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FEB 05 1999
BUREAU OF
AIR REGULATION

February 1, 1999

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

Dear Mr. Fancy:

Re: Inlet Fogging

Thank you for your letter regarding Florida Power Corporation's (FPC) inquiry into the permitting of inlet fogging at its DeBary and Intercession City peaking units. As you know, FPC wishes to install inlet fogging systems on its newer peaking units at the two facilities in order to obtain additional electric output during summer peak demand periods. You requested an estimate of the NO_x emissions changes that would result from the use of the fogging system. A summary of the calculations follows.

The fogging system is useful on hot summer days. A water mist is sprayed into the inlet of the combustion turbine. The mist cools the inlet air by evaporation, resulting in a 20 degrees F. reduction in temperature. The air is therefore denser, and the unit can achieve higher output. This also results in slightly higher heat input and NO_x emissions, although they are within the allowable limits for the inlet temperature achieved. In addition, the fogging system improves unit efficiency slightly. Efficiency is expected to increase by approximately 1% as a result of the fogging. This will have a nominal offsetting effect on the direct increase in emissions resulting from the use of inlet fogging.

The attached curves, which are a part of the current operation permits for each facility, show the relationship between inlet temperature and heat input and NO_x emissions for the GE Frame 7EA combustion turbines at DeBary and Intercession City. These curves do not take into account the improved efficiency achieved with inlet fogging, so they are conservative.

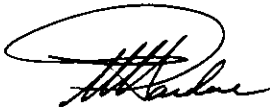
A typical scenario would occur when the ambient temperature is 90 degrees F. If fogging is used, the inlet air to the combustion turbine would be cooled to approximately 70 deg. NO_x emissions could increase from 165 lbs/hr to 176 lbs/hr, which is an increase of 11 lbs/hr per unit. This is a worst-case estimate, because it is based on oil firing. The increase would be only 6 lbs/hr while operating on natural gas. At an increase of 11 lbs/hr, inlet fogging could be used for an aggregate of over 7,200 hrs/year and remain below the PSD significant emissions increase threshold of 40 tons/year. Given the long, hot summers here in Florida, limiting the use of the fogging systems to an aggregate total of 7,200 hrs/year per facility should provide adequate operating time while ensuring that emissions do not increase significantly.

Mr. Clair H. Fancy
February 1, 1999
Page Two

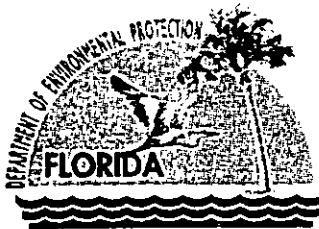
In a telephone conversation, Mr. Martin Costello of DEP and Mr. Mike Kennedy of FPC discussed the potential to implement this change through the Title V permit for each facility. Given the minor nature of the change, both to the units and to emissions, FPC requests that the inlet fogging be permitted for use at the DeBary and Intercession City facilities for a total of 7,200 hrs/year at each facility through the associated Title V permits.

Thank you for your consideration of this request. Permitting the use of inlet fogging will help FPC address a very real need for additional generating capacity during the summer of 1999 with a corresponding insignificant increase in emissions. Please contact Mike Kennedy at (727) 826-4334 if you have any questions.

Sincerely,



W. Jeffrey Pardue, C.E.P.
Director



Lawton Chiles
Governor

Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

December 31, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. J. Michael Kennedy
Manager, Air Programs
Environmental Services Department
Florida Power Corporation
Post Office Box 14042, MAC BB1A
St. Petersburg, Florida 33733-4042

Re: Permit Applicability
Inlet Foggers at DeBary and Intercession City

Dear Mr. Kennedy:

We reviewed your letter dated December 15 regarding permitting requirements to install inlet foggers at DeBary and Intercession City. The installation of the foggers constitutes a physical or operational change for the purpose of actually increasing heat rate throughput and power output from the combustion turbine/electrical generators on relatively hot and dry days. Since emissions are directly affected by fuel use and heat throughput, the Department concludes that installation and use of the foggers constitutes a modification requiring a permit in accordance with Rules 62-210 and 212, F.A.C.

Since the combustion turbine-generators at DeBary and Intercession City are not steam units, emissions changes are normally calculated by comparing past actual to future potential emissions. However, the Department can exercise some latitude in estimating the emissions increases. At the very least, we will need an estimate from FPC regarding the increases. Enclosed is an estimate from our files for similar installations. These can be estimated from the heat input curves, likely hours of operation of the foggers, wet bulb/dry bulb characteristics, etc. It may be possible to minimize emissions increases by controlling the amount of steam injected for NO_x control.

The installation of foggers at the FPL facilities was approved by the District offices on a temporary basis in order to conduct tests and estimate emissions. The data have not been thoroughly evaluated. Approvals of any projects at power plants are now handled by the Bureau of Air Regulation. We can consider a similar request from FPC, but believe that a good estimate can be made regarding the emissions increases from these units.

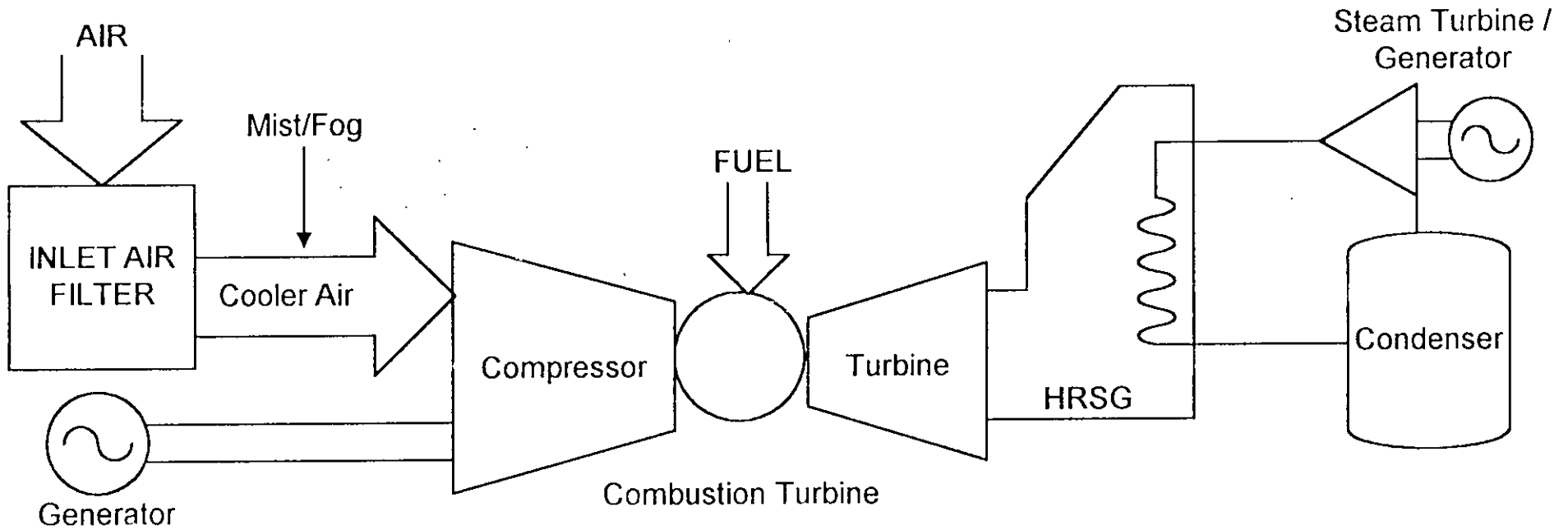
If you have any questions regarding this matter, please call Al Linero at 850/921-9523.

Sincerely,

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

CHF/aal

Fog System and Overfire Operations



BASIS FOR EMISSIONS CALCULATIONS INLET FOGGERS

Ambient Temp (deg F)	Design NOx emissions (lb / hr)	
95	141	FPL Martin CT emissions rate = f (MW load, amb. temp)
75	149	@ 20° F delta, emis. rate delta = +8 lb / hr
59	155	@ 16° F delta, emis. rate delta = +6 lb / hr
40	162	

$$8 \text{ lb} / 20^\circ \text{ F} = 0.4 \text{ lb} / ^\circ \text{ F}$$

$$6 \text{ lb} / 16^\circ \text{ F} = 0.375 \text{ lb} / ^\circ \text{ F}, \text{ so use } 0.4 \text{ for conservatism}$$

Most likely usage will be during heat of day during summer months.....

Foggers on CT Inlet (delta temp)	Duration (hours)	E.F.	lbs NOx
7	2	0.4	5.6
10.5	2	0.4	8.4
11.7	2	0.4	9.36
10.5	2	0.4	8.4
8.5	2	0.4	<u>6.8</u>

Total: 38 lb / day / CT

How many days to reach 40 tons of NOx, assuming 10 hrs / day of operation?

$$38 \text{ lb/day/CT} \times 4 \text{ CT's} = 152 \text{ lb} / \text{day for facility}$$

$$40 \text{ tons} = 80,000 \text{ lb}; \quad 80,000 \text{ lb} / 152 \text{ lb} / \text{day} = 526 \text{ days per year, so OK for PSD}$$

Most Likely Scenario:

$$4 \text{ months} \times 30 \text{ days} = 120 \text{ days} \times 152 \text{ lb} / \text{day} \times \text{ton}/2000 \text{ lb} = 9.12 \text{ tons per year}$$

BASIS FOR EMISSIONS CALCULATIONS INLET FOGGERS

Absolute Worst-Case Scenario **

<u>Foggers on CT Inlet (delta temp)</u>	<u>Duration (hours)</u>	<u>E.F.</u>	<u>lbs NOx</u>
3.5	2	0.4	2.8
2.8	2	0.4	2.2
2.2	2	0.4	1.8
2.9	2	0.4	2.3
5.4	2	0.4	4.3
9.0	2	0.4	7.2
12.5	2	0.4	10.0
13.7	2	0.4	11.0
12.5	2	0.4	10.0
10.5	2	0.4	8.4
6.5	2	0.4	5.2
5.0	2	0.4	<u>4.0</u>

Total: 69.2 lb / day / CT

**Assumes that foggers run 8,760 hrs / year at full saturation

How many days to reach 40 tons of NOx at 24 hours per day?

$$69.2 \text{ lb/day/CT} \times 4 \text{ CT's} = 276.8 \text{ lb / day for facility}$$

$$40 \text{ tons} = 80,000 \text{ lb}; \quad 80,000 \text{ lb} / 276.8 \text{ lb / day} = \underline{289 \text{ days per year}}$$

7 333 612 585

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to	
Mr. J. Michael Kennedy	
Street & Number	
PO Box 14042-MAC BB1A	
Post Office, State, & ZIP Code	
St. Petersburg, FL 33733-4042	
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	1-4-99

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): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to: Mr. J. Michael Kennedy Manager, Air Programs Environmental Services Dept. Florida Power Corp. PO Box 14042-MAC BB1A St. Petersburg, FL 33733-4042	4a. Article Number Z333612585	
	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 JAN 07 1999
6. Signature: (Addressee or Agent) X <i>[Signature]</i>	8. Addressee's Address (Only if requested and fee is paid)	

Thank you for using Return Receipt Service.

CT Inlet Fogger Emission Estimate

Time Hour	Temp Diff. (- 2° from absolute)	NOx lb / hr	Temp Diff. (absolute difference)	NOx lb / hr
0-2	1.5	1.2	3.5	2.8
2-4	0.8	0.6	2.8	2.2
4-6	0.2	0.2	2.2	1.8
6-8	0.9	0.7	2.9	2.3
8-10	3.4	2.7	5.4	4.3
10-12	7.0	5.6	9.0	7.2
12-14	10.5	8.4	12.5	10.0
14-16	11.7	9.4	13.7	11.0
16-18	10.5	8.4	12.5	10.0
18-20	8.5	6.8	10.5	8.4
20-22	4.5	3.6	6.5	5.2
22-24	3.0	2.4	5.0	4.0
	Total	50.0		69.2

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
Total Systemwide Peaker Hours					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



RECEIVED

DEC 18 1998

BUREAU OF
AIR REGULATION

December 15, 1998

Mr. Al Linero, P.E.
Administrator, New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32366

Dear Mr. Linero:

Re: Proposed Inlet Fogging Systems for FPC's Intercession City and DeBary Facilities

This letter is a follow-up to previous discussions with the Department regarding the above-referenced issue. As you know, at high ambient temperature, combustion turbine (CT) units cannot generate as much power because of lower compressor inlet density. To compensate for a portion of the loss of output, inlet cooling is proposed to be installed ahead of the CT inlet. We have become aware that Florida Power and Light (FPL) has initiated such a project at their Martin Station.

General Electric Model 7EA CTs, nominally rated at 96 MW each, began operation at DeBary (P7 through P10) and Intercession City (P7 through P10) in 1992 and 1993, respectively. As permitted, each of these CTs has an associated heat input curve that characterizes the performance of the units in relation to inlet air temperature. The Department's guidance on this issue (*Guidance on Rate of Operation During Compliance Testing for Combustion Turbines, September 18, 1995*) recognizes that the inlet air temperature is the predominant factor in affecting the mass throughput rate of CTs. Further, the temperature is referenced to the CT inlet rather than ambient, as some CTs are equipped with inlet air conditioning systems (e.g., chillers or evaporative coolers) to maintain optimum operating temperature. Inlet air temperature and ambient temperature are equivalent in cases where no conditioning systems are used. In cases where conditioning systems are used, the CTs will not be operating in excess of the heat input curve (a surrogate for an emissions curve) that is already a part of the permit.

The inlet air cooling system proposed for FPC's Intercession City and DeBary sites will utilize direct water spray fogging. The inlet fogging system will consist of an array of nozzles mounted on manifold piping and arranged in grids. The system would be designed to cool inlet air from

Mr. Linero
December 15, 1998
Page 2

95°F dry bulb with 50 percent relative humidity (RH) to 95 percent RH, which corresponds to an inlet air temperature of 80°F. The units will continue to operate on the heat input curve that is already a part of the air permit for these units. In addition, FPC emphasizes that no physical change will be made to the CT units themselves.

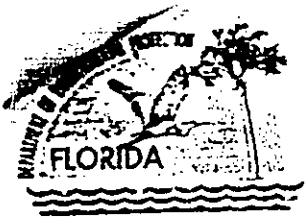
As we discussed by telephone, since there are no physical changes or changes in the method of operation being made to the combustion turbines, and since the units will continue to operate on the permitted heat input curve, new source review should not apply to this project. Please review this issue for permitting applicability; it is requested that the Department provide direction in the near future, because FPC would like to have such a system installed on these units in time to handle the anticipated peaking demands on our generating system during the summer of 1999.

Thank you for your consideration of this proposed project. If you have any questions or require additional information, please contact me at (727) 826-4334.

Sincerely,



J. Michael Kennedy, Q.E.P.
Manager, Air Programs



Department of Environmental Protection

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

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

FINAL Permit No.: 0970014-001-AV
Facility ID No.: 0970014
SIC Nos.: 49
Project: Initial Title V Air Operation Permit

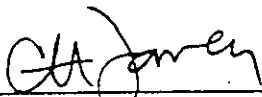
This permit is for the operation of the Intercession City Plant. This facility is located at 6525 Osceola Polk County Line Road, Intercession City, Osceola County; UTM Coordinates: Zone 17, 446.3 km East and 3126 km North; Latitude: 28° 15' 38" North and Longitude: 81° 32' 51" West.

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 405, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix U-1, List of Unregulated Emissions Units and/or Activities
Appendix I-1, List of Insignificant Emissions Units and/or Activities
APPENDIX TV-i, TITLE V CONDITIONS (version dated 12/02/97)
APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)
FIGURE 1 - SUMMARY REPORT-GASEOUS AND OPACITY EXCESS
EMISSION AND MONITORING SYSTEM PERFORMANCE REPORT (40 CFR 60; July, 1996)
Phase II Acid Rain Application/Compliance Plan received December 14, 1995.
ORDER EXTENDING PERMIT EXPIRATION DATE (dated December 22, 1997)

Effective Date: January 1, 1998
Renewal Application Due Date: July 5, 2002
Expiration Date: December 31, 2002



Howard L. Rhodes, Director
Division of Air Resources
Management

HLR/sms/csl

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF FINAL TITLE V PERMIT

In the Matter of an
Application for Permit

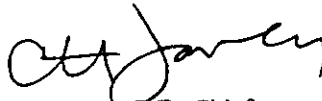
Mr. W. Jeffery Pardue, C.E.P.
Director of Environmental Services
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33711

DEP File No. 0970014-001-AV
Intercession City Plant
Osceola County

Enclosed is the FINAL Title V Permit, Number 0550003-001-AV, for Florida Power Corporation's Intercession City Plant located at 6525 Osceola Polk County Line Road, Intercession City, Osceola County. This permit is issued pursuant to Chapter 403, Florida Statutes (F.S.).

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

Thank you for using Return Receipt Service.

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

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4a. Article Number
P 2603 584 605

4b. Service Type
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7. Date of Delivery
1/7/98

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

3. Article Addressed to:
Mr. W. Jeffery Pardue, C.E.P.
Director of Environmental Services
Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33711

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)
X [Signature]

PS Form 3811, December 1994

CERTIFICATE OF SERVICE

Agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including) and copies were mailed by U.S. Mail before the close of business on otherwise noted:

er Corporation *
ates, Inc.
(INTERNET E-mail Memorandum)
(INTERNET E-mail Memorandum)

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.

[Signature] 1/5/98
(Clerk) (Date)

Appendix H-1, Permit History/ID Number Changes

Florida Power Corporation
Intercession City

Facility ID No.: 0970014-001-AV

Permit History (for tracking purposes):

E.U.

<u>ID No</u>	<u>Description</u>	<u>Permit No.</u>	<u>Issue Date</u>	<u>Expiration Date</u>	<u>Extended Date</u>	<u>Revised Date(s)</u>
-001	Combustion Turbine Peaking Unit #1	AO49-176549	07/20/90	01/15/96		
-001	Combustion Turbine Peaking Unit #2	AO49-176549	07/20/90	01/15/96		
-001	Combustion Turbine Peaking Unit #3	AO49-176549	07/20/90	01/15/96		
-001	Combustion Turbine Peaking Unit #4	AO49-176549	07/20/90	01/15/96		
-001	Combustion Turbine Peaking Unit #5	AO49-176549	07/20/90	01/15/96		
-001	Combustion Turbine Peaking Unit #6	AO49-176549	07/20/90	01/15/96		
-002	92.9 MW Simple Cycle Gas CT	AC49-203114/	08/17/92	12/31/95		10/06/93
-002	92.9 MW Simple Cycle Gas CT	PSD-FL-180				11/15/93
-002	92.9 MW Simple Cycle Gas CT					07/15/94
-002	185.5 MW Simple Cycle Gas CT					01/20/95
-003	185.5 MW Simple Cycle Gas CT					

(if applicable) ID Number Changes (for tracking purposes):

From: Facility ID No.: 30ORL4900014

To: Facility ID No.: 0970014

Notes:

- 1 - AO permit(s) automatic extension(s) in Rule 62-210.300(2)(a)3.a., F.A.C., effective 03/21/96.
 - 2 - AC permit(s) automatic extension(s) in Rule 62-213.420(1)(a)4., F.A.C., effective 03/20/96.
- {Rule 62-213.420(1)(b)2., F.A.C., effective 03/20/96, allows Title V Sources to operate under existing valid permits}



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

December 15, 1997

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

PSD-FL-1806

RE: Amendment to AC 49-203114/PSD-FL-180(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power Corporation
Intercession City 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 December 5, 1997. The schedule would only apply to a monitoring schedule for sulfur dioxide (SO₂) and nitrogen oxide (NO_x) 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, 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 quarter for six quarters were provided by the permittee, which demonstrated consistent compliance with the allowable SO₂ 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 as specified in 2.c. 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:

I. Specific Condition Number;

From

16. Sulfur, nitrogen content and lower heating value of the fuel being fired in the combustion turbines shall be based on a weighted 12 month rolling average from fuel delivery receipts. The records of fuel oil usage shall be kept by the company for a two-year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel being fired in the gas turbine exceeds 0.2 percent.

To

15. The permittee shall monitor sulfur content and nitrogen content of the new No. 2 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 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. For sulfur dioxide, periods of excess emissions shall be reported if the fuel being fired in the gas turbine exceeds 0.2 percent.

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 D3246-91, and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2), or the latest edition(s).

Mr. W. Jeffrey Pardue
AC 49-203114/PSD-FL-180(A)
December 15, 1997
Page 4 of 5

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.

Attachment No. 1

Amendment to AC 49-203114/PSD-FL-180(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power Corporation
Intercession City 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 D1072-80; ASTM D3031-81; ASTM D3245-81; and ASTM D4048-82 as referenced in 40 CFR 60.335(b)(2).

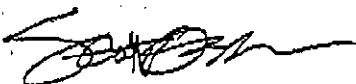
Mr. Fancy
September 10, 1997
Page 2

- 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) 866-5158.

Sincerely,



Scott H. Osbourn
Senior Environmental Engineer

Attachments

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

Attachment No. 2

Amendment to AC 49-203114/PSD-FL-180(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power Corporation
Intercession City Plant

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



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

AUG 14 1992

OFFICE OF
AIR AND CLIMATEMEMORANDUM

SUBJECT: Authority for Approval of Custom Fuel Monitoring
Schedules Under NSPS Subpart GG

FROM: John B. Rasmie, Chief *John B. Rasmie*
Compliance Monitoring Branch

TO: Air Compliance Branch Chiefs
Regions II, III, IV, V, VI and IX

Air 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

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

TO 29195413470

PG06/007

2

be bimonthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with 60.000 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_x 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 ASCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to ASCD for approval.

If you have any questions, please contact Sally M. Farrell at FTS 382-2675.

Attachment

cc: John Cranchaw
George Walsh
Robert Ajax
Earl Salo

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

TO 89195413470

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 60.333(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

Amendment to AC 49-203114/PSD-FL-180(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power Corporation
Intercession City Plant



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

OCT 23 1997

4APT-ARB

RECEIVED

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.

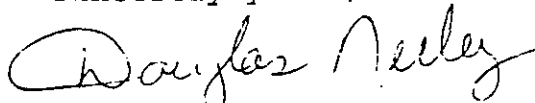
According to 40 C.F.R. §60.334(b)(2), owners and operators
of stationary gas turbines subject to Subpart GG are required to
monitor fuel nitrogen and sulfur content on a daily basis if a
company does not have intermediate bulk storage for its fuel.
40 C.F.R. §60.334(b)(2) also contains provisions allowing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

Amendment to AC 49-203114/PSD-FL-180(A) Permit
NSPS Custom Fuel Monitoring Schedule
Florida Power Corporation
Intercession City Plant

Note: The analysis of the natural gas fired at this facility is too voluminous to be attached. The analysis indicated consistent compliance with NSPS, the conditions of this permit, and is available for review upon request.