based on No. 2 fuel oil. The PM10 emissions from natural gas are as follows: PM10 (lb/hr)= 31.0, PM10 (ton/yr)= 23.2. Potential hourly emissions from natural gas are based on AP-42, Table 3.1-1. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</b> |   |
| 9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):<br><br><b>Max. hrly emissions based on heat input of 739 MMBtu/hr @ 59°F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b>   |   |

Emissions Unit Information Section 1 of 1

**Allowable Emissions (Pollutant identified on front page)**

**A.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**B.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

|  |                      |                        |
|--|----------------------|------------------------|
| 1. Pollutant Emitted: <b>CO</b>  |                      |                        |
| 2. Total Percent Efficiency of Control:  |                      | <b>0 %</b>             |
| 3. Potential Emissions:  | <b>178.6 lb/hour</b> | <b>133.9 tons/year</b> |
| 4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |                      |                        |
| 5. Range of Estimated Fugitive/Other Emissions:<br><br><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr   |                      |                        |
| 6. Emission Factor:<br><br>Reference: <b>Manufacturer data</b>   |                      |                        |
| 7. Emissions Method Code:<br><br><input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5  |                      |                        |
| 8. Calculation of Emissions (limit to 600 characters):<br><br><b>The potential emissions are based on No. 2 fuel oil. CO emissions on gas can be reduced below those on oil; however, the reduction in wet injection required to achieve this will increase NOx emissions. The CO emissions from natural gas are as follows: CO (lb/hr)= 259.8, CO (ton/yr)= 194.8. Potential hourly emissions for natural gas are based on manufacturer's data. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</b> |                      |                        |
| 9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):<br><br><b>Max. hrly emissions based on heat input of 739 MMBtu/hr @ 59°F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b>  |                      |                        |

Emissions Unit Information Section  1  of  1   
 Allowable Emissions (Pollutant identified on front page)

**A.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**B.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

|   |                     |                       |
|---|---------------------|-----------------------|
| 1. Pollutant Emitted: <b>VOC</b>  |                     |                       |
| 2. Total Percent Efficiency of Control:   |                     | <b>0 %</b>            |
| 3. Potential Emissions:   | <b>22.6 lb/hour</b> | <b>16.9 tons/year</b> |
| 4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No   |                     |                       |
| 5. Range of Estimated Fugitive/Other Emissions:<br>[ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr   |                     |                       |
| 6. Emission Factor:<br><br>Reference: <b>Manufacturer data</b>  |                     |                       |
| 7. Emissions Method Code:<br><br><input checked="" type="checkbox"/> 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5  |                     |                       |
| 8. Calculation of Emissions (limit to 600 characters):<br><br><b>The potential emissions are based on No. 2 fuel oil. VOC emissions on gas can be reduced below those on oil; however, the reduction in wet injection required to achieve this will increase NOx emissions. The VOC emissions from natural gas are as follows: VOC (lb/hr)= 36.2, VOC (ton/yr)= 27.2. Potential hourly emissions from both No. 2 fuel oil and natural gas are based on manufacturer's data. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</b> |                     |                       |
| 9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):<br><br><b>Max. hrly emissions based on heat input of 739 MMBtu/hr @ 59°F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b>   |                     |                       |

Emissions Unit Information Section 1 of 1  
**Allowable Emissions (Pollutant identified on front page)**

Peaking GT Units 1-3  
Volatile Organic Compounds

**A.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**B.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

|   |                     |                      |
|---|---------------------|----------------------|
| 1. Pollutant Emitted: <b>SAM</b>  |                     |                      |
| 2. Total Percent Efficiency of Control:   |                     | %                    |
| 3. Potential Emissions:   | <b>11.5</b> lb/hour | <b>8.6</b> tons/year |
| 4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No   |                     |                      |
| 5. Range of Estimated Fugitive/Other Emissions:<br><br><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr   |                     |                      |
| 6. Emission Factor:<br><br>Reference:   |                     |                      |
| 7. Emissions Method Code:<br><br><input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5  |                     |                      |
| 8. Calculation of Emissions (limit to 600 characters):<br><br><p><b>The potential emissions are based on No. 2 fuel oil. The SAM emissions from natural gas are as follows: SAM (lb/hr)= 0.36 , SAM (ton/yr)= 0.27 .Potential hourly emissions for both No. 2 fuel oil and natural gas are based on AP-42, Table 3.1-1. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</b></p> |                     |                      |
| 9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):<br><br><p><b>Max. hrly emissions based on heat input of 739 MMBtu/hr @ 59°F and HV of 138,000 Btu/gal for No. 2 fuel oil and 1,000 Btu/cf for natural gas. Potential emissions calculated for single CT.</b></p>  |                     |                      |

Emissions Unit Information Section 1 of 1  
**Allowable Emissions (Pollutant identified on front page)**

**A.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**B.**

|   |         |           |
|---|---------|-----------|
| 1. Basis for Allowable Emissions Code:  |         |           |
| 2. Future Effective Date of Allowable Emissions:  |         |           |
| 3. Requested Allowable Emissions and Units:   |         |           |
| 4. Equivalent Allowable Emissions:  | lb/hour | tons/year |
| 5. Method of Compliance (limit to 60 characters):   |         |           |
| 6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode)<br>(limit to 200 characters): |         |           |

**I. VISIBLE EMISSIONS INFORMATION**  
**(Regulated Emissions Units Only)**

**Visible Emissions Limitations:** Visible Emissions Limitation 1 of 2

|    |  |
|----|--|
| 1. | Visible Emissions Subtype: <b>VE20</b>   |
| 2. | Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other   |
| 3. | Requested Allowable Opacity<br>Normal Conditions: <b>20</b> %      Exceptional Conditions:      %<br>Maximum Period of Excess Opacity Allowed:      min/hour   |
| 4. | Method of Compliance:<br><b>Annual compliance test, EPA Method 9</b>   |
| 5. | Visible Emissions Comment (limit to 200 characters):<br><b>Based on permit condition as BACT. The visible emission limit above is for No. 2 fuel oil. For natural gas, visible emission limit will be 10% at full load and 20% at less than full load.</b> |

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

|    |  |
|----|--|
| 1. | Visible Emissions Subtype: <b>VE</b>   |
| 2. | Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other   |
| 3. | Requested Allowable Opacity<br>Normal Conditions:      %      Exceptional Conditions: <b>100</b> %<br>Maximum Period of Excess Opacity Allowed: <b>60</b> min/hour         |
| 4. | Method of Compliance:<br><b>Best operation practice</b>  |
| 5. | Visible Emissions Comment (limit to 200 characters):<br><b>1. Rule 62-210.700(1); excess emissions from startup, shutdown and malfunction, not to exceed 2 hr in 24 hr</b> |

**J. CONTINUOUS MONITOR INFORMATION**  
**(Regulated Emissions Units Only)**

**Continuous Monitoring System** Continuous Monitor 1 of 1

|  |                             |
|--|-----------------------------|
| 1. Parameter Code: <b>EM</b>   | 2. Pollutant(s): <b>NOX</b> |
| 3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other  |                             |
| 4. Monitor Information:<br>Monitor Manufacturer:<br>Model Number: Serial Number:   |                             |
| 5. Installation Date:  |                             |
| 6. Performance Specification Test Date:  |                             |
| 7. Continuous Monitor Comment (limit to 200 characters):<br><br><b>H2O/fuel ratio monitored cont. If during any 1-hr period H2O/fuel ratio is &lt;0.526, Unit 1; 0.486, Unit 2; 0.505, Unit 3, it must be indicated on the quarterly excess emissions report-40CFR60.334(c)(1)</b> |                             |

**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:<br>Monitor Manufacturer:<br>Model Number: Serial Number: |                  |
| 5. Installation Date:  |                  |
| 6. Performance Specification Test Date:  |                  |
| 7. Continuous Monitor Comment (limit to 200 characters):                         |                  |

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [ x ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
  
- [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
  
- [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
  
- [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
  
- [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

|    |   |                                       |                            |   |
|----|---|---------------------------------------|----------------------------|---|
| 3. | Increment Consuming/Expanding Code:                 |                                       |                            |   |
|    | PM  | <input checked="" type="checkbox"/> C | <input type="checkbox"/> E | <input type="checkbox"/> Unknown            |
|    | SO <sub>2</sub>                                     | <input checked="" type="checkbox"/> C | <input type="checkbox"/> E | <input type="checkbox"/> Unknown            |
|    | NO <sub>2</sub>                                     | <input type="checkbox"/> C            | <input type="checkbox"/> E | <input checked="" type="checkbox"/> Unknown |
| 4. | Baseline Emissions:                                 |                                       |                            |   |
|    | PM  | lb/hour                               |                            | tons/year                                   |
|    | SO <sub>2</sub>                                     | lb/hour                               |                            | tons/year                                   |
|    | NO <sub>2</sub>                                     |                                       |                            | tons/year                                   |
| 5. | PSD Comment (limit to 200 characters):              |                                       |                            |   |
|    | <b>Baseline NO<sub>2</sub> emissions not known.</b> |                                       |                            |   |

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

**Supplemental Requirements for All Applications**

|    |  |   |  |
|----|--|---|--|
| 1. | Process Flow Diagram   | <input checked="" type="checkbox"/> Attached, Document ID: <u>SU-E01-L1</u> | <input type="checkbox"/> Waiver Requested          |
|    |  | <input type="checkbox"/> Not Applicable                                     |  |
| 2. | Fuel Analysis or Specification                               | <input checked="" type="checkbox"/> Attached, Document ID: <u>SU-E01-L2</u> | <input type="checkbox"/> Waiver Requested          |
|    |  | <input type="checkbox"/> Not Applicable                                     |  |
| 3. | Detailed Description of Control Equipment                    | <input checked="" type="checkbox"/> Attached, Document ID: <u>SU-E01-L3</u> | <input type="checkbox"/> Waiver Requested          |
|    |  | <input type="checkbox"/> Not Applicable                                     |  |
| 4. | Description of Stack Sampling Facilities                     | <input type="checkbox"/> Attached, Document ID: _____                       | <input type="checkbox"/> Waiver Requested          |
|    |  | <input checked="" type="checkbox"/> Not Applicable                          |  |
| 5. | Compliance Test Report                                       | <input type="checkbox"/> Attached, Document ID: _____                       | <input checked="" type="checkbox"/> Not Applicable |
|    |  | <input type="checkbox"/> Previously Submitted, Date: _____                  |  |
| 6. | Procedures for Startup and Shutdown                          | <input checked="" type="checkbox"/> Attached, Document ID: <u>SU-E01-L6</u> | <input type="checkbox"/> Not Applicable            |
|    |  |   |  |
| 7. | Operation and Maintenance Plan                               | <input type="checkbox"/> Attached, Document ID: _____                       | <input checked="" type="checkbox"/> Not Applicable |
|    |  |   |  |
| 8. | Supplemental Information for Construction Permit Application | <input type="checkbox"/> Attached, Document ID: _____                       | <input checked="" type="checkbox"/> Not Applicable |
|    |  |   |  |
| 9. | Other Information Required by Rule or Statute                | <input type="checkbox"/> Attached, Document ID: _____                       | <input checked="" type="checkbox"/> Not Applicable |
|    |  |   |  |

**Additional Supplemental Requirements for Category I Applications Only**

|     |  |
|-----|--|
| 10. | Alternative Methods of Operation   |
|     | <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable         |
| 11. | Alternative Modes of Operation (Emissions Trading)   |
|     | <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable         |
| 12. | Identification of Additional Applicable Requirements   |
|     | <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable         |
| 13. | Compliance Assurance Monitoring Plan   |
|     | <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable         |
| 14. | Acid Rain Permit Application (Hard Copy Required)  |
|     | <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))<br>Attached, Document ID: _____   |
|     | <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)<br>Attached, Document ID: _____ |
|     | <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.)<br>Attached, Document ID: _____        |
|     | <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)<br>Attached, Document ID: _____    |
|     | <input checked="" type="checkbox"/> Not Applicable   |



**ATTACHMENT SU-E01-D**

**EMISSION UNIT REGULATIONS**

(The following requirements are consistent with the requirements identified in the Title V application.)

**ATTACHMENT SU-E01-D**

**APPLICABLE REQUIREMENTS LISTING - POWER PLANTS**

**FDEP Rules:**

**Air Pollution Control-General Provisions:**

62-204.800(7)(b)37. (State Only) - NSPS Subpart GG

**Stationary Sources-General:**

- 62-210.650 - Circumvention; EUs with control device
- 62-210.700(1) - Malfunction only for FFGS
- 62-210.700(4) - maintenance
- 62-210.700(6)

**Stationary Sources-Emission Standards:**

- 62-296.320(4)(b) - CTs Units

**Stationary Sources-Emission Monitoring (where stack test is required):**

- 62-297.310(2)(a) - Operating Rate; reserved for CTs
- 62-297.310(4)(a)2. - Applicable Test Procedures; Sampling time
- 62-297.310(5) - Determination of Process Variables
- 62-297.310(7)(a)3. - Permit Renewal Test Required
- 62-297.310(7)(a)4.
- 62-297.310(7)(a)8. - CT exemption if < 400 hrs/yr; VE test once every 5 years
- 62-297.310(7)(a)9. - FDEP Notification - 15 days
- 62-297.310(8) - Test Reports

**Federal Rules:**

**NSPS SubPart GG:**

- 40 CFR 60.332(a)(1) - NOx for Electric Utility CTs
- 40 CFR 60.333 - SO2 limits
- 40 CFR 60.334 - Monitoring of Operations
- 40 CFR 60.335 - Test Methods

[Note: Emission Unit exempt from EPA's Acid Rain Program by 40 CFR 72.6(b)(1)]

**ATTACHMENT SU-E01-H8**  
**CALCULATION OF EMISSIONS**

Table SU-EU1-H8a. Design Information and Stack Parameters for Suwanee, Simple Cycle-FT4C-3F, Peak Load @ 59 F

| Data   | Operating Parameters 59 F  |             |             |
|--|--|-------------|-------------|
|  | Unit P1  | Unit P2     | Unit P3     |
| <b>General</b>   |  |             |             |
| Power (kW)   | 63,000.0   | 63,000.0    | 63,000.0    |
| Estimated Heat Rate (Btu/kwh, LHV)   | 11,730.0   | 11,730.0    | 11,730.0    |
| Heat Input (MMBtu/hr, LHV)   | 739.0  | 739.0       | 739.0       |
| Hours of Operation   | 1,500  | 1,500       | 1,500       |
| Volume flow (acfm)   | 1,254,993  | 1,254,993.0 | 1,254,993.0 |
| Temperature (oF) - gas   | 840  | 840.0       | 840.0       |
| Temperature (oF) - oil   | 726  | 726.0       | 726.0       |
| Moisture (% Vol.)  | 12.0   | 12.0        | 12.0        |
| Oxygen (% Vol.)  | 14.6   | 14.6        | 14.6        |
| Molecular Weight   | 28.1   | 28.1        | 28.1        |
| <b>FUEL FLOW RATES</b>   |  |             |             |
| Natural Gas Consumption  | (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu + Fuel Heat Content, LHV (Btu/lb)<br>(cf/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu + Fuel Heat Content, LHV (Btu/cf)   |             |             |
| Heat Input (MMBtu/hr, HHV)   | 739.0  | 739.0       | 739.0       |
| Heat Content (Btu/lb, HHV)   | 20,751   | 20,751.0    | 20,751.0    |
| Natural Gas (lb/hr)  | 35,612.7   | 35,612.7    | 35,612.7    |
| Heat Content, HHV (Btu/cf)   | 1,000  | 1,000.0     | 1,000.0     |
| Natural Gas (cf/hr)  | 739,000  | 739,000.0   | 739,000.0   |
| (million cf/yr)  | 1,108.5  | 1,108.5     | 1,108.5     |
| Fuel Oil Consumption   | (lb/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu + Fuel Heat Content, LHV (Btu/lb)<br>(gal/hr) = Heat Input (MMBtu/hr) x 1,000,000 Btu/MMBtu + Fuel Heat Content, LHV (Btu/gal) |             |             |
| Heat Input (MMBtu/hr), HHV   | 739  | 739.0       | 739.0       |
| Heat Content (Btu/lb), HHV   | 19500.00   | 19,500.0    | 19,500.0    |
| Fuel Oil (lb/hr)   | 37,897   | 37,897.4    | 37,897.4    |
| Heat Content, HHV (Btu/gal)  | 138,450  | 138,450.0   | 138,450.0   |
| Fuel Oil (gal/hr)  | 5,338  | 5,337.7     | 5,337.7     |
| Fuel Oil (million gal/yr)  | 8.0  | 8.0         | 8.0         |
| <b>CT Stack Data</b>   |  |             |             |
| Stack Height (ft)  | 22.0   | 22.0        | 22.0        |
| Diameter (ft)  | 11.3   | 11.3        | 11.3        |
| Velocity (ft/sec)= Volume flow (acfm) from CT + [((diameter) <sup>2</sup> + 4) x 3.14159] + 60 sec/min |  |             |             |
| Volume Flow (acfm) from CT   | 1,254,993  | 1,254,993.0 | 1,254,993.0 |
| Diameter (ft)  | 11.3   | 11.3        | 11.3        |
| Velocity (ft/sec)  | 208.6  | 208.6       | 208.6       |
| [Velocity (ft/sec) w/o 5% flow margin]   | 198.6  | 198.6       | 198.6       |

Note: Universal gas constant= 1,545 ft-lb(force)/°R; atmospheric pressure= 2,116.8 lb(force)/ft<sup>2</sup>

Source: GE, 1995.

Table SU-EU1-H8b. Potential Emissions for Suwanee, Simple Cycle FT4C-3F, Peak Load @ 59 F  
Natural Gas and Oil

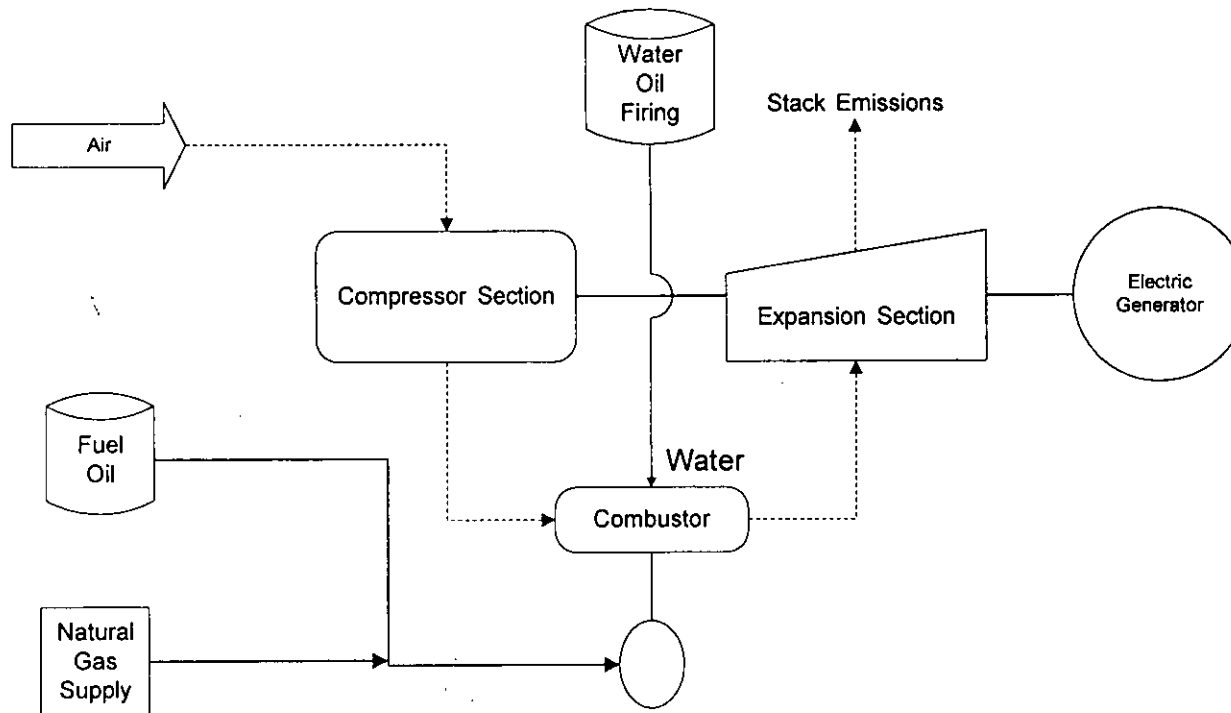
| Pollutant   | Operating Parameters 59 F |         |         | Total   |
|---|---------------------------|---------|---------|---------|
|   | Unit P1                   | Unit P2 | Unit P3 |         |
| <b>NOx = based on manufacturer</b>  |                           |         |         |         |
| Oil Basis, ppmvd @ 15% O2   | 94.8                      | 94.8    | 94.8    |         |
| lb/hr   | 210.2                     | 210.2   | 210.2   | 630.6   |
| TPY   | 157.7                     | 157.7   | 157.7   | 473.1   |
| <b>Natural Gas</b>  |                           |         |         |         |
| Basis, ppmvd @ 15% O2   | 56.3                      | 56.3    | 56.3    |         |
| lb/hr   | 119.1                     | 119.1   | 119.1   | 357.3   |
| TPY   | 89.4                      | 89.4    | 89.4    | 268.2   |
| <b>CO = Based on manufacturer</b>   |                           |         |         |         |
| Oil   |                           |         |         |         |
| lb/hr   | 178.6                     | 178.6   | 178.6   | 535.8   |
| TPY   | 133.9                     | 133.9   | 133.9   | 401.7   |
| Natural Gas   |                           |         |         |         |
| lb/hr   | 259.8                     | 259.8   | 259.8   | 779.4   |
| TPY   | 194.8                     | 194.8   | 194.8   | 584.4   |
| <b>PM/PM10</b>  |                           |         |         |         |
| Oil = Based on manufacturer   |                           |         |         |         |
| lb/hr   | 38.0                      | 38.0    | 38.0    | 114.0   |
| TPY   | 28.5                      | 28.5    | 28.5    | 85.5    |
| Natural Gas - AP-42 (uncontrolled)  |                           |         |         |         |
| Basis (lb/MMBtu)  | 0.0419                    | 0.0419  | 0.0419  |         |
| lb/hr   | 31.0                      | 31.0    | 31.0    | 93.0    |
| TPY   | 23.2                      | 23.2    | 23.2    | 69.6    |
| <b>SO2</b>  |                           |         |         |         |
| Oil (lb/hr) = Fuel Oil (lb/hr) x S content (fraction) x (lb SO2/lb S)                               |                           |         |         |         |
| lb/hr   | 379.0                     | 379.0   | 379.0   | 1,137.0 |
| TPY   | 284.3                     | 284.3   | 284.3   | 852.9   |
| Natural Gas (lb/hr) = Natural gas (cf/hr) x S content (gr/100cf) x 1 lb/7000 gr x lb SO2/lb S + 100 |                           |         |         |         |
| lb/hr   | 2.1                       | 2.1     | 2.1     | 6.3     |
| TPY   | 1.6                       | 1.6     | 1.6     | 4.8     |
| <b>VOC = Based on manufacturer</b>  |                           |         |         |         |
| Oil   |                           |         |         |         |
| lb/hr   | 22.6                      | 22.6    | 22.6    | 67.8    |
| TPY   | 16.9                      | 16.9    | 16.9    | 50.7    |
| Natural Gas   |                           |         |         |         |
| lb/hr   | 36.2                      | 36.2    | 36.2    | 108.6   |
| TPY   | 27.2                      | 27.2    | 27.2    | 81.6    |

Table SU-EU1-H8b. Potential Emissions for Suwanee, Simple Cycle FT4C-3F, Peak Load @ 59 F  
Natural Gas and Oil

| Pollutant  | Operating Parameters 59 F |          |          | Total |
|--|---------------------------|----------|----------|-------|
|  | Unit P1                   | Unit P2  | Unit P3  |       |
| <b>Sulfuric Acid Mist</b>  |                           |          |          |       |
| Oil (lb/hr) = From CT Exhaust [Fuel consumption (lb/hr) x S content (fraction) x<br>(Conversion (fraction) of S to H <sub>2</sub> SO <sub>4</sub> ) x lb H <sub>2</sub> SO <sub>4</sub> /lb S] |                           |          |          |       |
| Fuel consumption (lb/hr)   | 37,551.0                  | 37,551.0 | 37,551.0 |       |
| Sulfur Content (%)   | 0.5                       | 0.5      | 0.5      |       |
| lb H <sub>2</sub> SO <sub>4</sub> /lb S (98/32)  | 3.1                       | 3.1      | 3.1      |       |
| CT Exhaust % S Conversion to H <sub>2</sub> SO <sub>4</sub>  | 2.0                       | 2.0      | 2.0      |       |
| lb/hr  | 11.5                      | 11.5     | 11.5     | 34.5  |
| TPY  | 8.6                       | 8.6      | 8.6      | 25.9  |
| Natural Gas (lb/hr) = Fuel consumption (lb/hr) x sulfur content (%) x [Conversion (fraction) of S to H <sub>2</sub> SO <sub>4</sub> ] x lb H <sub>2</sub> S                                    |                           |          |          |       |
| Fuel consumption (lb/hr)   | 39,946.0                  | 39,946.0 | 39,946.0 |       |
| Sulfur Content (gr/100 cf)   | 1.0                       | 1.0      | 1.0      |       |
| Sulfur Content (%)   | 0.0                       | 0.0      | 0.0      |       |
| lb H <sub>2</sub> SO <sub>4</sub> /lb S (98/32)  | 3.1                       | 3.1      | 3.1      |       |
| CT Exhaust % S Conversion to H <sub>2</sub> SO <sub>4</sub>  | 10.0                      | 10.0     | 10.0     |       |
| lb/hr  | 0.36                      | 0.36     | 0.36     | 1.08  |
| TPY  | 0.27                      | 0.27     | 0.27     | 0.81  |

**ATTACHMENT SU-E01-L1**

**PROCESS FLOW DIAGRAM**



**Note:**  
 GT = Gas Turbine  
 EU = Emission Unit Number  
 See segment section for the operating rate of each emission unit

Florida Power Corporation  
 Suwanee River  
 Live Oak, Florida  
 Emission Unit Process Flow Diagram

Process Flow Legend:  
 Solid / Liquid →  
 Gas - - - - - →  
 Steam ······ →

Emission Unit: Emission Unit No 1  
 Process Area: Peaking Gas Turbines 1, 2, 3  
 Filename: FPCSUGS2.VSD  
 Latest Revision Date: 10/30/96



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**ATTACHMENT SU-E01-L2**  
**FUEL ANALYSIS OR SPECIFICATION**

**ATTACHMENT SU-E01-L2**

**FUEL ANALYSIS  
NO. 2 FUEL OIL**

Page 1 of 3

| <u>Parameter</u>   | <u>Typical Value</u>    | <u>Max Value</u> |
|--------------------|-------------------------|------------------|
| API gravity @ 60 F | 30 <sup>1</sup>         | -                |
| Relative density   | 7.1 lb/gal <sup>2</sup> | -                |
| Heat content       | 19,500 Btu / lb (HHV)   | -                |
| % sulfur           | 0.12 <sup>2</sup>       | 0.5 <sup>3</sup> |
| % nitrogen         | 0.025 - 0.030           | -                |
| % ash              | negligible              | 0.1 <sup>1</sup> |

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) FPC's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the FPC fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air permit.

**ATTACHMENT SU-E01-L2**

**FUEL ANALYSIS  
NATURAL GAS ANALYSIS**

Page 2 of 3

| <u>Parameter</u> | <u>Typical Value</u>         | <u>Max Value</u> |
|------------------|------------------------------|------------------|
| Relative density | 0.58 (compared to air)       |                  |
| heat content     | 950 - 1124 Btu/cu ft.        |                  |
| % sulfur         | 0.43 grains/CCF <sup>1</sup> | 1 grain/100 CF   |
| % nitrogen       | 0.8% by volume               |                  |
| % ash            | negligible                   |                  |

Note: The values listed are "typical" values based upon information supplied to FPC by Florida Gas Transmission (FGT). However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data from laboratory analysis

ATTACHMENT SU-E01-L2

FUEL ANALYSIS  
ON-SPEC USED OIL

Page 3 of 3

| <u>Parameter</u>   | <u>Typical Value</u>    | <u>Max Value</u> |
|--------------------|-------------------------|------------------|
| API gravity @ 60 F | 28 <sup>1</sup>         | -                |
| Relative density   | 7.4 lb/gal <sup>2</sup> |                  |
| Heat content       | 18,700 Btu / lb (HHV)   |                  |
| % sulfur           | 0.3 - 0.5 <sup>2</sup>  | 0.5 <sup>3</sup> |
| % nitrogen         | 0.30                    |                  |
| % ash              | 0.4 - 0.9               |                  |

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) FPC's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given point in time may vary from those listed.

<sup>1</sup> Data taken from the FPC fuel procurement specification

<sup>2</sup> Data from laboratory analysis

<sup>3</sup> Data from current air permit.

**ATTACHMENT SU-E01-L3**

**DETAILED DESCRIPTION OF CONTROL EQUIPMENT**

**ATTACHMENT SU-E01-L3**

**DETAILED DESCRIPTION OF CONTROL EQUIPMENT**

The NO<sub>x</sub> control for each combustion turbine is monitored on a continuous basis using the water-to-fuel ratio established for each unit. If during any 1-hour period the water-to-fuel ratio is less than 0.526 for Unit 1, 0.486 for Unit 2, or 0.505 for Unit 3, it must be reported as an excess emission and indicated on the quarterly excess emissions report [40 CFR 60.334(c)(1)]. Those same minimum water-to-fuel ratios will be maintained during natural gas combustion.

**ATTACHMENT SU-E01-L6**

**PROCEDURES FOR STARTUP AND SHUTDOWN**

## ATTACHMENT SU-E01-L6

### PROCEDURES FOR STARTUP/SHUTDOWN

Startup for the gas turbine begins with an electric system using a switch to turn the unit on. The unit can be "on line" and sending electrical power to the grid within 5 minutes startup.

The gas turbine utilizes water injection for NO<sub>x</sub> minimization during startup and shutdown. Water is injected approximately 3 minutes after startup when exhaust gases reach a temperature of about 900°F. Water-to-fuel ratio is continuously monitored. If excess emissions are encountered during startup or shutdown, the nature and cause of any malfunction is identified, along with the corrective actions taken or preventative measures adopted. Corrective actions may include switching the unit from automatic (remote) to local control. Best Operating Practices are adhered to and all efforts to minimize both the level and duration of excess emissions are undertaken.

Shutdown is performed by reducing the unit load (electrical production) to a minimum level, opening the breaker (which disconnects the unit from the system electrical grid), shutting off the fuel and coasting down to stop.