



# Florida Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

October 6, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. W. Jeffrey Pardue, C.E.P. Manager  
Environmental Programs  
Florida Power Corporation  
P.O. Box No. 14042  
St. Petersburg, FL 33733

Dear Mr. Pardue:

RE: Florida Power Corporation  
Intercession City Facility  
Request for Permit Modification  
AC 49-203114, PSD-FL-180

The Department is in receipt of your letters dated July 26 and August 19, 1993, requesting modifications and amendments to the above mentioned permit. In reviewing the files for this facility, the Department has noted that most of the wording of the specific conditions of the Intercession City's permit were taken from a Florida Power Corporation's letter dated July 18, 1991, that was signed by Mr. W. W. Vierday. This above mentioned letter was written in a reply to the DeBary's proposed permit specific conditions that are identical to those in the Intercession City permit. The Department is willing to amend and to clarify the Intercession City's permit with your proposed wording. Based on the above, the Department has the following responses to your request:

## SPECIFIC CONDITIONS NOS. 8 AND 9:

### REQUEST:

Allow EPA test Method 19 instead of Method 2 for the determination of volumetric flow rate.

Delete Method 5 for the determination of particulate matter (PM) emissions.

Use Method 3A instead of Method 3 for gas analysis.

PSD-FL-180A

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Delete Method 8 for determination of sulfuric acid mist and sulfur dioxide emissions.

RESPONSE:

EPA Method 19 instead of Method 2

The cause of the transient conditions that would prevent the use of EPA Method 2 is not clear. There are several physical changes that could be used to create a measurable steady-state flow condition. These physical changes include the installation of straightening vanes and the extension of the stack with the subsequent relocation of the sampling ports. For almost 20 years, the federal regulations have clearly stated that the optimum sampling location in a duct is usually located at least 8 diameters downstream and 2 diameters upstream of any entrance, exit, bend, or other disturbances. Based on the information presented, we could not evaluate your request. Please contact Ramesh Menon at (904) 488-1344 for further details on the information needed to evaluate this request.

EPA Method 5

These units must demonstrate compliance with the PM standard using either EPA Method 5 or EPA Method 17. Any deviation from the required EPA procedures will require the owner to request and obtain approval of an alternate sampling procedure pursuant to Rule 17-297.620 F.A.C. Specific Condition No. 9 will not be deleted.

EPA Method 8

Method 8 cannot be deleted since sulfuric acid mist emissions are subject to PSD regulations. However, for clarification, Specific Condition No. 8 will be amended as follows:

Compliance Determination

FROM:

8. Compliance with  $\text{NO}_x$ ,  $\text{SO}_2$ , CO, PM,  $\text{PM}_{10}$ , and VOC standards shall be determined (on each unit while operating within 10% of the permitted maximum heat rate input) within 180 days of initial operation and annually thereafter, by the following reference methods and adopted by reference in F.A.C. Rule 17-2.700.

- Method 1. Sample and Velocity Traverses
- Method 2. Volumetric Flow Rate
- Method 3. Gas Analysis

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- Method 5. Determination of Particulate Matter Emissions from Stationary Sources
- Method 9. Determination of the Opacity of the Emissions from Stationary Sources
- Method 8. Determination of the Sulfuric Acid of the Emissions from Stationary Sources
- Method 10. Determination of the Carbon Monoxide Emission from Stationary Sources
- Method 20. Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
- Method 25A. Determination of the Volatile Organic Compounds Emissions from Stationary Sources

Other DER approved methods may be used for compliance testing after prior Departmental approval.

TO:

8. **Compliance with the allowable emission limits shall be determined within 60 days after achieving the maximum production rate at which this facility will be operated (on each unit while operating within 10% of the permitted maximum heat rate input) but not later than 180 days after initial start-up and annually thereafter, by the following reference methods as described in 40 CFR 60, Appendix A (July, 1992 version) and adopted by reference in F.A.C. Rule 17-297.**

- Method 1. Sample and Velocity Traverses
- Method 2. Volumetric Flow Rate
- Method 3A. Gas Analysis
- Method 5. Determination of Particulate Matter Emissions from Stationary Sources
- Method 9. Determination of the Opacity of the Emissions from Stationary Sources
- Method 8. Determination of the Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources
- Method 10. Determination of the Carbon Monoxide Emissions from Stationary Sources
- Method 20. Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
- Method 25A. Determination of the Volatile Organic Compounds Emissions from Stationary Sources

Other DEP approved methods may be used for compliance testing after prior Departmental approval.

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**SPECIFIC CONDITION NO. 13:**

**REQUEST:**

Delete this condition which requires that the compliance test results for NO<sub>x</sub> be adjusted to ISO conditions since the BACT determination did not specify this requirement.

**RESPONSE:**

NO<sub>x</sub> emissions measured during compliance tests must be adjusted to ISO conditions. Traditionally, BACT determinations for gas turbines conducted by the Department follow the format of the new source performance standard (NSPS), Subpart GG. This NSPS lists the NO<sub>x</sub> standard as ppmvd at 15% O<sub>2</sub>. The standard has to be adjusted to ISO conditions (see NSPS preamble and Test Method Procedures).

You have indicated that the NO<sub>x</sub> controls furnished with the GE units compensate for humidity and ambient temperatures such that further correction to ISO conditions is not necessary. However, Specific Condition No. 13 refers to adjustment of the compliance test data. The compliance test data is not processed through the combustion turbine controller. Therefore, the measured gas turbine's NO<sub>x</sub> emission concentration levels must be adjusted to ISO conditions as specified in this permit condition.

**SPECIFIC CONDITION NO. 15:**

**REQUEST:**

Amend the third sentence in this condition that states: "The water to fuel ratio at which compliance is achieved shall be incorporated into the operation permit and shall be continuously monitored" to the following: "The water to fuel ratio shall be continuously monitored".

**RESPONSE:**

Federal regulations require the affected sources to be operated at a water-to-fuel ratio that is established during the initial performance test and this ratio is used as an indicator of compliance following the initial test. The ratio should be monitored in accordance with 40 CFR 60.334. This condition will not be changed.

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**SPECIFIC CONDITION NO. 6:**

**REQUEST:**

Amend the wording of this condition that states: "Any change in the method of operation, equipment, or operating hours shall be submitted to the DEP's Bureau of Air Regulation".

**RESPONSE:**

This request is acceptable and this condition is changed to: **Any proposed change in equipment, method of operation, or allowable hours of operation shall be submitted to the Department of Environmental Protection for review and approval.**

**SPECIFIC CONDITION NO. 10:**

**REQUEST:**

Change the reference in the ASTM method for sulfur dioxide.

**RESPONSE:**

This reference will be changed as requested. This condition is amended to: Compliance with the SO<sub>2</sub> limit can also be determined by calculations based on fuel analysis by ASTM Method D4294 for the sulfur content of gaseous fuels.

**SPECIFIC CONDITION NO. 23:**

**REQUEST:**

Change the reference to steam injection in this condition.

**RESPONSE:**

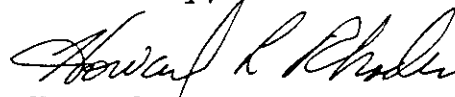
This reference will be changed as requested. This condition will be amended to: Literature on equipment selected shall be submitted to the Department of Environmental Protection as it becomes available. A CT-specific graph of the relationship between NOx emissions and **water** injection and also another graph of ambient temperature and heat input to the CT shall be submitted to DEP's Central District office and the Bureau of Air Regulation.

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**FUEL-BOUND NITROGEN (FBN)**

The Department has reviewed your requests for an increase of the BACT NO<sub>x</sub> limits to allow for an additional 6 ppm based on the fuel bond nitrogen (FBN) allowance which is contained in 40 CFR 60, Subpart GG. This 6 ppm allowance will result in an increase of 264 tons/yr NO<sub>x</sub> (44 ton/yr/unit) and will require a revision of the NO<sub>x</sub>-BACT. The new revision would require an updated economic and air quality analysis. A similar concern on the DeBary facility has been expressed since so much water is being injected to obtain the 42 ppm NO<sub>x</sub> level. However, before changing the No<sub>x</sub> emission level on either this facility or DeBary the Department would like to discuss the feasibility and economics of a lower FBN with the fuel manufacturer.

Sincerely,



Howard L. Rhodes  
Director  
Division of Air Resources  
Management

HLR/TH/bjb

cc: Alex Alexander, DEP Central District  
J. Harper, EPA  
J. Bunyak, NPS  
Mike Kennedy, FPC

P 230 524 282



### Receipt for Certified Mail

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Do not use for International Mail  
(See Reverse)

PS Form 3800, June 1991

Sent to <b>Mr. W. Jeffrey Pardue</b>	
Street and No. <b>P. O. Box No. 14042</b>	
P. O., State, and ZIP Code <b>St. Petersburg, FL 33733</b>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <b>Mailed: 10/11/93 AC 49-203114, PSD-FL-180</b>	

1 your RETURN ADDRESS completed on the reverse side?

#### SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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:  
**Mr. W. Jeffrey Pardue, C.E.P.  
 Environmental Programs  
 Florida Power Corporation  
 P. O. Box No. 14042  
 St. Petersburg, FL 33733**

4a. Article Number  
**P 230 524 282**

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

7. Date of Delivery  
**OCT 13 1993**

5. Signature (Addressee)

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

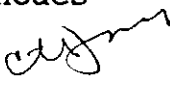
6. Signature (Agent)

Thank you for using Return Receipt Service.

Memorandum

Florida Department of  
Environmental Protection

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TO: Howard L. Rhodes  
FROM: Clair Fancy   
DATE: October 6, 1993  
SUBJ: Approval of an Amendment to Construction Permit  
AC 49-203114 (PSD-FL-180)  
Florida Power Corporation: Intercession City Facility  
Osceola County

Attached for your approval and signature is an amendment to a construction permit prepared by the Bureau of Air Regulation for the above referenced company. The purpose of the amendment is to clarify some of the wording of the permit's specific conditions. This amendment will not result in an increase in permitted annual emissions of any pollutant subject to the PSD regulations. The facility is located in Osceola County, which is an attainment area for all air pollutants.

I recommend your approval and signature.

CHF/TH/bjb