

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NOTICE OF FINAL PERMIT MODIFICATION

In the Matter of an  
Application for Permit Modification

Mr. W. Jeffrey Pardue, C.E.P.  
Director, Environmental Services Dept.  
Florida Power Corp.  
3201 34th Street South  
St. Petersburg, FL 33711

DEP File No. 1210003  
PSD-FL-014(A)

Enclosed is Permit Modification Number PSD-FL-014(A) to add natural gas firing capability to three existing oil-fired peaking units at the Suwannee Power Plant. This permit modification is issued pursuant to Section 403, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

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

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT MODIFICATION (including the FINAL permit Modification) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 5-6-97 to the person(s) listed:

Mr. W. Jeffrey Pardue, FPC \*  
Mr. Ken Kosky, P.E., Golder Associates  
Mr. Brian Beals, EPA  
Mr. John Bunyak, NPS  
Mr. Chris Kirts, NED

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kymi Jaber      5-6-97  
(Clerk)                      (Date)

## FINAL DETERMINATION

Florida Power Corporation

Permit No. PSD-FL-014(A), File No. 1210003-002-AC  
Suwannee Facility, Peaking Units P1, P2, P3

An Intent to Issue a permit modification for Florida Power Corporation (FPC), Suwannee Facility, Peaking Units P1, P2, and P3 was distributed on February 14, 1997. The facility is located South of U.S. Route 90, Northwest of Live Oak, Suwannee County. The Public Notice of Intent to Issue was published in the Suwannee Democrat on February 28, 1997. No comments were received in response to the public notice.

Comments were received from Department staff pointing out that the application forms describe the units as presently fired with No. 2 fuel oil and on-spec used oil. No construction (or PSD) permit modifications have been made in the past to incorporate used oil firing. During discussions with FPC it was clarified that the present permit action allows only the addition of natural gas firing capability.

A reconciliation was performed of conditions in the original construction permits issued by the Department in 1978 with the PSD permit issued by EPA in 1979. This primarily affects the sulfur dioxide emissions limit in the PSD permit and is consistent with FPC's application.

The final action of the Department will be to issue the permit as proposed but with the changes indicated above.

P 265 659 206

US Postal Service  
**Receipt for Certified Mail**  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to	
Jeffrey Pardue	
Street & Number	
FPC	
Post Office, State, & ZIP Code	
St. Pete, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL, Postage & Fees	\$
Postmark or Date	5-6-97
12/0003 P3D-FI-014GA)	

PS Form 3800, April 1995

Fold at line over top of envelope to the front of the return address

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
Mr. Jeffrey Pardue, CEP  
Director, Env. Serv. Dept.  
FPC  
3201 34th St. South  
St. Petersburg, FL 33711

4a. Article Number  
P 265 659 206

4b. Service Type

Registered  Certified  
 Express Mail  Insured  
 Return Receipt for Merchandise  COD

7. Date of Delivery  
5/8/97

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)

X Frank Chynn

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.



# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

May 5, 1997

## CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue, C.E.P.  
Director, Environmental Services Dept.  
Florida Power Corp.  
3201 34th Street South  
St. Petersburg, FL 33711

Re: Suwannee Power Plant, Peaking Units P1, P2, and P3  
Modification of Final Determination - PSD-FL-014(A)  
Addition of Natural Gas Capability

Dear Mr. Pardue:

The Department hereby amends the Conditions of Approval related to emissions and fuel use in the subject Final Determination (dated July 9, 1979 as amended on May 22, 1980 by EPA) pursuant to 40CFR52.21 - Prevention of Significant Deterioration (PSD Permit). The PSD permit is amended as follows:

### Introduction

References to the number of turbines are reduced to three from four.

### Condition 1. Standards for Nitrogen Oxides

Add the following section addressing natural gas combustion:

- (3) From any gas turbine, while firing natural gas, any exhaust gases which contain nitrogen oxides in excess of 0.0068 percent by volume at 15 percent oxygen and on a dry basis.

### Condition 2. Standard for Sulfur Dioxide

Incorporate construction permit provisions from AC61-11862, 63, and 64 (issued November 28, 1978 as amended on February 5, 1979 by the Department) as follows:

FROM:

- (a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the applicant shall not cause to be discharged into the atmosphere from any stationary gas

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

*Printed on recycled paper.*

turbine any gases which contain sulfur dioxide in excess of a 0.015 percent by volume at 15 percent oxygen and on a dry basis.

- (b) The sulfur content of the fuel fired by the gas turbine may be used to determine compliance with paragraph (a) of this section. Under such circumstances, on and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the applicant shall not burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8 percent by weight.

TO:

- (a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the applicant shall not cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.0095 percent by volume at 15 percent oxygen and on a dry basis. **The maximum allowed emission rate shall not to exceed 379 pounds per hour.**
- (b) The sulfur content of the fuel fired by the gas turbine may be used to determine compliance with paragraph (a) of this section. Under such circumstances, on and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the applicant shall not burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.5 percent by weight.

Condition 7 (new)

These stationary gas turbines shall burn natural gas and distillate (No. 2) fuel oil only. Burning of other fuels requires review, public notice, and approval through the preconstruction review process (Rules 62-210 and 62-212, F.A.C).

A copy of this modification letter and the General Permit Conditions pursuant to Rule 62-4.160, F.A.C. shall be attached to and shall become a part of Permit PSD-FL-014.

Sincerely,



Howard L. Rhodes, Director  
Division of Air Resources  
Management

HLR/aal/l

Enclosures

**APPENDIX GC**  
**GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]**

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- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- (a) Have access to and copy and records that must be kept under the conditions of the permit;
  - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
- Reasonable time may depend on the nature of the concern being investigated.
- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
  - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

**APPENDIX GC**  
**GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]**

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The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit modification also constitutes:
- (a) Determination of Best Available Control Technology ( )
  - (b) Determination of Prevention of Significant Deterioration ( ); and
  - (c) Compliance with New Source Performance Standards (X).
- G.14 The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - (c) Records of monitoring information shall include:
    - 1. The date, exact place, and time of sampling or measurements;
    - 2. The person responsible for performing the sampling or measurements;
    - 3. The dates analyses were performed;
    - 4. The person responsible for performing the analyses;
    - 5. The analytical techniques or methods used; and
    - 6. The results of such analyses.
- G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

## Memorandum

# Florida Department of Environmental Protection

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TO: Howard Rhodes

THRU: Clair Fancy *CHF by Ann*

FROM: Al Linero *Al Linero s/s*

DATE: May 5, 1997

SUBJECT: FPC Suwannee Natural Gas Use for Peaking Units P1, P2, and P3

Attached is a modification to the EPA-issued PSD construction permit for the three oil-fired peaking units at Suwannee which are slated for addition of natural gas capability.

The revision deletes from the permit one authorized unit which was never constructed, while allowing firing of natural gas which is available to FPC on an interruptible basis.

The key issue is that these units have not operated close to their permitted hours of operation in recent years, yet they are slated for greatly increased service this year whether or not gas capability is added. This additional demand is not related to addition of natural gas capability. Since it is likely that the units will operate near their operating limits at some point, it is reasonable to use past allowable emissions to compare with future potential emissions. This results in no significant emissions increases and therefore the project is not subject to PSD or BACT.

Some discussion of peaking units was included in the WEPCO decision which alluded to the unreasonableness of doing a past actual to future potential emissions comparison when replacing a peaking unit. We consulted with EPA who agreed that our action was proper and they pointed us to a memo sent to GE in the early 1980's for adding natural gas capability to an oil-fired turbine.

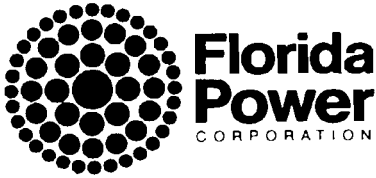
FPC agreed to accept a lower NOx limit of 56 ppm while firing gas versus the present limit of 98 ppm. Because control of NOx to 56 ppm can cause a PSD-significant increase in CO, we have agreed to a NOx limit of 68 ppm. This is still a significant reduction in NOx emissions compared to fuel oil use..

We have updated the PSD permit to state that the only fuels which can be fired are natural gas and distillate fuel oil. We also took the opportunity to consolidate conditions (e.g. 0.5% sulfur in fuel oil) from the original Florida AC's which had not been included in the EPA-issued PSD permit. FPC is aware of these conditions and had included them in the application. We received no comments as a result of the public notice. I recommend your approval and signature.

AAL/aal/l

Attachments





*al*

March 7, 1997

**RECEIVED**  
MAR 12 1997  
BUREAU OF  
AIR REGULATION

Mr. Clair Fancy, P.E.  
Chief, Bureau of Air Regulation  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: Suwannee Peaking Units P1, P2, and P3 -- Addition of Natural Gas Capability  
Draft Permit Modification No. PSD-FL-014(A)

This letter serves to notify the Department that Florida Power Corporation published a Notice of Intent to Issue Air Construction Permit Modification for the above-referenced project. The legal notice ran in the February 28, 1997 edition of the Suwannee Democrat. A copy of the notice and the notarized proof of publication are attached.

If you should have any questions concerning the above, 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

Attachment

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

*cc: M. Costello*

# SUWANNEE DEMOCRAT

PUBLISHED WEEKLY  
P.O. Box 370 - Telephone 362-1734  
Live Oak, Suwannee County, Florida 32060

STATE OF FLORIDA  
COUNTY OF SUWANNEE:

Before the undersigned authority personally appeared

Leandra J. Hunter

who on oath says that she is

Legal Secretary

of the Suwannee Democrat, a weekly newspaper published at Live Oak in Suwannee County, Florida; that the attached copy of advertisement, being a

Public Notice of Intent

in the matter of

To Issue Air Construction Permit

Modification

in the

Suwannee County

Court, was published in said newspaper in the issues of  
February 28, 1997

Affiant further says that the said Suwannee Democrat is a newspaper published at Live Oak in said Suwannee County, Florida, and that the said newspaper has heretofore been continuously published in said Suwannee County, Florida, each week and has been entered as second class mail matter at the post office in Live Oak, in said Suwannee County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in said newspaper.

Leandra J. Hunter

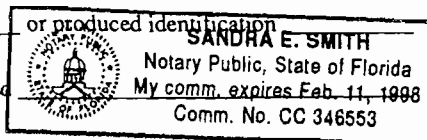
Sworn to and subscribed before me this 28th

day of Feb., A.D. 19 97

Sandra E. Smith  
(SEAL) Notary Public

Personally known

Type of identification produced



each originally permitted to operate up to 1,500 hours per year. In recent years their usage has been less than 350 hours each. In the near future, increased service to 600-1250 hours of operation per year is expected. FPC plans to burn available natural gas, an inherently clean fuel which is available to FPC on an interruptible basis, in lieu of some fuel oil to meet the anticipated demand.

Because of the great variability of usage from year-to-year inherent in peaking units, it is difficult to predict future usage for any given year. FPC provided information to the Department indicating that the operation of these units will greatly increase for demand-related reasons in 1997 with or without addition of natural gas firing capability. Hourly emissions will be very substantially reduced when natural gas is fired in lieu of fuel oil. Per Rule 62-210-200(1)(b), F.A.C., the Department may presume that unit-specific allowable emissions for an emissions unit are equivalent to the actual emissions of the emissions unit. Therefore, there will be no significant increase in PSD pollutants and the project is exempt from PSD and BACT. Burning natural gas will minimize emissions of particulate matter, sulfur dioxide, and nitrogen oxides (NOx).

The Department will issue the FINAL Permit Modification, in accordance with the conditions of the DRAFT Permit Modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed DRAFT Permit Modification issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If any written comments received result in a significant change in this DRAFT Permit Modification, the Department shall issue a Revised DRAFT Permit Modification and require, if applicable, another Public Notice.

The Department will issue FINAL Permit Modification with the conditions of the DRAFT Permit Modification unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. or a party requests mediation as an alternative remedy under Section 120.573 before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the infor-

tioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition (or a request for mediation, as discussed below) within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action addressed in this notice of intent.

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

A person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

A request for mediation must contain the following information: (a) The name, address, and telephone number of the person requesting mediation and that person's representative, if any; (b) A statement of the preliminary agency action;

The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f) The name of each party's representative who shall have authority to settle or recommend settlement; and (g) The signature of all parties or their authorized representatives.

As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection  
Bureau of Air Regulation  
111 S. Magnolia Drive, Suite 4  
Tallahassee, Florida, 32301  
Telephone: 904/488-1344  
Fax: 904/922-6979

Department of Environmental Protection  
Northeast District Office  
7825 Baymeadows Way, Suite 200B  
Jacksonville, FL 32256-7590  
Telephone: 904/448-4300  
Fax: 904/448-4363

The complete project file includes the Draft Permit Modification, the application, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 904/488-1344, for additional information.

February 28, 1997

**PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DRAFT Permit Modification  
No. PSD-FL-014(A)  
File No. 1210003-002-AC  
Suwannee County

The Department of Environmental Protection (Department) gives notice of its intent to issue a modification of Permit PSD-FL-014 to Florida Power Corporation (FPC) for Combustion Turbines (Peaking Units) P1, P2, and P3 at its Suwannee Facility located South of U.S. Route 90, Northwest of Live Oak, Suwannee County. A Best Available Control Technology (BACT) determination was not required for pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's

# Memorandum

# Florida Department of Environmental Protection

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TO: Al Linero

FROM: Martin Costello

DATE: February 17, 1997

SUBJECT: FPC Suwannee Plant  
Project to Add Natural Gas Capability  
Used Oil Firing

The following general conditions are contained in each permit issued by the Department:

62-4.160 Permit Conditions. All permits issued by the Department shall include the following general conditions:

(2) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

FPC applied for a permit to add natural gas capability on the three combustion turbines located at the Suwannee power plant. Contained in the application is a description of on-specification used oil as one of the fuels for the combustion turbines. If the new construction permit is silent on the use of used oil as a fuel in the combustion turbines, then FPC may have federally enforceable authorization to fire used oil because this request is part of the "specific processes and operations applied for and indicated in the approved drawings or exhibits". The application neither contained emission rates when used oil is fired in the combustion turbines, nor maximum levels of nitrogen content in the used oil. The maximum level of ash requested in the application for used oil firing is nine times higher than the ash level in the No. 2 fuel oil. If FPC is not willing to exclude used oil as an optional fuel in their current application, I recommend that the construction permit issued to add natural gas capability contain a prohibition from firing used oil. Used oil firing in these units which have short exhaust stacks will greatly increase exhaust emissions and may exceed ambient air quality standards for particulate matter, nitrogen oxides and lead. The maximum contaminant levels for used oil listed in 40 CFR 279.11 only list heavy metals and total halogens. These specifications are listed for purposes of classifying the liquid waste as either a hazardous waste or not. The on-specification requirements do not limit sulfur content, nitrogen content, or total ash content -- the properties which are directly related to uncontrolled emission rates when the used oil is fired as a fuel.

Until FPC provides the Department with emission rates and maximum levels of contaminants in the used oil, and otherwise provides reasonable assurance that ambient air quality standards and increments would not be exceeded as a result of firing on-specification used oil in the combustion turbines, the Department cannot evaluate the firing of this waste material as contained in their recent application for a construction permit.



# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

February 14, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue, C.E.P.  
Director, Environmental Services Dept.  
Florida Power Corp.  
3201 34th Street South  
St. Petersburg, FL 33711

Re: DRAFT Permit Modification No. PSD-FL-014(A)  
Suwannee Facility/Peaking Units P1, P2, P3 - Addition of Natural Gas Capability


Dear Mr. Pardue:

Enclosed is one copy of the Draft Permit Modification to the PSD permit for Combustion Turbines (Peaking Units) P1, P2, and P3 located at the Suwannee Facility, South of U.S. Route 90, Northwest of Live Oak, Suwannee County. The Department's Intent to Issue Permit Modification and the "PUBLIC NOTICE OF INTENT TO ISSUE PERMIT MODIFICATION" are also included.

The "PUBLIC NOTICE OF INTENT TO ISSUE PERMIT MODIFICATION" must be published within 30 (thirty) days of receipt of this letter. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit modification.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please contact Mr. Linero at 904/488-1344.

Sincerely,

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

CHF/aal/hh

Enclosures

P 265 659 172

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to: Jeffrey Pardue	
Street & Number: 900 APC	
Post Office, State, & ZIP Code: St. Pete, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	2-17-97 PSD-FI-014(A)

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

**SEND**

- Complete sections 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

extra fee

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
 Jeffrey Pardue, CEP  
 Fla. Power Corp.  
 3201 34th St. South  
 St. Petersburg, FL  
 33711

4a. Article Number  
 P 265 659 172

4b. Service Type  
 Registered  Certified  
 Express Mail  Insured  
 Return Receipt for Merchandise  COD

7. Date of Delivery  
 2/20/97

5. Received By: (Print Name)  
 Kathy DeLong

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)  
 Kathy DeLong

Thank you for using Return Receipt Service

Domestic Return Receipt

In the Matter of an  
Application for Permit Modification by:

Mr. W. Jeffrey Pardue, C.E.P., Director  
Environmental Services Department  
Florida Power Corp.  
3201 34th Street South  
St. Petersburg, Florida 33711 /

DRAFT Permit No. PSD-FL-014(A)  
File No. 1210003-002-AC  
Suwannee Facility/Suwannee County

### **INTENT TO ISSUE PERMIT MODIFICATION**

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit modification (copy of DRAFT Permit modification attached) for the proposed project, as detailed in the application specified above, for the reasons stated below.

The applicant, Florida Power Corporation (FPC) applied on December 19, 1996 to the Department for a modification of the Conditions of Approval contained in the Final Determination (PSD permit) issued July 9, 1979 by EPA for Combustion Turbines (Peaking Units) P1, P2, and P3 at its Suwannee Facility located South of U.S. Route 90, Northwest of Live Oak, Suwannee, County. The request is for a modification to PSD-FL-014 to allow installation of natural gas firing capability for the mentioned units.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that a modification of PSD-FL-014 (which superseded AC61-11862, AC61-11863 and AC61-11864 issued by the Department on November 28, 1978) is required to commence the additional construction at the described facility.

The Department intends to issue this permit modification based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed "PUBLIC NOTICE OF INTENT TO ISSUE PERMIT MODIFICATION". The notice shall be published one time only within 30 (thirty) days in the legal advertisement section of a newspaper of general circulation in the area affected. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 904/488-1344; Fax 904/ 922-6979) within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit modification pursuant to Rule 62-103.150 (6), F.A.C.

The Department will issue the FINAL Permit Modification, in accordance with the conditions of the enclosed DRAFT Permit Modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed DRAFT Permit Modification issuance action for a period of 30 (thirty) days from the date of publication of "PUBLIC NOTICE OF INTENT TO ISSUE PERMIT MODIFICATION." Written comments should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments

filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit Modification, the Department shall issue a Revised DRAFT Permit Modification and require, if applicable, another Public Notice.

The Department will issue the permit modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., or a party requests mediation as an alternative remedy under Section 120.573 F.S. before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9730, fax: 904/487-4938. Petitions must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition (or a request for mediation, as discussed below) within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the action or proposed action addressed in this notice of intent.

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

A person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

A request for mediation must contain the following information: (a) The name, address, and telephone number of the person requesting mediation and that person's representative, if any; (b) A statement of the preliminary agency action; (c) A statement of the relief sought; and (d) Either an explanation of how the requester's substantial interests will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that the requester has already filed, and incorporating it by reference.



The agreement to mediate must include the following: (a) The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f) The name of each party's representative who shall have authority to settle or recommend settlement; and (g) The signatures of all parties or their authorized representatives.

As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

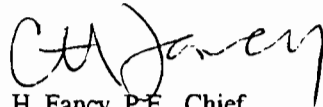
In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal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

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

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

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

Executed in Tallahassee, Florida.



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

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE PERMIT MODIFICATION (including the PUBLIC NOTICE, and DRAFT permit modification) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 2-17-97 to the person(s) listed:

- Mr. W. Jeffrey Pardue, FPC \*
- Mr. Ken Kosky, P.E., Golder Associates
- Mr. Brian Beals, EPA
- Mr. John Bunyak, NPS
- Mr. Chris Kirts, NED

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kurti Joken 2-17-97  
(Clerk) (Date)

**PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DRAFT Permit Modification No. PSD-FL-014(A)  
File No. 1210003-002-AC  
Suwannee County

The Department of Environmental Protection (Department) gives notice of its intent to issue a modification of Permit PSD-FL-014 to Florida Power Corporation (FPC) for Combustion Turbines (Peaking Units) P1, P2, and P3 at its Suwannee Facility located South of U.S. Route 90, Northwest of Live Oak, Suwannee, County. A Best Available Control Technology (BACT) determination was not required for pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's name and address are: Florida Power Corporation, 3201 34th Street South, St. Petersburg, FL 33711.

The modification is to revise the number of units from the four originally authorized by EPA to the three already constructed and to allow installation of natural gas firing capability.

The three peaking units were each originally permitted to operate up to 1,500 hours per year. In recent years their usage has been less than 350 hours each. In the near future, increased service to 600-1250 hours of operation per year is expected. FPC plans to burn available natural gas, an inherently clean fuel which is available to FPC on an interruptible basis, in lieu of some fuel oil to meet the anticipated demand.

Because of the great variability of usage from year-to-year inherent in peaking units, it is difficult to predict future usage for any given year. FPC provided information to the Department indicating that the operation of these units will greatly increase for demand-related reasons in 1997 with or without addition of natural gas firing capability. Hourly emissions will be very substantially reduced when natural gas is fired in lieu of fuel oil. Per Rule 62-210.200(1)(b), F.A.C., the Department may presume that unit-specific allowable emissions for an emissions unit are equivalent to the actual emissions of the emissions unit. Therefore, there will be no significant increase in PSD pollutants and the project is exempt from PSD and BACT. Burning natural gas will minimize emissions of particulate matter, sulfur dioxide, and nitrogen oxides (NOx).

The Department will issue the FINAL Permit Modification, in accordance with the conditions of the DRAFT Permit Modification unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed DRAFT Permit Modification issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit Modification, the Department shall issue a Revised DRAFT Permit Modification and require, if applicable, another Public Notice.

The Department will issue FINAL Permit Modification with the conditions of the DRAFT Permit Modification unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. or a party requests mediation as an alternative remedy under Section 120.573 before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9370, fax: 904/487-4938. Petitions must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition (or a request for mediation, as discussed below) within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action addressed in this notice of intent.

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

A person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

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The agreement to mediate must include the following: (a) The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f) The name of each party's representative who shall have authority to settle or recommend settlement; and (g) The signatures of all parties or their authorized representatives.

As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection  
Bureau of Air Regulation  
111 S. Magnolia Drive, Suite 4  
Tallahassee, Florida, 32301  
Telephone: 904/488-1344  
Fax: 904/922-6979

Department of Environmental Protection  
Northeast District Office  
7825 Baymeadows Way, Suite 200B  
Jacksonville, FL 32256-7590  
Telephone: 904/448-4300  
Fax: 904/448-4363

The complete project file includes the Draft Permit Modification, the application, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 904/488-1344, for additional information.

# DRAFT

March XX, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue, C.E.P.  
Director, Environmental Services Dept.  
Florida Power Corp.  
3201 34th Street South  
St. Petersburg, FL 33711

Re: Suwannee Power Plant, Peaking Units P1, P2, and P3  
Modification of Final Determination - PSD-FL-014(A)  
Addition of Natural Gas Capability

Dear Mr. Pardue:

The Department hereby amends the Conditions of Approval related to emissions and fuel use in the subject Final Determination (dated July 9, 1979) pursuant to 40CFR52.21 - Prevention of Significant Deterioration (PSD Permit). The PSD permit is amended as follows:

Introduction

References to the number of turbines are reduced to three from four.

Condition 1.(3) (new)

(3) From any gas turbine, while actually firing natural gas, any exhaust gases which contain nitrogen oxides in excess of 0.0068 percent by volume at 15 percent oxygen and on a dry basis.

A copy of this modification letter and the General Permit Conditions pursuant to Rule 62-4.160, F.A.C. shall be attached to and shall become a part of Permit PSD-FL-014.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

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Howard L. Rhodes, Director  
Division of Air Resources Management

DRAFT

APPENDIX GC  
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
  - (a) Have access to and copy and records that must be kept under the conditions of the permit;
  - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
  - (a) A description of and cause of non-compliance; and
  - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

**APPENDIX GC**  
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (a) Determination of Best Available Control Technology (X)
  - (b) Determination of Prevention of Significant Deterioration (X); and
  - (c) Compliance with New Source Performance Standards (X).
- G.14 The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - (c) Records of monitoring information shall include:
    - 1. The date, exact place, and time of sampling or measurements;
    - 2. The person responsible for performing the sampling or measurements;
    - 3. The dates analyses were performed;
    - 4. The person responsible for performing the analyses;
    - 5. The analytical techniques or methods used; and
    - 6. The results of such analyses.
- G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**DIVISION OF AIR RESOURCES MANAGEMENT  
BUREAU OF AIR REGULATION  
NEW SOURCE REVIEW SECTION  
Telephone (904) 488-1344  
Fax (904) 922-6979**

**TECHNICAL EVALUATION  
AND  
PRELIMINARY DETERMINATION**

**Suwannee Facility/Peaking Units P1, P2, P3**

**Florida Power Corporation**

Facility ID No. 1210003  
Live Oak  
Suwannee County

Air Construction Permit Modification No. PSD-FL-014(A)  
File No. 1210003-002-AC

February 14, 1997



# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 1. Applicant

Florida Power Corporation  
3201 34th Street South  
St. Petersburg, Florida 33711

## 2. Source Name and Location

Suwannee Power Plant  
Units P1, P2, P3  
Live Oak, Florida

## 3. Source Description

The Florida Power Corporation (FPC) Suwannee Power Plant consists of three fossil fuel steam generators that are fired by No. 6 fuel oil and natural gas and three combustion turbines that are fired by No. 2 fuel oil.

The three combustion turbines (P1, P2, P3) are each 63 megawatt simple cycle units manufactured by Turbo Power and Marine Systems (Model FTAC-3LF). The units are fired with No. 2 fuel oil containing 0.5 percent (%) or less sulfur. Annual hours of operation are limited to 1,500. Control measures and equipment include water injection at specific water-to-fuel ratios to meet nitrogen oxides (NO<sub>x</sub>) limits.

Since their startup in late 1980, these units have typically been utilized for a few hundred hours per year. Since 1993, operation of these units has ranged from approximately 50 to 350 hours each. This characteristic of relatively low levels of operation is typical of peaking units. Among the reasons are the inherent thermal inefficiency that results in the turbine use being primarily limited to extreme meteorological conditions, and unavailability of baseload plants. Although the use is usually low, these units can, during extreme years, be called upon to provide service at much higher rates within their permitted limits.

FPC projects substantially increased use during 1997 to approximately 550 to 1000 hours per unit while fired exclusively with fuel oil. This is largely due to unavailability of the baseloaded Crystal River Unit 3.

## 4. Current Permit and Major Regulatory Program Status

Construction of P1-P3 was authorized by EPA's Prevention of Significant Deterioration Permit No. PSD-FL-014 issued July 9, 1979 that superseded the Department's Air Construction Permit AC61-11862, 11863, and 11863 issued on November 28, 1978. The units were also reviewed in accordance with the New Source Performance Standard (NSPS) Subpart GG - Standards of Performance for Stationary Gas Turbines which was considered to be the Best Available Control Technology (BACT) at the time. One more identical unit was also authorized but never constructed. The three units are operated under Air Operation Permit AO61-189579 revised on March 21, 1991.

As a major source, any modification of P1-P3 resulting in emissions increases must be evaluated for significance per Table 62-212.400-2, F.A.C. to determine if further PSD review is required along with an updated BACT Determination.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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## 5. Permit Modification Request

On December 19, 1996 the Department received a request from FPC for modification of its permits to install natural gas firing capability for units P1-P3. Limited quantities of gas will be available to FPC on an "interruption basis." No increase in hours of operation was requested and FPC proposed to reduce allowable nitrogen oxides (NO<sub>x</sub>) emissions from 98 parts per million (ppm - corrected for efficiency, excess air, and fuel bound nitrogen) permitted while firing fuel oil to 56 ppm when firing gas.

On December 20, 1996 the Department requested additional fees to process the application based on the presumption of PSD applicability. A response was received from FPC by the Department on January 20, 1997 increasing its estimate of NO<sub>x</sub> to 68 ppm and reducing its estimates of carbon monoxide (CO) and volatile organic compounds (VOC) to less-than-significant increases. Additional details were received by the Department on January 28.

## 6. Potentially Applicable Major Rules

Major rules that could potentially apply to this permit modification request include the following:

- Rule 62-212.400, F.A.C. - Prevention of Significant Deterioration of Air Quality
- 40 CFR 60 - Standards of Performance for New Stationary Sources, Subpart GG - Standards for Stationary Gas Turbines (adopted by reference in Chapter 62-204, F.A.C.) and
- Chapter 62-297, F.A.C., related to emissions monitoring at stationary sources.

The primary regulatory issue pertinent to FPC's permit modification is that of PSD permitting applicability. Modifications which result in a *significant net emission rate increase* are classified as major modifications and therefore subject to PSD review. The procedures for determining whether a significant net emission rate increase will occur were changed for steam units only by EPA in July 1992 as a result of the Wisconsin Electric Power Company (WEPCO) litigation.

In the absence of applicability of the WEPCO decision (as reflected in revisions of Rule 62-210 and 62-212, F.A.C.), the calculation of a net emission increase for sources other than steam units is based on comparing actual annual emissions for the two year period prior to the change (before case) with potential emissions following the change (after case). Another two year period (within a five year period prior to the change) can be used if it is demonstrated to be more representative of normal source operation. Potential emissions are calculated assuming operation at rated capacity for the number of hours allowed by the enforceable permit conditions. This procedure is referred to as the *actual-to-potential* method.

Operation on gas and fuel oil will result in approximately 300 hours extra hours of usage in 1997 (to 950-1250 hours) compared to operation on fuel oil alone for each peaking unit at Suwannee and a decrease at some peaking units elsewhere in the FPC system. This will also result in PSD-significant emissions increases under the *actual-to-potential* test. However while operating on gas, these units will emit considerably less emissions than while firing fuel oil. Following is an estimate of emissions for the three units at full capacity for gas compared with oil:

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## COMPARISON OF EMISSIONS FROM FUEL OIL AND GAS AT SUWANNEE

Pollutant	No. 2 Fuel Oil		Natural Gas	
	lb/hr	tons/yr	lb/hr	tons/yr
NO <sub>x</sub>	210	473	144	323
PM/PM <sub>10</sub>	38	86	31	70
CO	179	402	193	435
VOC's	23	51	25	56
SO <sub>2</sub>	379	853	2	5
SAM	12	26	0.4	1

The decreases in hourly emissions while operating under gas are very significant for pollutants of greatest concern. However because of the fact that the units can still fire fuel oil, their potential to emit will remain relatively unchanged even though true actual emissions may well be reduced based on a WEPCO-type evaluation.

### 7. Evaluation of PSD Applicability

The main issue regarding FPC's permit modification is that of PSD review applicability. The Department's detailed assessment of this regulatory issue follows.

A brief description of the PSD review procedures was provided above. As mentioned, EPA and the Department have not revised their rules to implement the WEPCO PSD review procedures for sources other than steam units. The Department's definitions of "actual" and "potential" emissions (per Chapter 62-210 (12) and (225), F.A.C.) for units other than steam units follow:

(12) "Actual Emissions" The actual rate of emission of a pollutant from an emissions unit as determined in accordance with the following provisions:

(12)(a) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during a two year period which precedes the particular date and which is representative of the normal operation of the emissions unit.

The Department may allow the use of a different time period upon a determination that it is more representative of the normal operation of the emissions unit. Actual emissions shall be calculated using the emissions unit's actual operating hours, production rates and types of materials processed, stored, or combusted during the selected time period.

(12)(b) The Department may presume that unit-specific allowable emissions for an emissions unit are equivalent to the actual emissions of the emissions unit provided that, for any regulated air pollutant, such unit-specific allowable emissions limits are federally enforceable.

(12)(c) For any emissions unit (other than an electric utility steam generating unit specified in subparagraph (d) of this definition) which has not begun normal operations on a particular date, actual emissions shall equal the potential emissions of the emissions unit on that date.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

(225) "Potential Emissions" or "Potential to Emit" - The maximum capacity of an emission unit or facility to emit a pollutant under its physical and operational design. Any enforceable physical or operational limitation on the capacity of the emission unit or facility to emit a pollutant, including any air pollution control equipment and any restrictions on hours of operation or on the type or amount of material combusted, stored, or processed shall be treated as part of its design provided that, for any regulated air pollutant, such physical or operational limitation is federally enforceable.

Because of the great variability of usage from year-to-year inherent in peaking units the Department does not believe that any two year period within the past five years properly represents actual emissions. This is further validated by the very substantial increase in hours of operation expected in 1997 even without addition of natural gas capability. Therefore in accordance with Rule 62-210(12)(b), the Department will presume that allowable emissions would better reflect the "before" case for comparison with the "after" case following the proposed change.

Based on the above analysis, the Department concludes that the addition of gas firing capability, as described in FPC's permit application, will not result in a significant net increase in any PSD regulated pollutant and therefore the permit modification regarding the use of gas Units P1-P3 is not subject to PSD review.

If PSD were applied, natural gas combustion would suffice as BACT for most pollutants. In the case of NO<sub>x</sub>, the proposed limit of 68 ppm would not likely meet an updated BACT requirement. However, additional NO<sub>x</sub> control measures for a peaking unit firing natural gas, on an interruptible basis, would probably not prove to be cost-effective.

There is at least one precedent for exempting addition of gas capability for oil fired combustion turbines. The specific case is described in an EPA letter dated June 24, 1981 (attached). Although the Department does not necessarily agree with the rationale given in the analysis by EPA, it appears that the situation and the decision were similar to those in the present review.

### **8. Proposed Addition of New Conditions of Approval to Permit PSD-FL-014**

The proposed new conditions applicable to gas firing in Units P1-P3 are shown in the draft re-issued and modified permit. The changes to be incorporated include:

- Limiting NO<sub>x</sub> emissions to 68 ppm (corrected) while firing natural gas
- Revising the number of units from four to three
- Revising emissions limits downward to reflect less units
- Incorporation of previous permit modifications

### **9. Conclusions**

The changes in operation authorized by these permit amendments will not cause a net significant increase in potential emissions of any PSD regulated air pollutant. The Department expects the change to result in lower actual emissions of most pollutants although great variability will continue to characterize annual emissions from year-to-year. The changes will not cause or contribute to a violation of any ambient air quality standard or PSD increment.

# Memorandum

# Florida Department of Environmental Protection

TO: Clair Fancy

FROM: Al Linero *Al Linero 2/17*

DATE: February 14, 1997

SUBJECT: FPC Suwannee Natural Gas Use for Peaking Units P1, P2, and P3

Attached is a modification to the EPA-issued PSD construction permit for the three oil-fired peaking units at Suwannee which are slated for addition of natural gas capability.

The revision deletes from the permit one authorized unit which was never constructed, while allowing firing of natural gas which is available to FPC on an interruptible basis.

The key issue is that these units have not operated close to their permitted hours of operation in recent years, yet they are slated for greatly increased service this year whether or not gas capability is added. This additional demand is not related to addition of natural gas capability. Since it is likely that the units will operate near their operating limits at some point, it is reasonable to use past allowable emissions to compare with future potential emissions. This results in no significant emissions increases and therefore the project is not subject to PSD or BACT.

FPC agreed to accept a lower NO<sub>x</sub> limit of 56 ppm while firing gas versus the present limit of 75 ppm (98 ppm including fuel nitrogen and efficiency correction). Because control of NO<sub>x</sub> to 56 ppm can cause a PSD-significant increase in CO, we have agreed to a NO<sub>x</sub> limit of 68 ppm. This is still a significant reduction in NO<sub>x</sub> emissions compared to fuel oil use.

I have attached to the Technical evaluation a letter from EPA for a similar case involving addition of gas capability at peaking units. Although I do not agree with the rationale, both the situation and conclusion (with which I do agree) are similar to what we are proposing here.

I recommend your approval and signature.

AAL/aal/l

Attachments



# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

February 15, 1998

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

Mr. W. Jeffrey Pardue, C.E.P.  
Director of Environmental Services  
Florida Power Corporation  
3201 34th Street South  
St. Petersburg, Florida 33711

RE: Amendment to AC 61-11862, 61-11863, & 61-11864/PSD-FL-014(A) <sup>B</sup>Permits  
NSPS Custom Fuel Monitoring Schedule  
Florida Power Corporation  
Suwannee River Plant

Dear Mr. Pardue:

The Department has reviewed your September 10, 1997 letter requesting an NSPS Custom Fuel Monitoring Schedule, which was submitted to EPA, and natural gas analysis data received by the Department on January 20, 1998. The schedule would only apply to a monitoring schedule for sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) when natural gas is being fired at the subject facility (Refer to Attachments Nos. 1 & 4). The facility is required by the permit to comply with Subpart GG of the New Source Performance Standards (NSPS) 40 CFR 60. For sources utilizing pipeline quality natural gas, 40 CFR 60.334(b) and 60.334(b)(2) state that a custom fuel monitoring schedule, if supported by data which demonstrates compliance with NSPS emission limits, may be approved by the Administrator of EPA. This authority has been delegated to EPA's regional offices and, the EPA Region IV will provide their determination of this request to the Department. The Department received a letter, dated October 25, 1997, from EPA on November 3, 1997, stating that a custom fuel monitoring schedule for this facility was acceptable, since it complied with all items of the attachment to the custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987 (Refer to Attachments Nos. 2 & 3). The results from a minimum of one sampling event each month for six months were provided by the permittee, which demonstrated consistent compliance with the allowable SO<sub>2</sub> emissions limits specified under 40 CFR 60.333 and this permit. Therefore, upon issuance of the amended permit, the permittee shall begin monitoring the sulfur content of natural gas once per quarter for six quarters as specified in 2.b. of the Custom Fuel Monitoring Schedule for Natural Gas. In accordance with the EPA and Department determination, the permit specific condition will be amended as follows:

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

Mr. W. Jeffrey Pardue  
AC 61-11862, 61-11863, & 61-11864/PSD-FL-014(A)  
Suwannee River Permit Amendment  
February 15, 1998  
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## **I. Specific Condition Number;**

### **From**

Condition 3(b). The applicant shall record weekly the sulfur content, nitrogen content, and lower heating value of fuel being fired in the gas turbine.

### **To**

Condition 3(b). The permittee shall monitor sulfur content and nitrogen content of the new No. 2 distillate fuel oil and sulfur content of natural gas. These values may be provided by the vendor and the frequency of determinations of these values shall be as follows:

#### **A. New No. 2 Distillate Fuel Oil**

The values, sulfur and nitrogen content, shall be determined on each occasion that fuel is transferred to the storage tanks from any other source. Records of these values shall be kept by the facility for a five year period for regulatory agency inspection purposes.

#### **B. Natural Gas**

Pursuant to 40 CFR 60.334(b)(2), a custom fuel monitoring schedule for the determination of these values shall be followed for the natural gas fired at this facility and shall be as follows:

#### **Custom Fuel Monitoring Schedule for Natural Gas (NG)**

1. Monitoring of fuel nitrogen content shall not be required if NG is the only fuel being fired in the gas turbines.
2. Sulfur Monitoring
  - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80, ASTM D3031-81, ASTM D3246-81, and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2), or the latest edition(s).

- b. This custom fuel monitoring schedule shall become effective on the date this permit amendment becomes valid. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333 and the conditions of this permit, then sulfur monitoring shall be conducted once per quarter for six quarters. If monitoring data is provided by the applicant which demonstrates consistent compliance with the requirements herein the applicant may begin monitoring as per the requirements of 2.c.
    - c. If after the monitoring required in item 2.b. above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333 and the conditions of this permit, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
    - d. Should any sulfur analysis as required in items 2.b. or 2.c. above indicate noncompliance with 40 CFR 60.333 and the conditions of this permit, the owner or operator shall notify the Department of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
  3. If there is a change in fuel supply, the owner or operator must notify the Department of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
  4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of five years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

## **II. Attachments to be Incorporated;**

- FPC letter dated September 26, 1997.
- EPA letter dated August 14, 1987
- EPA letter dated October 25, 1997
- Natural Gas Analysis Data received January 20, 1998



Mr. W. Jeffrey Pardue  
AC 61-11862, 61-11863, & 61-11864/PSD-FL-014(A)  
Suwannee River Permit Amendment  
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A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/488-9730; Fax: 850/487-4938). Petitions filed by the applicant of the amendment request/application and the parties listed below must be filed within 14 days of receipt of this amendment. Petitions filed by other persons must be filed within 14 days of the amendment issuance or within 14 days of their receipt of this amendment, whichever occurs first. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information:

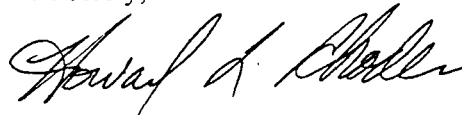
- (a) The name, address and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action;
- (g) A statement of the relief sought by petitioner, stating precisely the action the petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this amendment. Persons whose substantial interests will be affected by any decision of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this amendment in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

Mr. W. Jeffrey Pardue  
AC 61-11862, 61-11863, & 61-11864/PSD-FL-014(A)  
Suwannee River Permit Amendment  
February 15, 1998  
Page 5 of 5

This letter amendment must be attached to AC 61-11862, AC 61-11863, & AC 61-11864/  
PSD-FL-014(A), and shall become part of the permits.

Sincerely,



Howard L. Rhodes, Director  
Division of Air Resources  
Management

HLR/CSL

Attachments

cc: C. Kirts, NED  
A. Linero, DEP  
S. Osbourn, FPC  
K. Kosky, P.E., Golder Associates, Inc.  
G. Kamaras, LEAF

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this AMENDMENT was sent by certified mail to the person(s) listed below and all copies were sent by U.S. mail to the person(s) listed above before close of business on 02-16-98 :

Mr. W. Jeffrey Pardue, C.E.P., FPC

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED,**  
on this date, pursuant to Section 120.52(7),  
Florida Statutes, with the designated agency  
Clerk, receipt of which is hereby acknowledged.

Sandra Knight 02-16-98  
(Clerk) (Date)

Attachment No. 2 - EPA Guidance Memorandum

Amendment to AC 61-11862, 61-11863, & 61-11864/PSD-FL-014(A) Permits  
NSPS Custom Fuel Monitoring Schedule  
Florida Power Corporation  
Suwannee River Plant



bcc: J. M. Kennedy  
J. L. Tillman  
D. W. Sorrick  
W. B. Hicks  
M. V. Westbrook

File: DeBary/Air/Corresp.  
Int. City/Air/Corresp.  
Suwannee/Air/Corresp.

September 10, 1997

Mr. Clair Fancy, Chief  
Bureau of Air Regulation  
Florida Department of Environmental Protection  
111 South Magnolia Drive, Suite 4  
Magnolia Park Courtyard  
Tallahassee, Florida 32301

Dear Mr. Fancy:

Re: Florida Power Corporation's Intercession City, DeBary and Suwannee Facilities  
Customized Fuel Monitoring Schedules

Florida Power Corporation (FPC) has been permitted for the use of natural gas at the above-referenced three sites. Specifically, natural gas conversions have been permitted for DeBary combustion turbines (CTs) 7, 8, 9 and 10; Intercession City CTs 7, 8, 9, 10 and 11; and Suwannee CTs 1, 2 and 3. These CTs are subject to New Source Performance Standards (NSPS 40 CFR 60, Subpart GG). 40 CFR 60.334(b) requires the owner/operator of any CT to monitor the sulfur and nitrogen content of the fuel as follows: 1) If the turbine fuel is supplied by a bulk storage tank, then the sulfur and nitrogen content are to be determined whenever new fuel is transferred into the bulk storage tank, and 2) If the turbine fuel is supplied without an intermediate bulk storage tank, then daily monitoring of the sulfur and nitrogen content of the fuel is required.

Since the natural gas used by the CTs does not pass through an intermediate bulk storage tank, FPC is hereby requesting a customized fuel monitoring schedule as allowed by 40 CFR 60.334(b)(2). While firing natural gas, FPC requests the following customized fuel monitoring schedule which was developed based on an EPA guidance memorandum (Attachment A):

1. Monitoring of natural gas nitrogen content shall not be required in accordance with page 2 of the EPA guidance memorandum attached.
2. Sulfur Monitoring
  - a. Analysis for sulfur content of the natural gas shall be conducted using one of the EPA-approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternate method. The reference methods are: ASTM D1072-20; ASTM D3031-81; ASTM D3245-81; and ASTM D4048-82 as referenced in 40 CFR 60.335(b)(2).


Mr. Fancy  
September 10, 1997  
Page 2

- b. Effective on the approval date of the customized fuel monitoring schedule, sulfur monitoring shall be conducted twice a month for six months. If this monitoring shows little variability in the sulfur content and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
- c. If the monitoring required by 2(b) above, of the sulfur content of the natural gas shows little variability and the calculated sulfur dioxide emissions represent consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per year. This monitoring shall be conducted during the first and third quarters of each calendar year.
- d. Should any sulfur analysis, as required by items 2(b) or 2(c) above, indicate noncompliance with 40 CFR 60.333, FPC will notify the Department of Environmental Protection (DEP) of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas shall be monitored weekly during the interim period while this schedule is being reexamined.
3. FPC will notify the DEP of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content varying by more than 10 grains/1000 of gas) shall be considered as a change in natural gas supply. Sulfur content of the natural gas will be monitored weekly during the interim period when this monitoring schedule is being reexamined.
4. Records of sample analysis and natural gas supply pertinent to this monitoring schedule shall be retained by FPC for a period of three years, and be available for inspection by appropriate regulatory personnel.
5. FPC will obtain the sulfur content of the natural gas from Florida Gas Transmission Company at its Brooker Lab.

Data from natural gas at the Brooker Lab site is considered representative of the sulfur content of the natural gas at these three FPC sites (DeBary, Intercession City and Suwannee), since there is no additional entry point for sulfur or other elements/compounds which may affect the quality of the natural gas.

If you or your staff have any questions about this request, please do not hesitate to contact me at (813) 856-5159.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

Attachments

cc/attach: Mike Harley, DEP  
David McNeal, EPA Region IV  
Ken Kosky, P.E., Golder Associates

05 07-92 11:45AM FROM EPA FPS/SSCD

## BEST AVAILABLE COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

AUG 14 1992

OFFICE OF  
AIR AND SOILSMEMORANDUMSUBJECT: Authority for Approval of Custom Fuel Monitoring  
Schedules Under NSPS Subpart GGFROM: John B. Rasmie, Chief *John B. Rasmie*  
Compliance Monitoring BranchTO: Air Compliance Branch Chiefs  
Regions II, III, IV, V, VI and IXAir Programs Branch Chiefs  
Regions I-X

The NSPS for Stationary Gas Turbines (Subpart GG) at 40 CFR 60.334(b)(2) allows for the development of custom fuel monitoring schedules as an alternative to daily monitoring of the sulfur and nitrogen content of fuel fired in the turbines. Regional Offices have been forwarding custom fuel monitoring schedules to the Stationary Source Compliance Division (SSCD) for consideration since it was understood that authority for approval of these schedules was not delegated to the Regions. However, in consultation with the Emission Standards and Engineering Division, it has been determined that the Regional Offices do have the authority to approve Subpart GG custom fuel monitoring schedules. Therefore it is no longer necessary to forward these requests to Headquarters for approval.

Over the past few years, SSCD has issued over twenty custom schedules for sources using pipeline quality natural gas. In order to maintain national consistency, we recommend that any schedules Regional Offices issue for natural gas be no less stringent than the following: sulfur monitoring should

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PAGE 2 (PRINTED PAGE 2)

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TO 09195413470

PG06/007

be bimonthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with 060.333 at each monitoring frequency; nitrogen monitoring can be waived for pipeline quality natural gas, since there is no fuel-bound nitrogen and since the free nitrogen does not contribute appreciably to NO<sub>x</sub> emissions. Please see the attached sample custom schedule for details. Given the increasing trend in the use of pipeline quality natural gas, we are investigating the possibility of amending Subpart GG to allow for less frequent sulfur monitoring and a waiver of nitrogen monitoring requirements where natural gas is used.

Where sources using oil request custom fuel monitoring schedules, Regional Offices are encouraged to contact SSCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to SSCD for approval.

If you have any questions, please contact Sally M. Farrell at FTS 352-2675.

Attachment

- cc: John Cranshaw
- George Walsh
- Robert Ajax
- Earl Salo

05-07-92 11:45AM FROM EPA FPS/SSCD

TO B9195413470

P007/007

## Enclosure

## Conditions for Custom Fuel Sampling Schedule for Stationary Gas Turbines

1. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.
2. Sulfur Monitoring
  - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
  - b. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
  - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
  - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the State Air Control Board of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the State of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.



**Attachment No. 3 - EPA Determination**

Amendment to AC 61-11862, 61-11863, & 61-11864/PSD-FL-014(A) Permits  
NSPS Custom Fuel Monitoring Schedule  
Florida Power Corporation  
Suwannee River Plant



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
100 ALABAMA STREET, S.W.  
ATLANTA, GEORGIA 30303-3104

4APT-ARB

OCT 23 1997

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NOV 03 1997

BUREAU OF  
AIR REGULATION

Mr. Michael M. Harley, P.E., DEE  
P.E. Administrator  
Emissions Monitoring Section  
Bureau of Air Monitoring and Mobile Sources  
Air Resources Management Division  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

SUBJECT: Custom Fuel Monitoring Schedule Proposed for  
Stationary Gas Turbines at the Florida Power  
Corporation Intercession City, DeBary, and Suwannee  
Power Plants

Dear Mr. Harley:

This letter is in response to your September 26, 1997,  
request for a determination regarding a custom fuel monitoring  
schedule proposed for the following combustion turbines (CTs) at  
the referenced power plants:

Intercession City: CTs 7, 8, 9, and 10

DeBary: CTs 7, 8, 9, and 10

Suwannee: CTs 1, 2, and 3

The natural gas fired turbines listed above are subject to  
40 C.F.R. Part 60, Subpart GG (Standards of Performance for  
Stationary Gas Turbines), and Region 4 has concluded that the  
proposed custom fuel monitoring schedule is acceptable because it  
is consistent with guidance that the U.S. Environmental  
Protection Agency (EPA) previously issued regarding such  
schedules. In addition, the Florida Power Corporation proposal  
to use fuel analysis results from sampling conducted at the  
Florida Gas Transmission Company Brooker Lab for all three plants  
is acceptable since there are no additional entry points for  
natural gas or other sulfur containing streams between the  
proposed sampling site and the three plants in question.

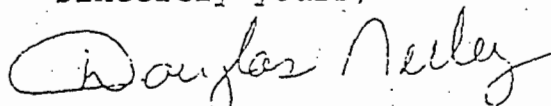
According to 40 C.F.R. §60.334(b)(2), owners and operators  
of stationary gas turbines subject to Subpart GG are required to  
monitor fuel nitrogen and sulfur content on a daily basis if a  
company does not have intermediate bulk storage for its fuel.  
40 C.F.R. §60.334(b)(2) also contains provisions allowing owners  
and operators of turbines that do not have intermediate bulk  
storage for their fuel to request approval of custom fuel

monitoring schedules that allow for less frequent monitoring of fuel nitrogen and sulfur content. In a memorandum dated August 14, 1987, the EPA Compliance Monitoring Branch provided guidance regarding acceptable custom fuel monitoring provisions for natural gas fired turbines, and this memorandum also gave EPA regional offices the authority to approve custom fuel monitoring schedules for Subpart GG turbines.

Under the EPA guidance issued in 1987, the requirement to monitor the nitrogen content of pipeline quality natural gas was waived entirely since the Agency determined that this type of fuel does not contain any fuel-bound nitrogen that can cause NO<sub>x</sub> emissions. As an alternative to daily sulfur monitoring, the 1987 policy describes a three stage process under which owners and operators of natural gas fired turbines can obtain approval to conduct sampling on a semiannual basis. In the first step of this process the sulfur content of the fuel must be monitored on a bimonthly basis for at least six months. If the results of this bimonthly monitoring verify compliance with the applicable sulfur limit and indicate little variability in the sulfur content of the fuel, the fuel sampling and analysis frequency can be reduced from a bimonthly to a quarterly basis. If six quarters of fuel monitoring data verify compliance with the applicable sulfur standard and indicate little variability in the sulfur content of the fuel, the sampling and analysis frequency can be reduced to a semiannual basis. Since the custom fuel monitoring approach proposed by the Florida Power Corporation for the natural gas fired turbines at the Intercession City, DeBary, and Suwannee Plants is identical to that outlined in the policy issued by EPA in 1987, it is acceptable to Region 4.

If you have any questions about the determination provided in this letter, please contact Mr. David McNeal of my staff at 404/562-9102.

Sincerely yours,



R. Douglas Neeley  
Chief  
Air and Radiation Technology  
Branch  
Air, Pesticides and Toxics  
Management Division

cc: Charles Logan, FL DEP

**Attachment No. 4 - Natural Gas Sulfur Analysis**

Amendment to AC 61-11862, 61-11863, & 61-11864/PSD-FL-014(A) Permits  
NSPS Custom Fuel Monitoring Schedule  
Florida Power Corporation  
Suwannee River Plant

Southern Natural Gas Company  
Post Office Box 147  
Chalmette LA 70044  
504 682 6200

## SOUTHERN NATURAL GAS

To: Scott Osbourn  
Subject: Sulfur and BTU data for Florida Power  
Date: January 14, 1998


Dear Mr. Osbourn:

Captioned are the results that you requested concerning sulfur and BTU content sampled from Southern Natural Gas' pipeline. These results were based on "spot" samples and were taken with cylinders that comply to sulfur and BTU measurement standards.

Date Sampled	Sulfur Grams/100 cu ft.	BTU @ 14.73 dry
7-1-97	0.00416	1024
7-14-97	0.00198	1025
8-14-97	0.0030	1025
8-28-97	0.0198	1025
9-23-97	0.00396	1026
10-9-97	0.00297	1024
10-21-97	0.00396	1019
10-24-97	0.00554	1026
11-14-97	0.00812	1029
12-19-97	0.00396	1028

Please feel free to call the lab with any further questions or concerns.

Respectfully,



Dwight J. Romig  
Chemist

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JAN 20 1998

BUREAU OF  
AIR REGULATION

Mr. Joseph W. Landers, Jr.  
 August 11, 1978  
 Page Four

BACT Determination by Florida Department of Environmental Regulation:

Nitrogen Dioxide: 75 ppm by volume at 15 percent oxygen on a dry basis, adjusted to ISO.

The proposed standard would be EPA's proposed New Source Performance Standard. NO<sub>x</sub> emissions from gas turbines, therefore, would be limited according to the following equation:

$$STD = (.0075 E) + F$$

Where:

STD = allowable NO<sub>x</sub> emission (percent by volume at 15 percent oxygen)

E = efficiency adjustment factor:  $\frac{14.4 \text{ kilojoules/watt}\cdot\text{hr}}{\text{Actual ISO heat rate}}$

F = fuel-bound nitrogen allowance:

<u>Fuel-Bound Nitrogen</u> percent by weight (N)	<u>F</u> (NO <sub>x</sub> - percent by volume)
(N) less than 0.015 percent	0
(N) between 0.015 and 0.1 percent	0.04 (N)
(N) between 0.1 and 0.25 percent	0.004 + 0.0067 (N-0.1)
(N) greater than 0.25 percent	0.005

During performance tests to determine compliance with the proposed standard, measured NO<sub>x</sub> emission at 15 percent oxygen would be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_{x_{obs}}) \left( \frac{P_{ref}}{P_{obs}} \right)^{0.5} e^{19 (H_{obs} - 0.00633)}$$

Where:

NO<sub>x</sub> = Emissions of NO<sub>x</sub> at 15 percent oxygen and ISO standard ambient conditions.

Mr. Joseph W. Landers, Jr.  
August 11, 1978  
Page Five

$NO_x_{obs}$  = Measured  $NO_x$  emission at 15 percent oxygen, ppmv.  
 $P_{ref}$  = Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.  
 $P_{obs}$  = Measured combustor inlet absolute pressure.  
 $H_{obs}$  = Specific humidity of ambient air.  
 $e$  = Transcendental constant (2.718)

Sulfur Dioxide: 95 ppm by volume corrected to 15 percent oxygen in a dry basis, or 0.5% Sulfur by weight in fuel

Hydrocarbons: None

Carbon Monoxide: None

Particulates: None

Opacity: Less than 20%

Justification of DER Determination:

Nitrogen Dioxide

The proposed standard was selected after carefully examining the recommendations of the study group and the SSIES document for EPA's proposed standard. The SSIES document showed test data on 8 simple cycle peaking gas turbines. Of these, only 6 were fired with distillate fuel. Tests for controlled emissions were available for 4 of these 6 turbines. Test results showed a range in emission of 55 to 80 ppmv (after EPA's proposed upward correction for turbine efficiencies above 25%). Although three of these four turbines had emissions below or at the 60 ppmv level, the EPA's 75 ppmv standard was preferred because it allowed for the uncertain validity of the limited test data available.

SO<sub>2</sub>

The only available and economically feasible technique for sulfur dioxide emission control is low sulfur oil. Other techniques for tail gas cleanup cost two to three times as much as the turbine itself.

In selecting the 0.5% S fuel by weight as the standard, the availability of this fuel and the relative economic advantage of its use were considered.

Mr. Joseph W. Landers, Jr.  
August 11, 1978  
Page Six

The lower 0.3% S by weight proposed by two members of the study group would result in an increase in fuel cost of 1.8% or about \$53,500/unit per year - a conservative estimate. Increases in ambient air concentrations expected to result from the operation of the turbines do not justify the need for the more stringent standard and increased cost of production.

HC, CO, Particulates:

The SSEIS document shows insignificant impact on ambient air from the limited gas turbines emissions of these pollutants.

Opacity:

The proposed standard is consistent with the SSEIS document and agrees with the recommendation of two of the three members of the group proposing an opacity standard.

Details of Analysis May be Obtained by Contacting:

Victoria Martinez  
Bureau of Air Quality Management  
Department of Environmental Regulation  
2600 Blair Stone Road  
Twin Towers Office Building  
Tallahassee, Florida 32301

Recommendation from: Bureau of Air Quality Management

by: J. P. Subramani  
J. P. Subramani

DATE: AUGUST 11, 1978

Approved by: Victoria Landers, Jr.  
J. W. Landers, Jr.  
Secretary

DATE: August 16, 1978



DEP ROUTING AND TRANSMITTAL SLIP

TO: (NAME, OFFICE, LOCATION) 3. \_\_\_\_\_  
1. BAR/DARM - MS# 55054.  
MARTY Costello  
2. \_\_\_\_\_ 5. \_\_\_\_\_

PLEASE PREPARE REPLY FOR:  
 SECRETARY'S SIGNATURE  
 DIV/DIST DIR SIGNATURE  
 MY SIGNATURE  
 YOUR SIGNATURE  
 DUE DATE \_\_\_\_\_

ACTION/DISPOSITION  
 DISCUSS WITH ME  
 COMMENTS/ADVISE  
 REVIEW AND RETURN  
 SET UP MEETING  
 FOR YOUR INFORMATION  
 HANDLE APPROPRIATELY  
 INITIAL AND FORWARD  
 SHARE WITH STAFF  
 FOR YOUR FILES

COMMENTS:

*see 1481 correspondence*

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JAN 29 1997

BUREAU OF  
AIR REGULATION

*per Johnny Cole*

FROM: NED-JAX  
Dereen - AIR *JB* DATE: 1/27/97 *SS* ext 233  
PHONE: 880-4310



January 27, 1997

**RECEIVED**

**JAN 28 1997**

**BUREAU OF  
AIR REGULATION**

Mr. Al Linero, P.E.  
Administrator, New Source Review Section  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Re: Request to Burn Natural Gas in FPC Combustion Turbines  
DeBary DEP Permit No. AO49-203114  
Suwannee DEP Permit No. AO61-189579

Florida Power Corporation (FPC) has the opportunity to use, on an interruptible basis, natural gas as a supplemental fuel in peaking units at DeBary (P7-P10) and Suwannee (P1-P3). Accordingly, on November 7, 1996, FPC submitted an application for an air construction permit to install natural gas-firing capability at the DeBary site. (An application for the Suwannee site followed on December 16, 1996.) Additional information was requested by Department letter (dated December 2, 1996) regarding: whether FPC had intended to fire gas in these units when they were originally constructed, what modifications were necessary to burn gas, fuel costs, the description of any restrictions or limitations in our natural gas contract, the feasibility and economics of installing dry low NO<sub>x</sub> combustors in these units, and an emissions comparison of the before and after case to determine PSD applicability. FPC responded to these issues in a letter to the Department dated January 6, 1997. In follow-up conversations with the Department, FPC was requested to supply additional information regarding the PSD applicability issue. Although the Department has only formally requested this additional information for DeBary, the issue is the same for the proposed Suwannee conversion. Therefore, this letter serves to transmit the additional information it is believed that the Department requires for both the DeBary and Suwannee plant sites.

The salient issue in the permitting of the DeBary and Suwannee peaker conversions to natural gas is the Department's position regarding PSD applicability. Such a determination is based on comparing past emissions to emissions after the proposed modification. The Department may use several different approaches to conduct this determination: past actual-to-future actual, past actual-to-future potential, or past potential-to-future potential.

A comparison of past actual-to-future potential emissions will nearly always result in a determination of PSD applicability, as the past actual operating history of a unit rarely comes close to the allowable operating limit. This is particularly true for peaking units, whose operating capacities are dependent on the operability of other base load units within the FPC generating mix. FPC believes that it is inappropriate to use a past actual-to-future potential emissions test for these peaker conversions as, by definition, the nature of a peaker's operation is highly variable.

To demonstrate this point, FPC's System Planning Department has conducted several computer runs of the estimated operating hours of all the peaking units within our system for four scenarios. These scenarios are based on the fact that FPC's Crystal River nuclear facility will be inoperable until the fourth quarter of 1997. These scenarios are meant to illustrate how dependent each peaker's operating schedule is on other factors within FPC's system, rather than just what happens at a particular peaker site, such as a natural gas conversion. The four scenarios are: 1) assuming the nuclear unit remains in operation for 1997 (baseline), and the proposed gas conversions do not take place; 2) assuming the nuclear unit remains in operation for 1997 and the proposed gas conversions occur; 3) assuming the nuclear unit will not be in operation until October 1, 1997 and the gas conversions do not occur; and 4) assuming the nuclear unit will not be in operation until October 1, 1997 and the proposed gas conversions occur.

The attached Table 1 was constructed from the System Planning data discussed above, as well as Annual Operating Reports for the years 1993 through 1996. Table 1 provides a view of annual operating hours for a five year period (including estimated hours for 1997, under four different scenarios), for the peakers at Suwannee (P1-P3), DeBary (P7-P10), and the peakers converted to natural gas at Intercession City (P7-P10). It's interesting to note that the nuclear unit being down has the effect of almost doubling FPC's systemwide peaker operating hours (i.e., Cases S1 and S2 of approximately 21,000 hours vs. cases S3 and S4 of approximately 37,000 hours). Cases S3 and S4 show that, with the nuclear unit down and the proposed gas conversion, the systemwide peaker hours actually decrease slightly. It's interesting to note that if the nuclear unit had not gone down and the proposed gas conversions were to take place (Case S2), *in no instance would any of these peakers of interest have operated more than they are projected to operate this year on oil with the nuclear unit down (Case S3)*. All background data used in compiling this table is included in an appendix to this letter.

EPA's discussion of current law in the WEPCo rule preamble makes clear that, by limiting the revised rule regarding the so-called "demand growth exclusion" to electric utility steam generating units, the Agency did not intend to foreclose application of the similar exclusion that is currently available to all other sources. In the preamble, EPA expressly recognizes that the NSR regulatory provisions require that the physical or operational change *result in* an increase in actual emissions in order to consider that change to be a modification." According to EPA the new provision does not diminish the scope of coverage of the NSR regulations." 57 Fed. Reg. at 32,327. In other words, EPA expressly recognizes that, under current law applicable to all sources, the "result in" language of the NSR regulations demands that emissions attributable to factors independent of a physical or operational change (e.g., demand growth, other external factors, etc.) be excluded from calculating an emission increase following that physical or operational change. EPA continues, where "projected increased operations are in response to an independent factor such as demand growth, which could have occurred and

affected the unit's operations during the representative baseline period even in the absence of the physical or operational change," such increased operations "cannot be said to result from the change and therefore may be excluded from the projection of the unit's future actual emissions." *Id.* (emphasis added). Again, as stated above, a comparison of Cases S2 and S3 illustrate that the increase in operating hours of the subject peakers would have occurred even in the absence of the proposed modifications.

Under the State of Florida's definition of actual emissions (62-210.200(12)(b)), the Department may presume that unit-specific allowable emissions for an emission unit are equivalent to the actual emissions (i.e., past actuals may be considered to be equivalent to allowable emissions) provided that, for any regulated air pollutant, such unit-specific allowable emission limits are federally enforceable. It is important to note that comparing potential-to-potential emissions for the switch from No. 2 fuel oil to natural gas results in significant decreases of all criteria pollutants, except for the case of CO and VOC emissions at Suwannee, where slight increases are predicted. The potential comparisons in the following tables are based on maximum allowable operation at each site (i.e., 1,500 hr/yr at Suwannee and 3,390 hr/yr at DeBary).

#### DeBary Conversion- Emissions Comparison

Pollutant	No. 2 Fuel Oil		Natural Gas	
	lb/hr	tons/yr	lb/hr	tons/yr
NO <sub>x</sub>	182	1,234	107	726
PM/PM <sub>10</sub>	17	116	7.5	51
CO	54	365	21	144
VOCs	5	34	3	20
SO <sub>2</sub>	555	1,925	3	20
SAM	69	469	0.4	3

#### Suwannee Conversion- Emissions Comparison

Pollutant	No. 2 Fuel Oil		Natural Gas	
	lb/hr	tons/yr	lb/hr	tons/yr
NO <sub>x</sub>	210	473	144	323
PM/PM <sub>10</sub>	38	86	31	70
CO	179	402	193	435
VOCs	23	51	25	56
SO <sub>2</sub>	379	853	2	5
SAM	12	26	0.4	1

Mr. Linero  
January 27, 1997  
Page 4

FPC hopes that the information given satisfactorily addresses your questions. FPC wishes to use the limited amount of natural gas which has become available to it. The already-installed water injection control technology will limit NO<sub>x</sub> emissions, reducing emissions when compared to those from burning fuel oil, and resulting in a benefit to the environment.

Please feel free to contact me at (813) 866-5158 if you should have any questions.

Sincerely,



Scott H. Osbourn  
Senior Environmental Engineer

Attachments

cc: Martin Costello, DEP DARM  
Chris Kirts, DEP NE District  
Len Kozlov, DEP Central District  
Ken Kosky, KBN/Golder

TABLE 1. FPC PEAKER OPERATING HISTORY AND PROJECTIONS

UNIT	OPERATING HOURS							
	1993	1994	1995	1996	S1	S2	S3	S4
Suwannee								
P1	329	92	98	196	355	440	979	1223
P2	308	100	94	215	155	236	565	952
P3	174	61	86	192	245	285	763	1070
DeBary								
P7	17	499	438	663	523	1053	1157	1653
P8	679	492	371	711	467	999	1125	1612
P9	573	426	439	753	392	914	1016	1488
P10	728	382	379	630	288	854	870	1426
Int. City								
P7	193	873	649	1125	1299	1025	2139	1851
P8	222	724	562	1269	1193	909	1992	1698
P9	68	697	715	1177	1090	801	1854	1557
P10	155	579	512	1186	992	697	1732	1411
<b>Total Systemwide Peaker Hours</b>					21,427	21,013	37,316	36,731

S1 -- nuclear unit operating, no gas conversions

S2 -- nuclear unit operating, with gas conversions

S3 -- nuclear unit down until 10/1/97, no gas conversions

S4 -- nuclear unit down until 10/1/97, with gas conversions

1210003-002-AC



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**JAN 21 1997**

**BUREAU OF  
AIR REGULATION**

January 20, 1997

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).

On December 16, 1996, Florida Power Corporation (FPC) submitted an application for an air construction permit to install natural gas-firing capability for combustion turbines at the above-referenced site. FPC had enclosed four copies of the application, as well as a check in the amount of \$250.00 for the processing of this application.

On December 20, 1996, FPC received a letter from the Department indicating that the project would require a PSD review and, therefore, an additional \$7,250 was necessary to begin processing the application.

This letter serves to transmit additional information to the Department indicating that PSD does not apply. Specifically, manufacturer's data was used to optimize the proposed water-to-fuel ratio for natural gas firing, resulting in less than significant emission increases for all PSD pollutants. It should also be noted that, at the maximum operating capacity of the units (1,500 hr/yr), the gas conversion project would result in a NO<sub>x</sub> emission reduction of 150 tons per year.

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", written over a horizontal line.

Scott H. Osbourn  
Senior Environmental Engineer

Enclosure

1210003-002-AC



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.

*Donald F. Kirby*

Signature  
(seal)

1/17/97  
Date

\* Attach any exception to certification statement.

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JAN 21 1997  
BUREAU OF  
AIR REGULATION

**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 On-spec used oil 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. Resulting net emission increases for all pollutants are less than PSD significant levels, therefore, the modification is considered "minor".

FPC proposes to operate its water injection system at a 0.40 water-to-fuel ratio on natural gas vs. the currently permitted ratios for No. 2 fuel oil of no less than 0.526 for P1, 0.486 for P2, and 0.505 for P3. These minimum water-to-fuel ratios, set during initial compliance testing, were necessary to meet NO<sub>x</sub> NSPS standards. The proposed minimum ratio of 0.4 will not only achieve the NSPS standards, but also results in significant NO<sub>x</sub> reductions, while maintaining emissions increases of CO and VOC below PSD significant levels. Turbine manufacturer's design information suggest that operating with natural gas causes a decrease in NO<sub>x</sub> emissions of approximately 4.56 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 434.7 TPY (proposed), or a 33.0 TPY increase. A 4.56 lb/hr NO<sub>x</sub> decrease for every 1 lb/hr CO increase could potentially decrease NO<sub>x</sub> emissions by 150.0 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 25.8 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 much greater rate than CO emissions are increased.

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

Pollutant Detail Information:

1. Pollutant Emitted: NOX		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	210.22 lb/hour	157.66 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr		
6. Emission Factor:		94.8 ppmvd
Reference: AC61-11862, 63, & 64		
7. Emissions Method Code:  <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):  <p>The potential emissions are based on No. 2 fuel oil. The NOx emissions from natural gas are as follows: NOx (lb/hr)= 143.6, NOx (ton/yr)= 107.7. Potential hourly emissions from natural gas are based on vendor data @ 59°F and a 0.40 water/fuel ratio. Potential annual emissions for both No. 2 fuel oil and natural gas are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <p>Emission limit established is BACT; each gas turbine limited to 1,500 hr/yr operation.</p>		

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

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: See comment		
4. Equivalent Allowable Emissions:	210.22 lb/hour	157.66 tons/year
5. Method of Compliance (limit to 60 characters): Water to fuel ratio		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):  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.

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):		

Emissions Unit Information Section 1 of 1

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

Pollutant Detail Information:

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control:		0 %
3. Potential Emissions:	178.6 lb/hour	133.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[ ] 1	[ ] 2	[ ] 3 _____ to _____ tons/yr
6. Emission Factor:		
Reference: Manufacturer data		
7. Emissions Method Code:		
[x] 0	[ ] 1	[ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters):		
<p>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 above the level proposed in this application. The CO emissions from natural gas are as follows: CO (lb/hr)= 193.2, CO (ton/yr)= 144.9. Potential hourly emissions for natural gas are based on manufacturer's data at 59°F and a water/fuel ratio of 0.40. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
<p>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.</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) (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) (limit to 200 characters):		

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

Pollutant Detail Information:

1. Pollutant Emitted: VOC		
2. Total Percent Efficiency of Control:		0 %
3. Potential Emissions:	22.6 lb/hour	16.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3 _____ to _____ tons/yr
6. Emission Factor:		
Reference: Manufacturer data		
7. Emissions Method Code:		
<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):		
<p>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 above the level proposed in this application. The VOC emissions from natural gas are as follows: VOC (lb/hr)= 24.8, VOC (ton/yr)= 18.6. Potential hourly emissions from both No. 2 fuel oil and natural gas are based on manufacturer's data at 59°F and a water/fuel ratio of 0.40. Potential annual emissions for all fuels are based on 1,500 hr/yr. (See Attachment SU-E01-H8)</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
<p>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.</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) (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) (limit to 200 characters):		

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	
NOx = based on manufacturer				
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
Natural Gas				
Basis, ppmvd @ 15% O2	68.0	68.0	68.0	
lb/hr	143.6	143.6	143.6	430.8
TPY	107.7	107.7	107.7	323.1
CO = Based on manufacturer				
Oil				
lb/hr	178.6	178.6	178.6	535.8
TPY	133.9	133.9	133.9	401.7
Natural Gas				
lb/hr	193.2	193.2	193.2	579.6
TPY	144.9	144.9	144.9	434.7
PM/PM10				
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
SO2				
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

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	
VOC = Based on manufacturer				
Oil				
lb/hr	22.6	22.6	22.6	67.8
TPY	16.9	16.9	16.9	50.7
Natural Gas				
lb/hr	24.8	24.8	24.8	74.4
TPY	18.6	18.6	18.6	55.8
Sulfuric Acid Mist				
Oil (lb/hr) = From CT Exhaust [Fuel consumption (lb/hr) x S content (fraction) x (Conversion (fraction) of S to H2SO4) x lb H2SO4/lb S]				
Fuel consumption (lb/hr)	37,551.0	37,551.0	37,551.0	
Sulfur Content (%)	0.5	0.5	0.5	
lb H2SO4/lb S (98/32)	3.1	3.1	3.1	
CT Exhaust % S Conversion to H2SO4	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 H2SO4] x lb H2S				
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 H2SO4/lb S (98/32)	3.1	3.1	3.1	
CT Exhaust % S Conversion to H2SO4	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

\* Emission estimates on No. 2 fuel oil are based on a minimum water-to-fuel (W/F) ratio of approximately 0.50.  
Emissions estimates on natural gas are based on a minimum W/F ratio of 0.40.

## 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 on No. 2 fuel oil 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)]. For those reasons stated under Attachment SU-AI-AC (Application Comment), a minimum water-to-fuel ratio of 0.40 will be maintained during natural gas combustion.

Date: 12/20/96 8:43:41 AM  
From: Alvaro Linero TAL  
Subject: FPC Suwannee  
To: Martin Costello TAL  
To: Kim Tober TAL  
To: Bob Leetch JAX  
CC: Christopher Kirts JAX

We received a PSD application from FPC for its Suwannee River Peaker plant. FPC will use natural gas on an interruptible basis while fuel oil No.2 will continue to be the main fuel. The main pollutant is CO which turns this into a PSD source. Marty - you might look into the cost being discussed here for catalyst control for CO versus what Reedy Creek says it costs.

Bob - Chris was sent a copy of the application. Please send any comments to Marty. He will let you know if he visits the plant.

Kim. Log in and place on docket with AIRS file number. Ask Marty how to designate it on docket and start clock.



# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

December 20, 1996

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Scott H. Osbourn  
Senior Environmental Engineer  
Florida Power Corporation  
P. O. Box 14042  
St. Petersburg, FL 33733

Dear Mr. Osbourn:

RE: Florida Power Corporation  
FPC Suwannee Plant  
Combustion Turbine Natural Gas Conversion

The Bureau of Air Regulation received your December 16, 1996 request for the above referenced project, along with a \$250 processing fee. Since this project will require a PSD review, we will need an additional \$7,250 to begin processing the application. If you have any questions, please call Marty Costello at (904)488-1344.

Sincerely,

A. A. Linero, P.E.  
Administrator  
New Source Review Section

AAL/kt

cc: Marty Costello

P 265 659 112

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sender	
Scott Osbourn	
Street & Number	
Fla Power Corp	
Post Office, State, & ZIP Code	
St. Pete, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	12-20-96
FPC	

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

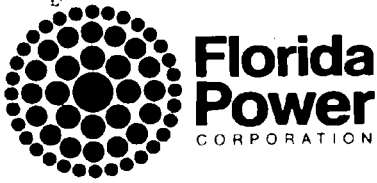
Consult postmaster for fee.

3. Article Addressed to: Scott Osbourn Fla. Power Corp P O Box 14042 St. Pete, FL 33733	4a. Article Number P 265 659 112
	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
5. Received By: (Print Name)	7. Date of Delivery DEC 23 1996
6. Signature: (Addressee or Agent) X C. Rose	8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.



December 16, 1996

**RECEIVED**

DEC 19 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".

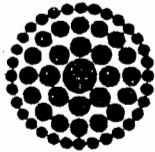
Scott H. Osbourn  
Senior Environmental Engineer

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

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. Donalson*  
Treasurer



# **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: Street Address or Other Locator: <b>S of US Rte 90-NW of Live Oak</b> City: <b>Live Oak</b> County: <b>Suwannee</b> Zip Code: <b>32462</b>	
5. Relocatable Facility? [ ] Yes [ <b>X</b> ] No	6. Existing Permitted Facility? [ <b>X</b> ] 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: <b>W. Jeffrey Pardue, Director-Environmental Services Dep</b>
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: <b>Florida Power Corporation</b> Street Address: <b>3201 34th Street South</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33711</b>
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: <b>(813)866-4387</b> Fax: <b>(813)866-4926</b>
4. Owner/Authorized Representative or Responsible Official Statement: <p>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.</p>
 Signature: <u>W. Jeffrey Pardue</u> 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>
Unit #	Unit ID		
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: <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> Registration Number: <b>14996</b>
2. Professional Engineer Mailing Address: Organization/Firm: <b>KBN Eng. and Applied Sciences, Inc.</b> Street Address: <b>6241 NW 23rd Street, Suite 500</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32653-1500</b>
3. Professional Engineer Telephone Numbers: 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.*

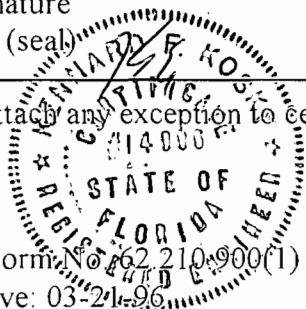
*If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or 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]* \_\_\_\_\_ *10/22/96* \_\_\_\_\_  
Signature Date

(seal)

\* Attach any exception to certification statement.



Application Contact

1. Name and Title of Application Contact: <b>Scott Osbourn, Senior Environmental Engineer</b>
2. Application Contact Mailing Address:  Organization/Firm: <b>Florida Power Corporation</b> Street Address: <b>3201 34th Street South</b> City: <b>St. Petersburg</b> State: <b>FL</b> Zip Code: <b>33711</b>
3. Application Contact Telephone Numbers:  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 On-spec used oil 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: Zone: <b>17</b> East (km): <b>290.5</b> North (km): <b>3362.2</b>			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): <b>30 / 22 / 35</b> Longitude: (DD/MM/SS): <b>83 / 10 / 50</b>			
3. Governmental Facility Code:  <b>0</b>	4. Facility Status Code:  <b>A</b>	5. Facility Major Group SIC Code:  <b>49</b>	6. Facility SIC(s):  <b>4911</b>
7. Facility Comment (limit to 500 characters):  <p><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></p>			

#### Facility Contact

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

**Facility Regulatory Classifications**

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

**B. FACILITY REGULATIONS**

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

A large, empty rectangular box with a thin black border, occupying the central portion of the page. It is intended for the user to provide a Rule Applicability Analysis for Category II and III applications involving non Title-V sources.



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

### Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
9. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <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 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 - Permits/Revisions  
62-213.410 - Changes without permit revisions  
62-213.420.(1)(b)2. - Permits-allows continued operation  
62-213.420.(1)(b)3. - Permits-additional information  
62-213.460 - Permit Shield  
62-213.900(1) - Fee Form

Open Burning:

62-256.300 - Prohibitions  
62-256.500 - Land Clearing  
62-256.700 - Open burning Allowed

Asbestos Removal:

62-257.301 - Notification and Fee  
62-257.400 - Fee Schedule  
62-257.900 - Form

Stationary Sources-Emission Standards:

62-296.320(2) (State Only) - Odor  
62-296.320(3)(b)(State Only) - Emergency Open Burning  
62-296.320(4)(b) - General VE Standard  
62-296.320(4)(c) - 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 - Prohibited Activities  
40 CFR 61.12(b) - Compliance with work practice standard  
40 CFR 61.19 - Circumvention  
40 CFR 61.145 - Demolition and Renovation  
40 CFR 61.148 - Standard for Insulating Material

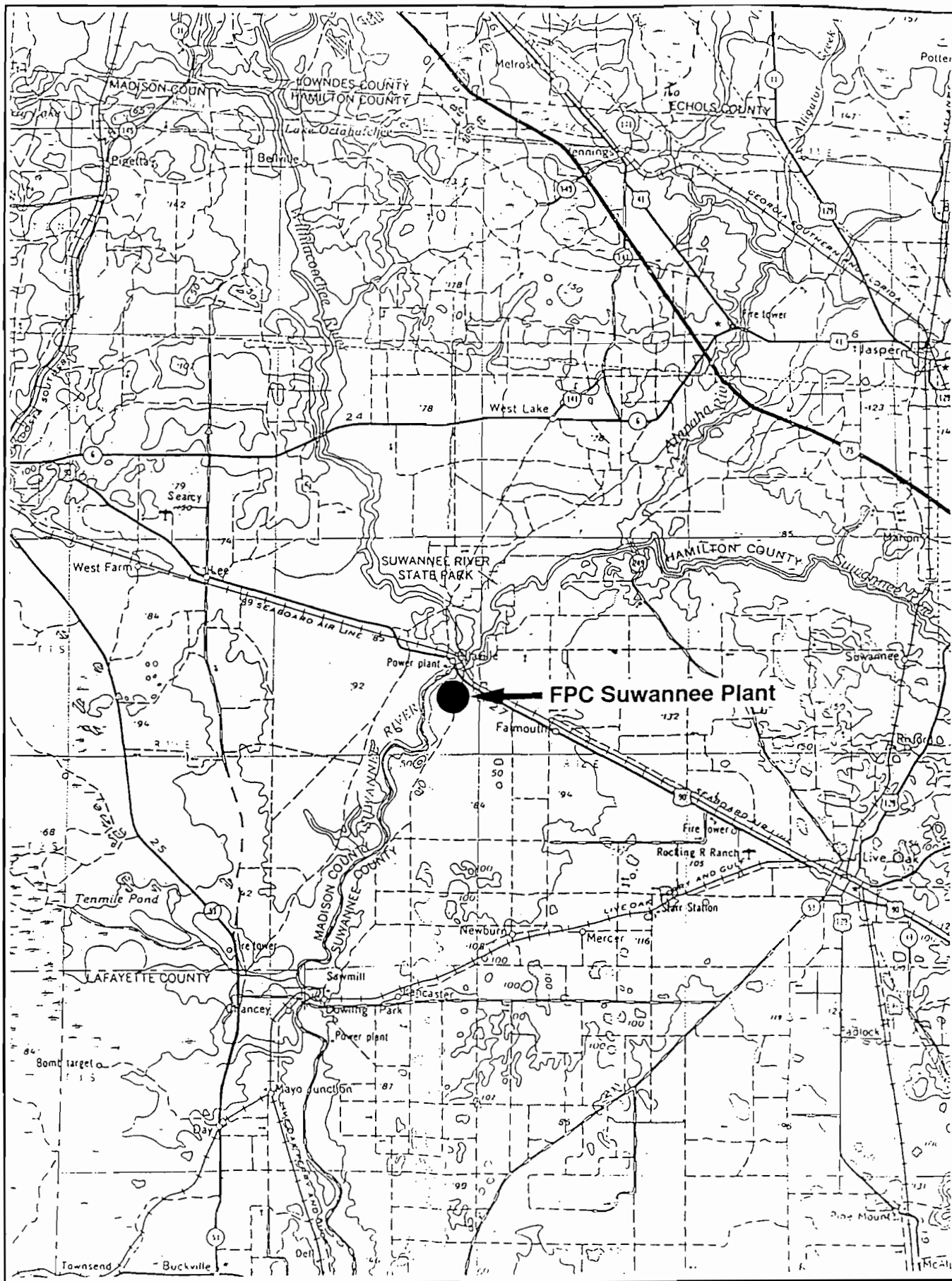
CFCs equal to or greater than 50 lb charge:

40 CFR 82.166(k) - Service Documentation/Certification  
40 CFR 82.166(m) - Recordkeeping



**ATTACHMENT SU-FI-E1**

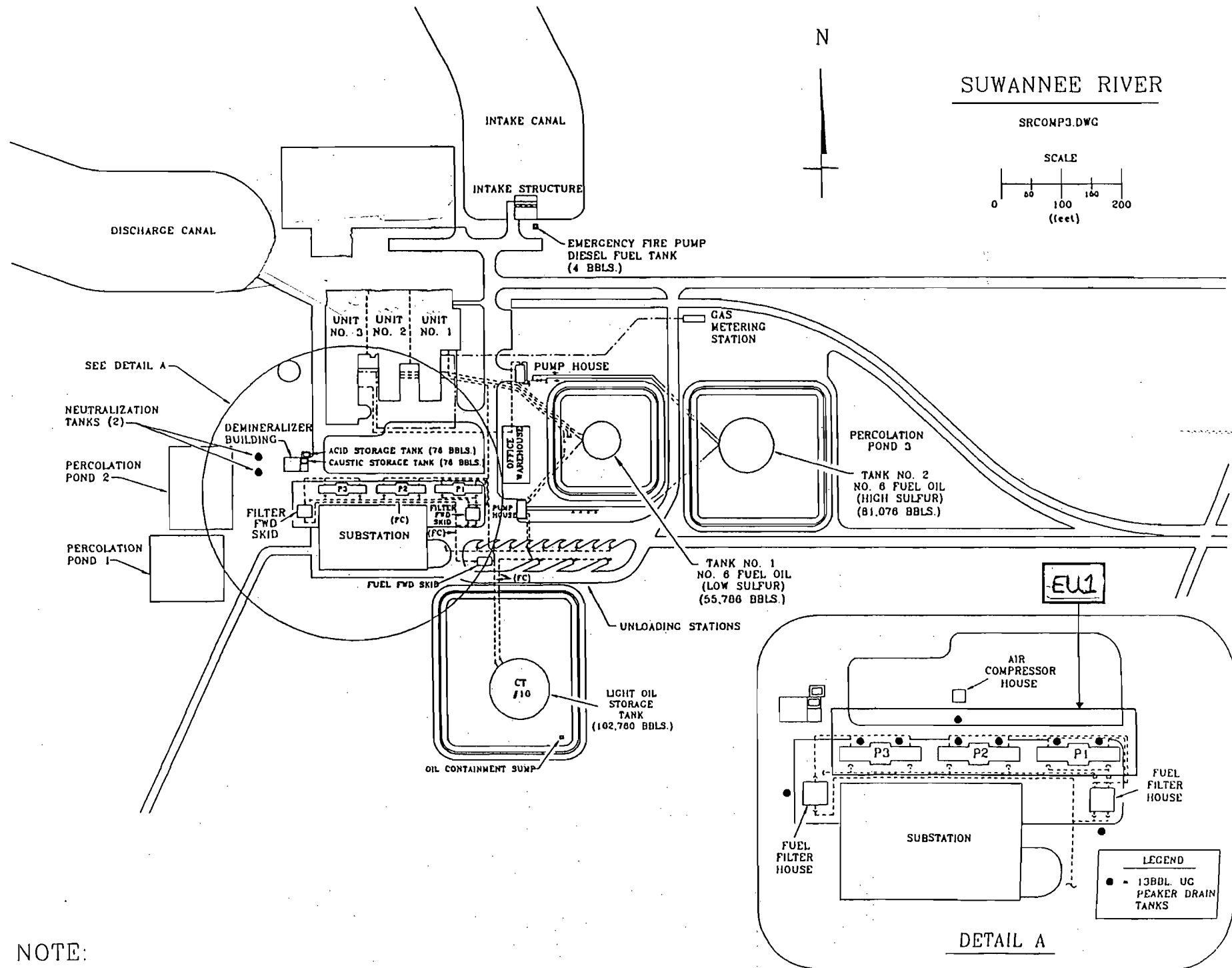
**AREA MAP**



Attachment SU-FI-E1  
Area Map

**ATTACHMENT SU-FI-E2**

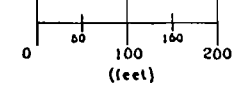
**FACILITY PLOT PLAN**



SUWANNEE RIVER

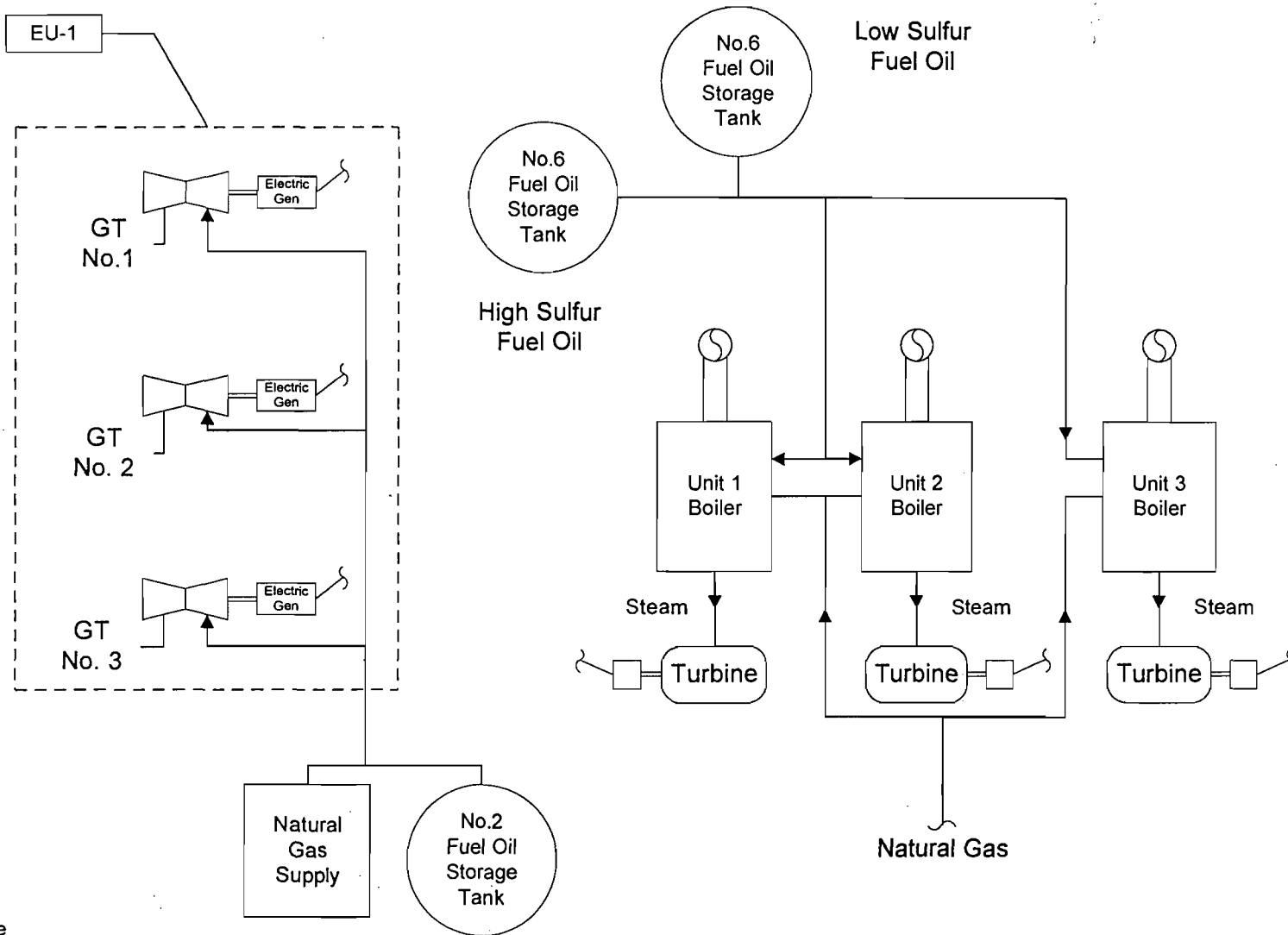
SRCOMP3.DWG

SCALE



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

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

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): <b>Combustion Turbine Units P1, P2 and P3</b>		
2. Emissions Unit Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown *		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>49</b>
6. Emissions Unit Comment (limit to 500 characters): <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):  <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:	29 Oct 1980	
2. Long-term Reserve Shutdown Date:		
3. Package Unit:		
Manufacturer:	Turbo Power and Marine Systems	Model Number: FT4C-3F
4. Generator Nameplate Rating:	63 MW	
5. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate:	739	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):		
	1. Maximum heat input per unit based on permit limit firing No. 2 fuel oil at ambient temperature of 59 °F	

**Emissions Unit Operating Schedule**

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	1,500 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: <b>EU1, See SU-FI-E2</b>	
2. Emission Point Type Code:  <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):  <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:  <b>Not Applicable</b>	
5. Discharge Type Code:  <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <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) (limit to 500 characters):  <b>No. 2 fuel oil</b>	
2. Source Classification Code (SCC):  <b>2-01-001-01</b>	
3. SCC Units:  <b>Thousand gallons burned</b>	
4. Maximum Hourly Rate:  <b>5.355</b>	5. Maximum Annual Rate:  <b>8,033</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:  <b>0.5</b>	8. Maximum Percent Ash:  <b>0.1</b>
9. Million Btu per SCC Unit:  <b>138</b>	
10. Segment Comment (limit to 200 characters):  <b>Maximum hourly rate based on permit heat input limit @ 59° F and heating value of fuel oil. 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) (limit to 500 characters): <b>On-specification used oil</b>	
2. Source Classification Code (SCC): <span style="float: right;"><b>1-01-013-02</b></span>	
3. SCC Units: <span style="float: right;"><b>Thousand gallons burned</b></span>	
4. Maximum Hourly Rate: <span style="float: right;"><b>5.355</b></span>	5. Maximum Annual Rate: <span style="float: right;"><b>8,033</b></span>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: <span style="float: right;"><b>0.5</b></span>	8. Maximum Percent Ash: <span style="float: right;"><b>0.9</b></span>
9. Million Btu per SCC Unit: <span style="float: right;"><b>138</b></span>	
10. Segment Comment (limit to 200 characters): <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) (limit to 500 characters):  <b>Natural Gas</b>	
2. Source Classification Code (SCC):  <b>2-01-002-01</b>	
3. SCC Units:  <b>Million cubic feet</b>	
4. Maximum Hourly Rate:  <b>0.739</b>	5. Maximum Annual Rate:  <b>1,109</b>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:  <b>0</b>	8. Maximum Percent Ash:  <b>0</b>
9. Million Btu per SCC Unit:  <b>1,000</b>	
10. Segment Comment (limit to 200 characters):  <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 Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	028		EL
NOX			EL
PM			EL
PM10			NS
CO			NS
VOC			NS
SAM			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:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr	
6. Emission Factor:	<b>0.5 %sulfur</b>  Reference: <b>AC61-11862, 63, &amp; 64</b>
7. Emissions Method Code:  <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):  <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):  <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: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <b>0.5 % sulfur fuel</b>		
4. Equivalent Allowable Emissions:	<b>379</b> lb/hour	<b>284.3</b> tons/year
5. Method of Compliance (limit to 60 characters): <b>Fuel analysis</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <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) (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 lb/hour                      157.66 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/yr	
6. Emission Factor: <b>94.8 ppmvd</b>  Reference: <b>AC61-11862, 63, &amp; 64</b>	
7. Emissions Method Code:  <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):  <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>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>Emission limit established is BACT; each gas turbine limited to 1,500 hr/yr operation.</b>	

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

**A.**

1. Basis for Allowable Emissions Code: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <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): <b>Water to fuel ratio</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <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:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr		
6. Emission Factor:		<b>38 lb/hr</b>
Reference: <b>AC61-11862, 63, &amp; 64</b>		
7. Emissions Method Code:  <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):  <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):  <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: <b>OTHER</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: <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) (limit to 200 characters): <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) (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:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/yr		
6. Emission Factor:		<b>38 lb/hr</b>
Reference: <b>AC61-11862, 63 &amp; 6A</b>		
7. Emissions Method Code:  <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):  <p><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></p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <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) (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) (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:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr		
6. Emission Factor:  Reference: <b>Manufacturer data</b>		
7. Emissions Method Code:  <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):  <p><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></p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <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) (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) (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                      16.9 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions: [ ] 1    [ ] 2    [ ] 3    _____ to _____ tons/yr	
6. Emission Factor:  Reference: <b>Manufacturer data</b>	
7. Emissions Method Code:  <input checked="" type="checkbox"/> 0    [ ] 1    [ ] 2    [ ] 3    [ ] 4    [ ] 5	
8. Calculation of Emissions (limit to 600 characters):  <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):  <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) (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) (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 lb/hour</b>	<b>8.6 tons/year</b>
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:  <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3    _____ to _____ tons/yr		
6. Emission Factor:  Reference:		
7. Emissions Method Code:  <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):  <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):  <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) (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) (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 Normal Conditions: <b>20</b> %      Exceptional Conditions:      % Maximum Period of Excess Opacity Allowed:      min/hour
4.	Method of Compliance: <b>Annual compliance test, EPA Method 9</b>
5.	Visible Emissions Comment (limit to 200 characters): <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 Normal Conditions:      %      Exceptional Conditions: <b>100</b> % Maximum Period of Excess Opacity Allowed: <b>60</b> min/hour
4.	Method of Compliance: <b>Best operation practice</b>
5.	Visible Emissions Comment (limit to 200 characters): <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: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):  <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: Monitor Manufacturer: 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.

- ] 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 NO2 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
		<input type="checkbox"/> Not Applicable	
7.	Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Not Applicable	
8.	Supplemental Information for Construction Permit Application	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Not Applicable	
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input 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)) Attached, Document ID: _____
	<input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____
	<input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____
	<input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) 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. - CT exemption if < 400 hrs/yr; VE test once every 5 years
- 62-297.310(7)(a)8. - FDEP Notification - 15 days
- 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) (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) (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

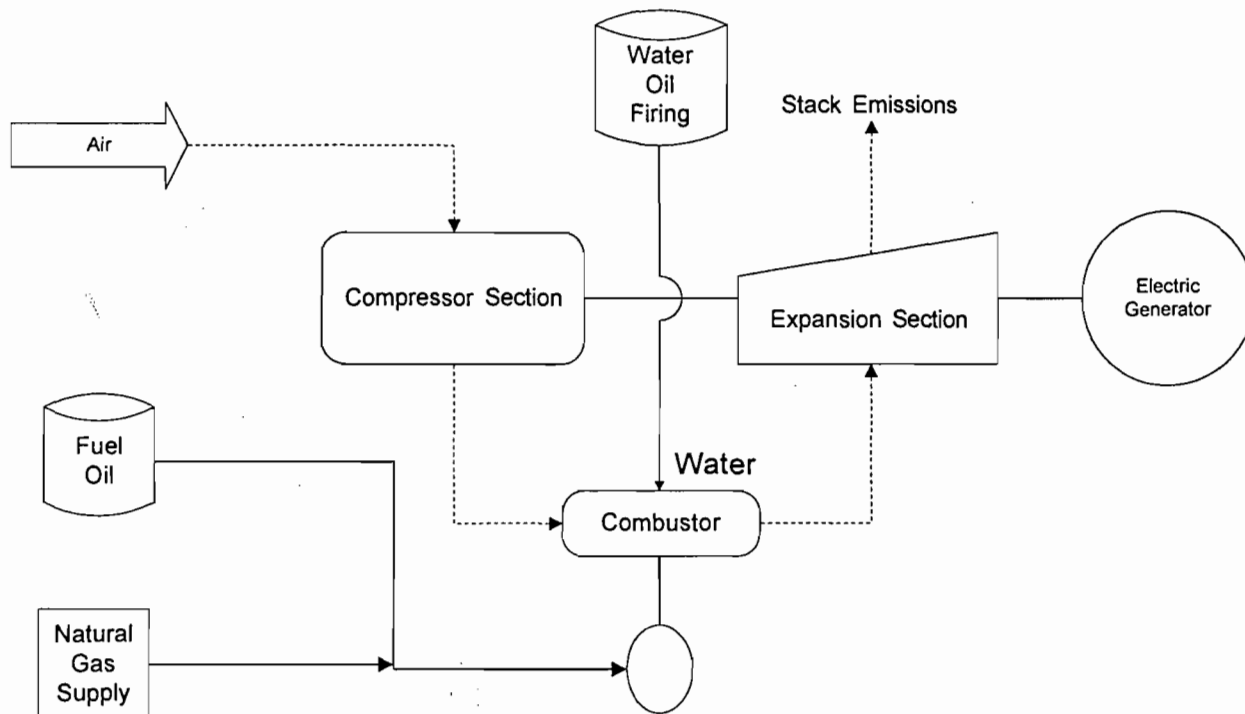
Pollutant	Operating Parameters 59 F			Total
	Unit P1	Unit P2	Unit P3	
NOx = based on manufacturer				
Oil Basis, ppmvd @ 15% O2	94.8	94.8	94.8	
lb/hr	210.2	210.2	210.2	630.6
TPY	157.7	157.7	157.7	473.1
Natural Gas				
Basis, ppmvd @ 15% O2	56.3	56.3	56.3	
lb/hr	119.1	119.1	119.1	357.3
TPY	89.4	89.4	89.4	268.2
CO = Based on manufacturer				
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
PM/PM10				
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
SO2				
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
VOC = Based on manufacturer				
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 (Conversion (fraction) of S to H2SO4) x lb H2SO4/lb S]				
Fuel consumption (lb/hr)	37,551.0	37,551.0	37,551.0	
Sulfur Content (%)	0.5	0.5	0.5	
lb H2SO4/lb S (98/32)	3.1	3.1	3.1	
CT Exhaust % S Conversion to H2SO4	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 H2SO4] x lb H2S				
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 H2SO4/lb S (98/32)	3.1	3.1	3.1	
CT Exhaust % S Conversion to H2SO4	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**

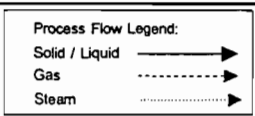
**PROCESS FLOW DIAGRAM**



**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



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



Engineering and Applied Sciences, Inc.

**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.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

MAR 13 1984

7/19 Bill

REF: 4AW-AM

DER

MAR 16 1984

BAOM

Mr. C. H. Fancy, Deputy Chief  
Bureau of Air Quality Management  
Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32301

RE: PSD-FL-014 Florida Power Corporation Suwannee River Peaking  
Units

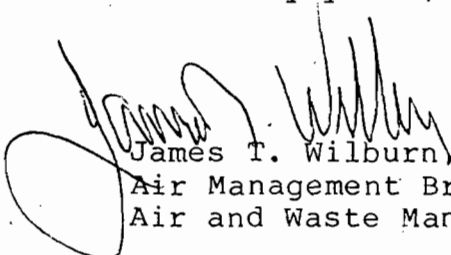
Dear Mr. Fancy:

We have reviewed Mr. G. W. Schaefer's letter to you dated February 9, 1984, requesting to modify Condition 3(b) of their PSD permit. Since these units are subject to New Source Performance Standards for Stationary Gas Turbines, it is not possible to delete the monitoring requirements of 40 CFR 60.334 contained within the permit. However, the frequency of determination of the sulfur content and nitrogen content of the fuels may be adjusted in accordance with the provisions of 40 CFR 60.334(b)(1) and (2).

These provisions state that: (1) if the turbine is supplied from a bulk storage tank, values shall be determined on each occasion that fuel is transferred to the storage tank from any other source; and (2) if the turbine is supplied its fuel without intermediate bulk storage, the values shall be determined and recorded daily. However, custom schedules may be submitted for approval by the Administrator for use in complying with the fuel monitoring requirement of the above referenced provisions.

If you have any questions regarding the use of such a schedule or the documentation required to verify the validity of the schedule, please do not hesitate to contact Jesse Baskerville, Acting Chief, Air Engineering Section at 404/881-4901.

Sincerely yours,

  
James T. Wilburn, Chief  
Air Management Branch  
Air and Waste Management Division



MAY 22 1980

RECEIVED  
MAY 27 1980

REF: 4AH-AF

Office of the Secretary

Mr. Gus Schaefer  
Florida Power Corporation  
3201 Thirty-fourth Street South  
P. O. Box 14042  
St. Petersburg, FL 33733

Re: PSD-FL-014

Dear Mr. Schaefer:

This is in response to your April 16, 1980 letter requesting that PSD condition 3(b), for Florida Power Corporation's Suwannee River Peaking Units, be amended.

It has been determined by this Division that based upon the figures presented in your recent submittal, which will become an amendment to your application, condition 3(b) as stated in the Final Determination dated July 9, 1979 is hereby deleted and the following amendment should be inserted in its place to read:

The applicant shall record weekly, the sulfur content, nitrogen content, and lower heating value of the fuel being fired in the gas turbine.

This letter should be attached and made a part of your current PSD Conditions for Approval of Florida Power Corporation's proposed Suwannee River Peaking Units, and will become effective on the date of this letter.

If you have any questions concerning this matter, please contact Bill Wagner of my staff at 404/881-4552.

Sincerely yours,

131

Tommie A. Gibbs  
Chief  
Air Facilities Branch

cc: FL DER  
TRW

*see back*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

4.17

JUN 24 1981

OFFICE OF ENFORCEMENT

Mr. Amasjit S. Gill  
General Electric - Gas Turbine Division  
One River Road  
Schenectady, New York 12345

Dear Mr. Gill:

This is to respond to your letter of May 19, 1981, requesting a determination of the applicability of NSPS and PSD to stationary gas turbines converting from middle distillates to natural gas.

The information presented in your letter indicated that NO<sub>x</sub> and SO<sub>2</sub> emissions will decrease after the conversion to natural gas and hydrocarbons, CO and particulate emissions will either remain the same or decrease. As you correctly pointed out in your letter, the NSPS would only apply if there is an increase in emissions of a pollutant to which the standard applies. The NSPS for gas turbines applies only to NO<sub>x</sub> and SO<sub>2</sub> emissions. Since the conversion from middle distillate fuel to natural gas for the turbines in question will cause a decrease in NO<sub>x</sub> and SO<sub>2</sub> emissions, it is not considered a modification as defined in 40 CFR 60.14(a). The turbines however, could be subject to the NSPS if the conversion falls under the definition of reconstruction (See 40 CFR 60.15).

PSD review would apply to a proposed modification at an existing major stationary source if it would cause a significant net increase in actual emissions of any regulated pollutant. In the case of the gas turbine conversions outlined in your letter, PSD applicability is determined by evaluating any change in emissions rates caused by the conversions. The data contained in your letter indicate that the emission rates after the conversion will either remain constant or decrease. Actual emissions could increase only if there is an increase in the production rate or hours of operation, both of which are specifically exempt from PSD review. (See 40 CFR 52.21(b)(2)(iii)(f)). Therefore, since there will not be any increase in emission rates or any creditable increases in actual emissions, the conversion of the gas turbines will not be subject to PSD review.

If you have any questions concerning this determination  
please contact Janet Farella of my staff at 202-755-2564.

Sincerely yours,

A handwritten signature in black ink, appearing to read "E. E. Reich". The signature is fluid and cursive, with a large initial "E" and "R".

Edward E. Reich, Director  
Division of Stationary  
Source Enforcement

cc: Peter Wyckoff  
Mike Trutna

PSD-FL-0014  
FPC SUWANNEE  
LIVE OAK

Final Determination

Review of a Proposed Air Pollution Source Pursuant to Environmental  
Protection Agency Rules for the Prevention of Significant Deterioration (PSD)

40 CFR 52.21

Suwannee River Power Plant

Four Gas Turbine Peaking Units

Florida Power Corporation, St. Petersburg, Florida

U.S. Environmental Protection Agency  
345 Courtland Street, N.E.  
Atlanta, Georgia 30308

## I. Introduction

The Florida Power Corporation has applied to the U.S. Environmental Protection Agency to construct four 63 megawatt oil-fired gas turbine peaking units at its Suwannee River Power Plant located in Suwannee County midway between the towns of Live Oak and Madison and on U.S. 90. The proposed construction is subject to review under 40 CFR 52.21, Regulations for the Prevention of Significant Deterioration (PSD). Under these regulations, a modification to a source of air pollution in any one of 28 specified categories which will increase the emission potential of that source by more than 100 tons per year of any pollutant, is subject to review for each of those pollutants. One of these categories is fossil fuel-fired steam electric plants of more than 250 million BTU per hour heat input, of which the Suwannee Plant is one.

Paragraph (r) of the PSD regulations requires, in part, that EPA issue a Preliminary Determination whether the source should be approved, approved with conditions, or disapproved. On April 27, 1979, EPA made a Preliminary Determination that the proposed source could be approved with conditions. The Preliminary Determination was advertized for public comment in three local newspapers and placed on display at the Suwannee County Courthouse. The only comment received was from the applicant, regarding the restriction on yearly hours of operations.

After verbal discussion with Mr. W. W. Vierday, EPA determined that the applicant had further reviewed this condition and no longer objected to it. However, Mr. Vierday requested that the log required by Condition 6 be a monthly log (rather than hourly or daily) since the new units would be equipped with integrating meters measuring both hours of operation and fuel usage. This request has been granted, and Condition 6 is modified accordingly. All other conditions remain the same as those in the Preliminary Determination. It is the decision of EPA that the source should be approved with conditions. The conditions are included to insure that the applicant complies with emission control techniques and emission limits which are a part of the application. The conditions of approval follow on the next page.

Conditions for Florida Power Corporation's Proposed Suwannee  
Park Peaking Units (Gas Turbines)

As required pursuant to 40 CFR 52.21(d)(2)(ii), a review was conducted to determine if the proposed peaking units would apply the best available control technology. Based on this review, it was determined that the applicant (Florida Power Corporation) must meet emission limits and other requirements as specified by the U.S. Environmental Protection Agency's Standard of Performance for Stationary Gas Turbines proposed on October 3, 1977 (40 CFR 60, Subpart GG).

Condition I. Standards for Nitrogen Oxides

On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the applicant shall not cause to be discharged into the atmosphere

(1) From any gas turbine with a heat rate at peak load of less than or equal to 14.4 kilojoules per watt hour, based on the lower heating value of the fuel fired, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0075 \frac{14.4}{Y} + F$$

where:

STD = allowable NO<sub>x</sub> emission (percent by volume at 15 percent oxygen and on a dry basis).

Y = manufacturer's rated heat rate at peak load (kilojoules per watt hour).

F = NO<sub>x</sub> emission allowance for fuel-bound nitrogen as defined in part (3) of this paragraph.

(2) F shall be defined according to the nitrogen content of the fuel as follows:

Fuel-bound nitrogen (percent by weight)	F (NO <sub>x</sub> by volume)
N < 0.015	0
0.015 < N < 0.1	0.04(N)
0.1 < N < 0.25	0.004 + 0.0067(N - 0.1)
N > 0.25	0.005

where:

N = the nitrogen content of the fuel (percent by weight).

#### Condition 2. Standard for Sulfur Dioxide

(a) On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the applicant shall not cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of a 0.015 percent by volume at 15 percent oxygen and on a dry basis.

(b) The sulfur content of the fuel fired by the gas turbine may be used to determine compliance with paragraph (a) of this section. Under such circumstances, on and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the applicant shall not burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8 percent by weight.

Condition 3. Monitoring of Operations

(a) If water injection is used to control NO<sub>x</sub> emissions, the applicant shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within  $\pm$  5.0 percent and shall be approved by the Administrator.

(b) The applicant shall record daily the sulfur content, nitrogen content, and lower heating value of the fuel being fired in the gas turbine.

(c) For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions that shall be reported are defined as follows:

(1) Nitrogen oxides. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in 40 CFR 60.8. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under 40 CFR 60.335(a).

(2) Sulfur dioxide. Any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent.

53  
0.5  
11/11



#### Condition 4. Stack Testing

(a) Within sixty (60) days after achieving the maximum production rate at which the source will be operated, but no later than 180 days after initial startup, the applicant shall conduct or cause to be conducted, performance test(s) and furnish the Administrator with a written report of the results of such performance test(s). The results of the performance test(s) shall be submitted to the Administrator within thirty (30) days of the completion of said testing.

(b) Nitrogen oxide and sulfur dioxide performance tests shall be conducted and data reduced in accordance with methods and procedures approved by the Administrator.

(c) The applicant shall provide the Administrator thirty (30) days prior notice of the date of the performance test(s) to afford the opportunity to have an observer present.

(d) All required continuous monitoring systems shall be installed, calibrated, and operating when the performance test(s) are conducted.

(e) The applicant shall provide performance test reports which comply with criteria more fully described in 40 CFR 60, Appendix A.

#### Condition 5. NO<sub>x</sub> Emission Control System

The applicant must submit technical data to the Administrator within ten (10) working days after it becomes available pertaining to the selected NO<sub>x</sub> emissions control system. These data would include, but not be limited to, a copy of the formal bid from the successful bidder, guaranteed efficiency or emission rate, and major design parameters such as water/fuel ratio. If "dry" control techniques are to be used, to control NO<sub>x</sub> emissions, the applicant must submit test data and other appropriate information for existing similarly sized gas turbines (i.e., approximately 63 MW) to show that dry control techniques are capable of achieving emission limits given in Condition 1 above. The Administrator, upon review of these data, may revoke or modify this application if evaluation of these data is different from data in the application in such a way that it would cause the control system to be inadequate to meet the emission limits specified above.

Condition 6. The turbines shall not operate more than 1500 hours per year. A log shall be kept at the plant, showing hours of operation and the amount of fuel used. This log will be available for inspection at the plant at any time.

## II. Background

On March 21, 1978, Florida Power Corporation submitted a letter and attachments to EPA to apply under the PSD regulations to construct four combustion turbines at the Suwannee Power Plant. On August 5, 1978, further information was submitted which completed the application. The proposed construction is subject to EPA Regulations for the Prevention of Significant Air Quality Deterioration promulgated on June 19, 1978.

## III. Review Requirements

The pollutants for which potential emissions are greater than 100 tons per year, and therefore subject to review, are sulfur dioxide, nitrogen oxides and carbon monoxide. Review of control technology and ambient impacts is required.

Certain portions of the PSD review may not be required if the proposed modification is subject to EPA's interpretative ruling, or if the source is a nonprofit health or education institution, or if the source has previously received approval under PSD and is only relocating. None of these exemptions applies in this case.

Other exemptions can apply to control technology review and ambient impact review. For control technology review, if allowable emissions of any pollutant are less than 50 tons per year, 1000 pounds per day and 100 pounds per hour, or if a modification is made to an existing facility and the emissions are offset by reductions elsewhere, review may not be required. None of these exemptions applies.

For ambient impact review and monitoring requirements, other exemptions are provided for. In addition to the allowable emission threshold, there are exemptions for temporary sources and for sources whose net emissions, after considering decreases, do not increase. None of these exemptions apply to the proposed turbines.

The one exemption which does apply is for air quality monitoring. Since a complete application was submitted before August 7, 1978, no preconstruction monitoring is required.

A. Control Technology Review

The applicant is required to install best available control technology (BACT) for each pollutant, taking into account energy, environmental and economic impacts and other costs. EPA concludes that the systems proposed by the applicant represents BACT for SO<sub>2</sub> and nitrogen oxides. There is currently no applicable technology for reduction of carbon monoxide beyond what is accomplished in the combustion chamber.

L. Sulfur Dioxide

The applicant has proposed to burn 0.5% sulfur distillate fuel oil. At the time the application was submitted, EPA had proposed a revision to the New Source Performance Standards (40 CFR 60) for stationary gas turbines. Part of this revision includes a requirement for burning no fuel which contains sulfur in excess of 0.8 percent by weight. This requirement is considered BACT, and is included as a condition of approval.

2. Nitrogen Oxides

The applicant has proposed to limit nitrogen oxide emissions to 75 ppm (adjusted for heat rate and fuel-bound nitrogen) by water injection. At the time the application was submitted, EPA had proposed a revision to the New Source Performance Standards (40 CFR 60) for stationary gas turbines. Part of this revision includes a requirement to limit nitrogen oxide emissions to 75 ppm. This requirement represents BACT and is included as a condition of approval.

B. Applicability of NSPS

As of this date, EPA has proposed revisions to the New Source Performance Standards for stationary gas turbines. Any future promulgation which applies to stationary gas turbines and is more stringent than any condition of approval, will supercede the conditions of approval.

C. Impact Review

The PSD regulations require the following air quality impacts to be assessed by the applicant:

- 1) National Ambient Air Quality Standards (NAAQS)
- 2) PSD increments
- 3) Visibility, soils and vegetation
- 4) Impacts due to growth caused by proposed source

All of these impacts were assessed by the applicant. Air quality modelling showed no violations of the NAAQS with all sources in the area of the Suwannee in operation. Likewise, the PSD increment analysis showed no violations with the four turbines operating at maximum load.

The maximum predicted ambient concentrations with the proposed turbines in operation are presented in the following table:

Scenario	Concentrations (ug/m <sup>3</sup> )		
	Sulfur Dioxide		
	Annual Average	24-Hour Maximum	3-Hour Maximum
Maximum Predicted 1981 Concentration in vicinity of Suwannee River Plant	10	184	851
State of Florida Standards	60	260	1300
Federal Secondary Standards	--	--	1300
Federal Primary Standards	80	365	--

The maximum consumption of the Class II PSD increments caused by proposed turbines are presented in the following table:

<u>Increment</u>	<u>Pollutant</u>
Annual	10%
24-Hour	11%
3-Hour	10%

Impacts on visibility, soils and vegetation and on air quality due to growth were judged to be minimal.

The closest Class I area is Okefenokee National Wildlife Refuge in Georgia, about 75 KM to the east-northeast from the plant site.

The maximum consumption of the Class I PSD increments caused by the proposed turbines are presented in the following table:

<u>Increment</u>	<u>Pollutant</u>
Annual	10%
24-Hour	40%
3-Hour	56%

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

CONSTRUCTION PERMIT PROVISOS

AIR POLLUTION SOURCES

Permit No. AC61-11864

Date: Nov. 28, 1978  
Revised: Feb. 5, 1979

- (X) 1. Construction of this installation shall be completed by November 1, 1980. Application for Permit to Operate to be submitted by February 1, 1981.
- (X) 2. This construction permit expires on May 1, 1981 following an initial period of operation for appropriate testing to determine compliance with the Rules of the Florida Department of Environmental Regulation Commission.
- (X) 3. All applicable rules of the Department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction.
- (X) 4. The applicant shall continue the retention of the engineer of record for the inspection of the construction of this project. Upon completion the engineer shall inspect for conformity to construction permit applications and associated documents. A report of such inspection shall be submitted by the engineer to the Department of Environmental Regulation for consideration toward the issuance of an operation permit.
- (X) 5. This peaking unit shall be tested\* for SO<sub>2</sub> and NO<sub>x</sub> (via continued on reverse side) within 60 days after it is placed in operation. These test results are required prior to our issuance of an operation permit and shall be submitted in duplicate to the Florida Department of Environmental Regulation, Gainesville Branch Office, 825 N.W. 23rd Ave., Suite G, Gainesville, FL 32601.
- 
- \* Fuel Analysis May be Submitted for Required Sulfur Dioxide Emission Test.
- (X) 6. The operation of this installation shall be observed for visible emissions in accordance with Method 9-Visible Determination of the Opacity of Emissions from Stationary Sources (36FR24895; Federal Register, December 23, 1971). The observation results are required prior to our issuance of an operation permit, and shall be submitted in duplicate to the Department of Environmental Regulation ~~District Office~~, Branch Office, 825 N.W. 23rd Ave., Suite G, Gainesville, FL 32601.
- (X) 7. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.
- (X) 8. There shall be no discharges of liquid effluents or contaminated runoff from the plant site.
- (X) 9. All fugitive dust generated at this site shall be adequately controlled.



( ) 10. This permit is associated with a Development of Regional Impact (D.R.I.). It does not waive any other permits that may be required from this or any other State, Federal, or local agency.

(X) 11. The emission limiting standards required by the FDER "BACT" determination are as follows:

Nitrogen Dioxide - 75 ppm by volume at 15 percent oxygen on a dry basis

and corrected in accordance with the Federal Register Vol. 42, No. 191 - Monday, October 3, 1977, paragraph 60.332.

Sulfur Dioxide - 95 ppm by volume corrected to 15 percent oxygen on a dry basis; or, 0.5 percent sulfur by weight in fuel, but the maximum allowed emission rate is not to exceed 379 lbs/hr SO<sub>2</sub> under any condition.

Opacity - less than 20 percent

(X) 12. Particulate Matter - maximum allowed emission rate is 38 lbs/hr.

(X) 5. (cont'd) in accordance with Reference Method 20 specified in the Federal Register Vol. 42, No. 191 - Monday, October 3, 1977, paragraph 60.335.

**BEST AVAILABLE COPY**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

CONSTRUCTION PERMIT PROVISOS

AIR POLLUTION SOURCES

Permit No. AC67-11864

Date: 11/28/78

- (X) 1. Construction of this installation shall be completed by November 1, 1980. Application for Permit to Operate to be submitted by February 1, 1981.
- (X) 2. This construction permit expires on May 1, 1981 following an initial period of operation for appropriate testing to determine compliance with the Rules of the Florida Department of Environmental Regulation Commission.
- (X) 3. All applicable rules of the Department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction.
- (X) 4. The applicant shall continue the retention of the engineer of record for the inspection of the construction of this project. Upon completion the engineer shall inspect for conformity to construction permit applications and associated documents. A report of such inspection shall be submitted by the engineer to the Department of Environmental Regulation for consideration toward the issuance of an operation permit.
- (X) 5. This unit shall be tested\* for SO<sub>2</sub> and NO<sub>x</sub> (con't. on reverse) within sixty days side after it is placed in operation. These test results are required prior to our issuance of an operation permit and shall be submitted in duplicate to the Florida Department of Environmental Regulation Gainesville Branch Office, 825 N.W. 23rd Ave., Suite G, Gainesville, FL 32601
- 
- \* Fuel Analysis May be Submitted for Required Sulfur Dioxide Emission Test.
- (X) 6. The operation of this installation shall be observed for visible emissions in accordance with Method 9-Visible Determination of the Opacity of Emissions from Stationary Sources (36FR24895; Federal Register, December 23, 1971). The observation results are required prior to our issuance of an operation permit, and shall be submitted in duplicate to the Department of Environmental Regulation Gainesville Branch Office, 825 N.W. 23rd Ave., Suite G, Gainesville, FL 32601
- (X) 7. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.
- (X) 8. There shall be no discharges of liquid effluents or contaminated runoff from the plant site.
- (X) 9. All fugitive dust generated at this site shall be adequately controlled.

- (X) 10. The emission limiting standards (based on a maximum total process input rate of 37,910 lb/hr of distillate fuel oil) required by the FDER BACT determination are as follows:

Nitrogen Dioxide - 75 ppm by volume at 15 percent oxygen on a dry basis

Sulfur Dioxide - 95 ppm by volume corrected to 15 percent oxygen on a dry basis; or, 0.5 percent sulfur by weight in fuel

Opacity - less than 20 percent

- (X) 11. Maximum allowed emission rate for sulfur dioxide is 379 lbs/hr and for particulate matter is 38 lbs/hr.

- (X) 5. (con't.) in accordance with Reference Method 20 specified in the Federal Register Vol. 42, No. 191 - Monday, October 3, 1977, paragraph 60.335.

file in #1

State of Florida

DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee	
To: _____	Loctn.: _____
To: _____	Loctn.: _____
To: _____	Loctn.: _____
From: _____	Date: _____

ST. JOHNS RIVER

**RECEIVED**

**RECEIVED**  
AUG 28 1978  
**RECEIVED**

JAN 29 1997

BUREAU OF  
AIR REGULATION

SUB DISTRICT - JAX

TO : Joseph W. Landers, Jr.

FROM: J. P. Subramani *J. Subramani*

DATE: August 11, 1978

SUBJ: BACT Application for Four Florida Power Corporation  
Gas Turbines, Suwannee River Plant Site,  
Suwannee County

Facility: Four 63,000 KW gas turbine electric generating units to be located at Florida Power Corporation's Suwannee River Plant. The units, scheduled for commercial operation in October 1980, will be known as Suwannee River Peaking Units 1 through 4.

At a peak power level of 63,000 KW, each unit will burn approximately 37,910 pounds of distillate fuel per minute which constitutes a heat input rate of 739 million BTU/hr.

BACT Determination Requested by the Applicant

Nitrogen Dioxide: 75 ppm by volume  
Sulfur Dioxide: 95 ppm by volume  
Opacity: Less than 20%

Date Receipt of a Complete BACT Application:

May 12, 1978

Date of Publication in the Florida Administrative Weekly:

June 23, 1978

Date of Publication in a Newspaper of General Circulation:

June 30, 1978 - Florida Times Union

Mr. Joseph W. Landers, Jr.  
August 11, 1978  
Page Two

Study Group Members:

Steve Smallwood, Bureau of Air Quality Management, DER  
Albert Townsend, South Florida District, DER  
Robert Kapplemann, City of Jacksonville,  
Department of Health  
Frank Darabi, St. John River Subdistrict, DER  
Victoria Martinez, BACT Coordinator, DER

Study Group Recommendations:

	*Albert Townsend	Robert Kappellemann	Steve Smallwood	Frank Darabi
Ash Content of Fuel		.013		Low
Particulates				.08 lb/BTU
NO <sub>2</sub>	Wet Method	50 ppmv-water or steam to fuel ratio of about 1.4	±75 ppmv with EPA's upward corrections for efficiency and fuel bound nitrogen	75 ppmv
SO <sub>2</sub>	Low Sulfur Oil	±.3% S Oil	±100 ppmv	.3% S Fuel
Opacity		10% except for start-up	±20%	20%
HC				
CO				
Noise				Minimized at property line.

\*Albert Townsend felt the data provided by the applicant was insufficient to establish specific emission limits.

\*\*Steve Smallwood considered 60 ppmv NO<sub>2</sub> 80 ppm SO<sub>2</sub> and 10% opacity to be a reasonable alternative. However, he felt sufficient information was not provided by the applicant to analyze the economic impact of this alternative.

Mr. Joseph W. Landers, Jr.  
August 11, 1978  
Page Three

Other State and Local Emission Standard Applicable to Gas Turbines\*:

<u>Pollutant</u>	<u>Fuel</u>	<u>Typical</u>	<u>Most Stringent</u>
NO <sub>x</sub>	Gas	(75 ppm @ 15% O <sub>2</sub> ) 0.3 lb NO <sub>x</sub> /MMBTU	(42 ppm @ 15% O <sub>2</sub> ) 125 ppm @ 3% O <sub>2</sub> )
	Oil	(75 ppm @ 15% O <sub>2</sub> ) 0.3 lb NO <sub>x</sub> /MMBTU	(75 ppm @ 15% O <sub>2</sub> ) 0.3 lb NO <sub>x</sub> /MMBTU
SO <sub>2</sub>	Oil	187 ppm 1% Sulfur by Weight (1 lb SO <sub>2</sub> /MMBTU)	56 ppm 0.3% Sulfur by Weight (0.3 lb SO <sub>2</sub> /MMBTU)
CO	All	None	None
Visible Emissions	All	20%	0%

\*From the EPA's SSEIS document, EPA/450/2-77-017a

EPA's Proposed New Source Performance Standards for Gas Turbines:

The proposed standards were published in the Federal Register October 3, 1977 and are expected to be promulgated January, 1979, as follows:

Nitrogen Dioxide: 75 ppm by volume at 15 percent oxygen on a dry basis.

The standard would include an adjustment factor (see attachment) for gas turbine with thermal efficiencies greater than 25 percent, and also an adjustment factor (see attachment) for turbines burning fuels with fuel bound nitrogen content greater than 0.15 percent by weight. Each factor would result in a larger number. Measured NO<sub>x</sub> levels would be adjusted to the International Standards Organization (ISO) reference conditions of 15°C and 60% R.H., 101.3 kilopascals pressure.

Sulfur Dioxide: 150 ppm by volume corrected to 15 percent oxygen, or  
0.8% Sulfur by weight in fuel.